

State of Middle Tennessee Tech

2023



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Executive Summary

- From 2017-2022, the number of tech jobs in Middle Tennessee grew by **17.0%**. This job growth rate tracked behind national tech job growth by **2.0%** and statewide tech job growth by **5.0%** but surpassed overall job growth in Middle Tennessee by **7.0%**.
- The projected growth rate for tech jobs in Middle Tennessee (2022-2027) is **18.0%**, compared to **11.0%** projected national tech job growth, **18.0%** projected statewide job growth, and **11.0%** projected growth across all occupations in Middle Tennessee.
- Median compensation for tech jobs in Middle Tennessee was **\$75,263** in 2022. This value is **22.6%** below the national median for tech jobs and **84.7%** above the median compensation across all occupations in Middle Tennessee.
- The **Corporate, Subsidiary, and Regional Managing Offices** industry employed the largest number of tech workers (**5,568**) in the region. This industry employed **9.1%** of Middle Tennessee tech workers. Tech jobs accounted for **20.4%** of all jobs in this industry.
- For 2022, the average number of new monthly job postings across all tech occupations in the region was **3,698**. This is about average for an area this size (**3,868¹**).
- The **Business and Financial Operations Occupations** group had the highest demand with an average of **920** new unique monthly job postings in 2022.
- Women comprise **50.9%** of the population in Middle Tennessee, **49.3%** of the workforce, and **37.5%** of the tech workforce.
- Across tech occupations, female representation Middle Tennessee was slightly higher than that observed for the state and nation. Women occupied **37.5%** of regional tech roles, compared to **35.5%** of national roles and **37.2%** of roles statewide.
- Non-white workers comprise **30.3%** of the local population, **26.7%** of the regional workforce, but only **23.0%** of the regional tech workforce.
- When compared to the general working population in Middle Tennessee, the tech workforce has a **higher** percentage of White (**+3.7%**) and Asian (**+4.0%**) workers.
- When compared to the general working population in Middle Tennessee, the tech workforce has a **lower** percentage of Black (**-4.7%**) and Hispanic or Latino (**-2.9%**) workers.

¹ National average values are derived by taking the national value for occupations and scaling it down to account for the difference in overall workforce size between the nation and the area. In other words, the values represent the national average adjusted for region size.

About This Report

This report is the product of the Middle Tennessee Tech research program, a partnership between the MTSU Department of Information Systems and Analytics and the Greater Nashville Technology Council. It provides an updated summary of the Middle Tennessee tech workforce as a whole and the major occupation groups identified within the tech workforce. This includes an overview of current job supply, job demand, and demographic diversity. It also supplies detailed data on each of the individual occupations identified as part of the tech workforce, including the most in-demand job titles and in-demand hard skills associated with each occupation. Any questions regarding the report can be submitted to the report's author (amy.harris@mtsu.edu).

Background

When interpreting the data presented in this report, it is essential to understand the data sources used and the definitions of "tech workforce" and "Middle Tennessee" used. This section aims to provide that understanding. This will aid in interpreting the research presented here and improve readers' ability to compare this research to other published reports providing similar and/or complementary analysis. Where necessary, additional information is embedded in the report to assist the reader in understanding the data as presented.

Data Sources

This report uses data sourced from Lightcast using their 2023.1 datarun. Lightcast aggregates data from multiple sources. Official government data are collected from entities including the U.S. Census Bureau, the U.S. Bureau of Economic Analysis, the U.S. Bureau of Labor Statistics, and state government agencies. In addition, Lightcast also collects data from online social profiles, resumes, and job postings.

Defining "Tech"

This report uses a tailored definition of "tech," one reflective of the diversity in our local tech community. This definition encompasses traditional tech occupations and occupations that lie at the intersection of tech, mathematics, and business. It also captures the tech workers that fuel industries – like healthcare and entertainment – that serve as the economic backbone of our region.

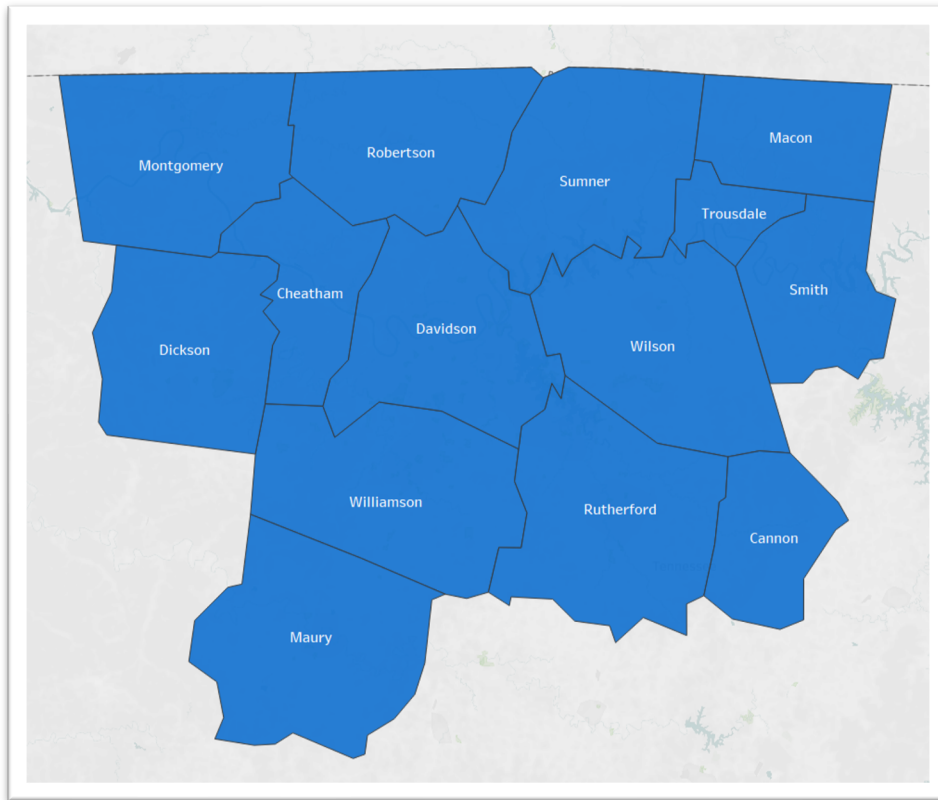
The Standard Occupational Classification System (SOC) created by the U.S. Bureau of Labor Statistics (BLS) was used to identify occupations relevant to the analysis. The table on the next page lists all the occupation codes and groupings included in this study. The groupings here are based on the BLS's 2018 SOC structure. Detailed data for each of the occupations listed can be found in the Appendix.

Occupation Groupings and Codes

Occupation Group	SOC Code	Detailed Occupation
Management Occupations	11-2021	Marketing Managers
	11-3021	Computer and Information Systems Managers
Business & Financial Operations Analysts	13-1081	Logisticians
	13-1082	Project Management Specialists
	13-1111	Management Analysts
	13-1161	Market Research Analysts and Marketing Specialists
	13-2051	Financial and Investment Analysts
	13-2054	Financial Risk Specialists
Computer & Information Analysts	15-1211	Computer Systems Analysts
	15-1212	Information Security Analysts
Computer & Information Research Scientists/Data Scientists	15-1221	Computer and Information Research Scientists
Computer Support Specialists	15-1231	Computer Network Support Specialists
	15-1232	Computer User Support Specialists
Database & Systems Administrators & Network Architects	15-1241	Computer Network Architects
	15-1242	Database Administrators
	15-1243	Database Architects
	15-1244	Network and Computer Systems Administrators
Software Developers/Quality Assurance Occupations	15-1251	Computer Programmers
	15-1252	Software Developers
	15-1253	Software Quality Assurance Analysts and Testers
	15-1254	Web Developers
	15-1255	Web and Digital Interface Designers
Computer Occupations, All Other	15-1299	Computer Occupations, All Other
Mathematical Science Occupations	15-2031	Operations Research Analysts
	15-2041	Statisticians
	15-2051	Data Scientists
Computer Hardware Engineers	17-2061	Computer Hardware Engineers
Special Effects Artists, Animators & Graphic Designers	27-1014	Special Effects Artists and Animators
	27-1024	Graphic Designers
Computer, Automated Teller, and Office Machine Repairers	49-2011	Computer, Automated Teller, and Office Machine Repairers

Defining "Middle Tennessee"

All numbers presented in this report span the entirety of the Nashville-Davidson-Murfreesboro-Franklin Metropolitan Statistical Areas (MSA)² as defined by the federal Office of Management and Budget and applied to the United States (U.S.) Census Bureau data. Montgomery County was also included from the Clarksville, TN-KY MSA.



² According to the U.S. Census Bureau, the general concept of a metropolitan or micropolitan statistical area is that of a core area containing a substantial population nucleus, together with adjacent communities having a high degree of economic and social integration with that core. (<https://www.census.gov/programs-surveys/metro-micro/about.html>)

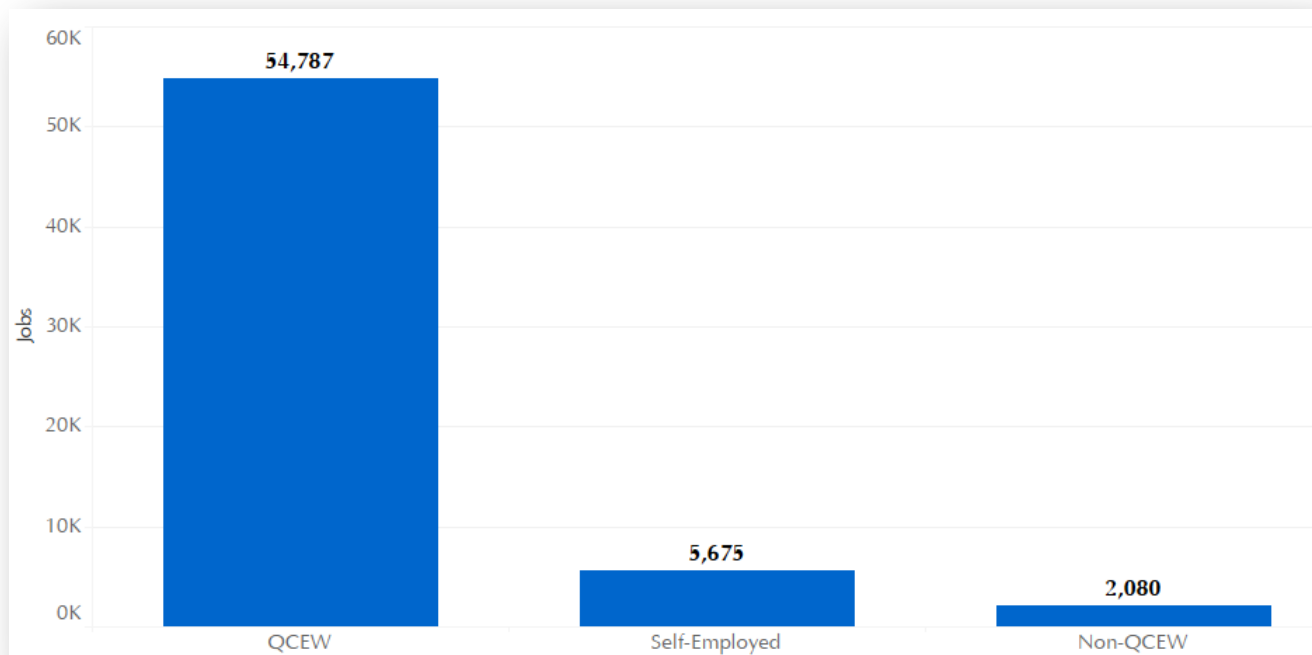
Defining "Class of Worker"

The jobs numbers reported herein capture jobs held by three classes of workers:

- Quarterly Census of Employment and Wages (QCEW) – Workers captured via the U.S. Bureau of Labor Statistics' QCEW program. A "job" is defined as a full- or part-time position covered by state and federal unemployment insurance laws for the program.
- Non-QCEW – Attempts to cover jobs that fall under an employer-employee relationship but are not covered by the QCEW. The major types of employment covered in this set include military jobs, railroad jobs, many nonprofit and religious workers, certain salespersons, miscellaneous Federal Government, and some other government workers.
- Self-Employed – Covers people who, when responding to Census surveys, consider self-employment to be a significant part of their income or time spent working. Most people normally considered "self-employed" would fall into this category.

The numbers do not include jobs from self-employed individuals who do not consider the tech work they perform as their primary form of income. The breakdown of regional tech jobs by class of worker is shown below.

Jobs by Class of Worker



Job Supply

This section provides an overview of the current tech job supply in Middle Tennessee. To put the data in context, the analysis compares local tech supply to national tech supply, statewide tech supply, and regional supply for all occupations. Cross-industry comparisons are presented to determine which industries employ the most tech workers. The tech occupation groups are also compared in terms of job volume, compensation, and growth trends. These are the key findings:

- From 2017-2022, the number of tech jobs in Middle Tennessee grew by **17.0%**. This job growth rate tracked behind national tech job growth by **2.0%** and statewide tech job growth by **5.0%** but surpassed overall job growth in Middle Tennessee by **7.0%**.
- The projected growth rate for tech jobs in Middle Tennessee (2022-2027) is **18.0%**, compared to **11.0%** projected national tech job growth, **18.0%** projected statewide job growth, and **11.0%** projected growth across all occupations in Middle Tennessee.
- Median compensation for tech jobs in Middle Tennessee was **\$75,263** in 2022. This value is **22.6%** below the national median for tech jobs and **84.7%** above the median compensation across all occupations in Middle Tennessee.
- The occupation group accounting for the largest number of jobs in Middle Tennessee was **Business & Financial Operations Analysts**, which grew **5.4%** from 2021 to 2022 to **18,778** jobs. The occupation group with the most significant year-over-year growth in job volume was **Software Developers/Quality Assurance**, which grew by **9.9%** to **10,626** jobs.
- The occupation group with the highest median salary is **Management Occupations** at **\$119,310**, which was roughly even with the previous year. Across all occupation groups, median salaries plateaued, remaining about the same as 2021 salaries.
- The **Corporate, Subsidiary, and Regional Managing Offices** industry employed the largest number of tech workers (**5,568**) in the region. This industry employed **9.1%** of Middle Tennessee tech workers. Tech jobs accounted for **20.4%** of all jobs in this industry.
- The occupation group with the highest five-year past growth rate (2017-2022) is **Computer and Information Research Scientists/Data Scientists**. The group grew by **86.0%**, bringing the total number of jobs for the occupation group to **75**. **Management Occupations** and **Computer Occupations, All Other** also achieved growth rates higher than 80% (**85.0%** and **81.0%**, respectively).
- The three occupation groups with the highest projected growth rate (2022-2027) are **Computer and Information Research Scientists (28.0%)**, **Software Developers/Quality Assurance Occupations (26.0%)**, and **Mathematical Science Occupations (24%)**.

Tech Job Supply, Compensation and Growth Trends

All Occupations: National	
Supply (Jobs)	166,730,882
Median Compensation	\$43,450
Supply (Jobs) Past Growth (2017-2022)	2%
Supply (Jobs) Projected Growth (2022-2027)	6%

Tech Occupations: National	
Supply (Jobs)	9,868,238
Median Compensation	\$92,308
Supply (Jobs) Past Growth (2017-2022)	19%
Supply (Jobs) Projected Growth (2022-2027)	11%

All Occupations: Tennessee	
Supply (Jobs)	3,517,928
Median Compensation	\$38,057
Supply (Jobs) Past Growth (2017-2027)	6%
Supply (Jobs) Projected Growth (2022-2027)	9%

Tech Occupations: Tennessee	
Supply (Jobs)	139,857
Median Compensation	\$73,223
Supply (Jobs) Past Growth (2017-2022)	22%
Supply (Jobs) Projected Growth (2022-2027)	18%

All Occupations: Middle Tennessee	
Supply (Jobs)	1,236,775
Median Compensation	\$40,738
Supply (Jobs) Past Growth (2017-2022)	10%
Supply (Jobs) Projected Growth (2022-2027)	11%

Tech Occupations: Middle Tennessee	
Supply (Jobs)	62,542
Median Compensation	\$75,263
Supply (Jobs) Past Growth (2017-2022)	17%
Supply (Jobs) Projected Growth (2022-2027)	18%

Tech Jobs by Occupation Group

Occupation Group	2022 Jobs	2021 Jobs	% Change from 2021	2022 National Average	% Diff from 2022 Nat'l Average
Business & Financial Operations Analysts	18,778	17,818	5.4%	24,470	-23.3%
Software Developers/Quality Assurance	10,626	9,666	9.9%	15,816	-32.8%
Management Occupations	8,013	7,682	4.3%	6,352	26.1%
Computer Occupations, All Other	6,083	5,939	2.4%	3,219	89.0%
Computer Support Specialists	5,170	4,917	5.1%	6,856	-24.6%
Computer & Information Analysts	4,231	4,029	5.0%	5,450	-22.4%
Database & Systems Administrators & Network Architects	4,156	4,013	3.6%	4,978	-16.5%
Special Effects Artists, Animators & Graphic Designers	2,594	2,462	5.4%	2,374	9.3%
Mathematical Science Occupations	1,777	1,695	4.8%	1,944	-8.6%
Computer, Automated Teller, and Office Machine Repairers	849	820	3.5%	799	6.3%
Computer Hardware Engineers	191	176	8.5%	605	-68.4%
Computer & Information Research Scientists/Data Scientists	75	70	7.1%	265	-71.7%

Middle Tennessee Median Tech Salary by Occupation Group

Occupation Group	2022 Median Salary	2021 Median Salary	% Diff from 2021 Median Salary	2022 Nat'l Median	% Diff from 2022 Nat'l Average
Management Occupations	\$119,310	\$119,735	-0.4%	\$149,662	-20.3%
Computer Hardware Engineers	\$106,163	\$106,196	0.0%	\$127,736	-16.9%
Computer & Information Research Scientists	\$94,223	\$94,025	0.2%	\$131,498	-28.3%
Software Developers/Quality Assurance Occupations	\$93,262	\$93,110	0.2%	\$111,239	-16.2%
Database & Systems Administrators & Network Architects	\$88,107	\$87,933	0.2%	\$91,658	-3.9%
Computer & Information Analysts	\$84,037	\$83,964	0.1%	\$99,901	-15.9%
Business & Financial Operations Analysts	\$73,919	\$73,915	0.0%	\$83,985	-12.0%
Mathematical Science Occupations	\$71,289	\$71,328	-0.1%	\$92,886	-23.3%
Computer Occupations, All Other	\$54,801	\$54,793	0.0%	\$93,895	-41.6%
Computer Support Specialists	\$50,577	\$50,488	0.2%	\$52,459	-3.6%
Special Effects Artists, Animators & Graphic Designers	\$46,438	\$47,020	-1.2%	\$46,438	0.0%
Computer, Automated Teller, and Office Machine Repairers	\$37,696	\$37,592	0.3%	\$40,551	-7.0%

Top 10 Industries Employing Middle Tennessee Tech Workers	Tech Jobs in Industry (2022)	Tech Jobs in Industry (2021)	% Change (2021 - 2022)	% of Tech Workers Employed by Industry (2022)	Tech Jobs as % of Total Jobs in Industry (2022)
Corporate, Subsidiary, and Regional Managing Offices	5,568	5,298	5.1%	9.1%	20.4%
Computer Systems Design Services	4,578	4,341	5.5%	7.4%	63.2%
Administrative Management and General Management Consulting Services	4,033	3,816	5.7%	6.5%	32.6%
Custom Computer Programming Services	3,449	3,247	6.2%	5.6%	63.9%
Software Publishers	2,247	2,043	10.0%	3.5%	49.3%
Temporary Help Services	1,752	1,695	3.4%	2.9%	5.2%
Data Processing, Hosting, and Related Services	1,590	1,613	-1.4%	2.8%	47.2%
Federal Government, Civilian, Excluding Postal Service	1,475	1,450	1.7%	2.5%	12.2%
State Government, Excluding Education and Hospitals	1,271	1,319	-3.6%	2.3%	6.6%
Marketing Consulting Services	1,221	1,142	6.9%	2.0%	35.5%

Growth Trends by Occupation Group

Occupation Group	2022 Jobs	2022 % of Tech Workforce	Past Growth (2017-2022)	Projected Growth (2022-2027)
Business & Financial Operations Analysts	18,778	30.0%	17%	20%
Software Developers/Quality Assurance Occupations	10,626	17.0%	16%	26%
Computer Support Specialists	8,013	12.8%	-8%	14%
Management Occupations	6,083	9.7%	85%	15%
Computer & Information Analysts	5,170	8.3%	-13%	18%
Database & Systems Administrators & Network Architects	4,231	6.8%	-2%	13%
Computer Occupations, All Other	4,156	6.6%	81%	10%
Special Effects Artists, Animators & Graphic Designers	2,594	4.1%	9%	14%
Mathematical Science Occupations	1,777	2.8%	-16%	24%
Computer, Automated Teller, and Office Machine Repairers	849	1.4%	9%	13%
Computer Hardware Engineers	191	0.3%	-50%	19%
Computer & Information Research Scientists	75	0.1%	86%	28%

Job Demand

This section provides an overview of current tech job demand in Middle Tennessee as measured by the number of unique job postings³ made within a given time period. Postings were analyzed from multiple perspectives, including demand by occupation group, demand by minimum experience required, demand by job title, demand by skills (software, specialized, and common), and demand by qualification. These are the key findings:

- For 2022, the average number of new monthly job postings across all tech occupations in the region was **3,698**. This is about average for an area this size (**3,868**⁴).
- The **Business and Financial Operations Occupations** group had the highest demand with an average of **920** new unique monthly job postings in 2022.
- Of the job postings that mentioned education level, a Bachelor's degree was cited most frequently (**30,053** posts).
- Of the job postings mentioning a required minimum experience level, the majority (**12,869**) required a minimum of **2-3 years of experience**.
- The most in-demand job title was **Project Managers**, which appeared in **2.0%** of postings (**1,036**). An important note here is the relatively small number of postings referencing the title. This reflects the heterogenous nature of job titles.
- The top software skill was **Structured Query Language (SQL)**, which appeared in **16.0%** of postings (**8,108**).
- In terms of specialized skills, **Computer Science** was the most referenced skill. It was mentioned in **18.3%** of postings (**9,265**).
- **Communications** was the most in-demand common skill, appearing in **48.0%** of postings (**24,302**).
- The top qualification was the **Master of Business Administration** with **3.0%** (**1,529**) of postings referencing it.

³ Jobs postings are scraped from various company sites and jobs boards. In recognition that the same job posting can be found on multiple sites, the postings are de-duplicated in order to arrive at a number that best approximates demand. It should be noted, though, that there is not a one-to-one relationship between a job posting and a job. Postings volume is better considered as a measure of how heavily jobs are being marketed to a given region.

⁴ National average values are derived by taking the national value for occupations and scaling it down to account for the difference in overall workforce size between the nation and the area. In other words, the values represent the national average adjusted for region size.

Demand over Time⁵ (February 2018 – February 2023)

The chart displays the total number of unique monthly job postings across all tech occupations.



Demand by Occupation Group

Occupation Group	Average New Monthly Job Postings (2022)	National Average	% Difference
Business & Financial Operations Analysts	920	844	8.3%
Software Developers/Quality Assurance Occupations	841	1,024	-21.8%
Computer Occupations, All Other	382	432	-13.1%
Computer Support Specialists	352	278	21.0%
Database & Systems Administrators & Network Architects	308	309	-0.3%
Computer & Information Analysts	283	303	-7.1%
Mathematical Science Occupations	280	320	-14.3%
Management Occupations	273	293	-7.3%
Special Effects Artists, Animators, & Graphic Designers	46	41	10.9%
Computer & Information Research Scientists	5	10	-100.0%
Computer, Automated Teller, and Office Machine Repairers	5	2	60.0%
Computer Hardware Engineers	2	10	-400.0%

⁵ The spike in postings in June - August 2019 was largely due to posts originating from a single posting source (www.nexxt.com). While the exact cause of the increase is unknown, one potential explanation is that this career website sold postings at a discounted rate for the month of July, thus driving an increase in the number of postings originating from the site.

Demand by Education Level⁶

Occupation Group	Unspecified	High school or GED	Associate's degree	Bachelor's degree	Master's Degree	Ph.D. or professional degree
Business & Financial Operations Analysts	3,045	1,155	593	8,393	1,725	135
Computer & Information Analysts	974	394	231	2,523	449	54
Computer & Information Research Scientists	16	3	2	19	13	28
Computer Hardware Engineers	5	0	2	13	4	1
Computer Occupations, All Other	1,464	434	255	3,401	833	71
Computer Support Specialists	2,127	1,108	821	1,438	158	13
Computer, Automated Teller, and Office Machine Repairers	42	16	8	2	0	0
Database & Systems Administrators & Network Architects	1,627	395	335	2,220	392	48
Management Occupations	1,172	173	78	2,502	846	34
Mathematical Science Occupations	863	292	157	2,516	1,020	299
Software Developers/Quality Assurance Occupations	4,344	514	539	6,683	1,201	123
Special Effects Artists, Animators & Graphic Designers	223	60	64	343	20	4
Grand Total	15,902	4,544	3,085	30,053	6,661	810

Demand by Minimum Experience

Occupation Group	No experience listed	0-1 Years	2-3 Years	4-6 Years	7-9 Years	10+ Years
Business & Financial Operations Analysts	3,581	1,588	3,734	2,557	599	349
Computer & Information Analysts	1,089	323	1,013	970	302	151
Computer & Information Research Scientists	24	6	22	9	3	2
Computer Hardware Engineers	2	0	1	12	3	1
Computer Occupations, All Other	1,444	270	920	1,507	630	459
Computer Support Specialists	1,880	921	1,322	580	123	45
Computer, Automated Teller, and Office Machine Repairers	46	8	3	3	1	0
Database & Systems Administrators & Network Architects	1,208	285	996	1,217	355	240
Management Occupations	986	145	771	1,180	399	377
Mathematical Science Occupations	1,132	436	1,214	762	176	138
Software Developers/Quality Assurance Occupations	3,327	725	2,680	3,221	1,036	516
Special Effects Artists, Animators & Graphic Designers	210	122	193	106	4	4
Grand Total	14,929	4,829	12,869	12,124	3,631	2,282

⁶ Postings may be counted in more than one education level if they reference a range of levels.
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Demand by Job Title, Skills, and Qualifications

Top 10 Job Titles

Job Title	Total Unique Postings (2022)	Frequency in Postings
Project Managers	1,036	2.0%
Software Engineers	809	1.6%
Financial Analysts	601	1.2%
Business Analysts	570	1.1%
Data Analysts	350	0.7%
Product Managers	287	0.6%
Data Engineers	282	0.6%
.NET Developers	280	0.6%
Marketing Managers	277	0.5%
Graphic Designers	267	0.5%

Top 10 Qualifications

Qualification	Total Unique Postings (2022)	Frequency in Postings
Master Of Business Administration (MBA)	1,529	3.0%
Project Management Professional Certification	1,352	2.7%
CompTIA A+	782	1.5%
Certified Information Systems Security Professional	746	1.5%
Certified Public Accountant	420	0.8%
Security Clearance	410	0.8%
Certified Information System Auditor (CISA)	404	0.8%
CompTIA Network+	391	0.8%
Cisco Certified Network Associate	372	0.7%
Microsoft Certified Professional	332	0.7%

Top 10 Software Skills

Software Skill	Total Unique Postings (2022)	Frequency in Postings
SQL	8,108	16.0%
Microsoft Excel	7,562	14.9%
Microsoft Office	6,734	13.3%
Python	4,587	9.1%
Microsoft PowerPoint	4,580	9.0%
Amazon Web Services	4,079	8.1%
Microsoft Azure	4,005	7.9%
JavaScript	3,759	7.4%
Java	3,483	6.9%
Application Programming Interface (API)	3,310	6.5%

Top 10 Specialized Skills

Specialized Skill	Total Unique Postings (2022)	Frequency in Postings
Computer Science	9,265	18.3%
SQL	8,108	16.0%
Marketing	7,621	15.0%
Agile Methodology	7,389	14.6%
Data Analysis	5,651	11.2%
Automation	5,353	10.6%
Project Management	5,044	10.0%
Finance	4,861	9.6%
Python	4,587	9.1%
Business Requirements	4,362	8.6%

Top 10 Common Skills

Common Skill	Total Unique Postings (2022)	Frequency in Postings
Communications	24,302	48.0%
Management	17,183	33.9%
Leadership	12,925	25.5%
Problem Solving	12,059	23.8%
Operations	11,514	22.7%
Customer Service	10,607	20.9%
Planning	9,212	18.2%
Detail Oriented	9,099	18.0%
Writing	8,922	17.6%
Troubleshooting	8,856	17.5%

Diversity

This section provides an overview of the demographic breakdown of tech workers, categorizing workers by gender, age, and race/ethnicity. To provide context, the analysis compares Middle Tennessee tech occupations to national, state, and regional populations, and also to the national, state, and regional workforce. These are the key findings:

- Women comprise **50.9%** of the population in Middle Tennessee, **49.3%** of the workforce, and **37.5%** of the tech workforce.
- Across tech occupations, female representation Middle Tennessee was slightly higher than that observed for the state and nation. Women occupied **37.5%** of regional tech roles, compared to **35.5%** of national roles and **37.2%** of roles statewide.
- When looking at individual occupations (see [Appendix: Detailed Occupation Data](#)), 14 of the 30 occupations (**46.6%**) had female representation at or above **37.5%**, the overall percentage of women employed in tech roles in Middle Tennessee.
- The tech occupation with the highest female representation was **Market Research Analysts and Marketing Specialists** with females occupying **62.7%** of those roles. The occupation with the lowest percentage of female workers was **Computer, Automated Teller, and Office Machine Repairers** where females held only **11.6%** of jobs.
- Non-white workers comprise **30.3%** of the local population, **26.7%** of the regional workforce, but only **23.3%** of the regional tech workforce.
- When compared to the general working population in Middle Tennessee, the tech workforce has a **higher** percentage of White (**+3.7%**) and Asian (**+4.0%**) workers.
- When compared to the general working population in Middle Tennessee, the tech workforce has a **lower** percentage of Black (**-4.7%**) and Hispanic or Latino (**-2.9%**) workers.
- The tech occupation with the most racial diversity (as measured by the percentage on non-white workers) was **Logisticians**, where **35.4%** of roles were held by non-white workers. The occupations with the least racial diversity were **Special Effects Artists and Animators** and **Graphic Designers**. For both occupations, only **13.2%** of jobs were held by non-white workers.

National, State, and Local Population Demographics

Demographics	Nation		Tennessee		Middle Tennessee	
Gender	2022 Population	% Population	2022 Population	% Population	2022 Population	% Population
Females	168,627,134	50.4%	3,596,991	51.0%	1,164,519	50.9%
Males	165,534,348	49.6%	3,457,884	49.0%	1,121,730	49.1%
Age	2022 Population	% of Population	2022 Population	% of Population	2020 Population	% of Population
Under 15	60,628,048	18.1%	1,281,043	18.2%	436,950	19.1%
15-19	21,713,422	6.5%	442,053	6.3%	146,456	6.4%
20-24	21,496,544	6.4%	450,581	6.4%	152,324	6.7%
25-34	45,709,887	13.7%	976,201	13.8%	356,189	15.6%
35-44	43,955,970	13.2%	895,397	12.7%	323,207	14.1%
45-54	40,600,561	12.1%	873,067	12.4%	282,336	12.3%
55-64	42,409,590	12.7%	910,749	12.9%	270,198	11.8%
65+	57,647,460	17.3%	1,225,783	17.4%	318,588	13.9%
Race/Ethnicity	2022 Population	% of Population	2022 Population	% of Population	2022 Population	% of Population
White	196,845,848	58.9%	5,137,828	72.8%	1,594,537	69.7%
Black or African Am.	42,226,074	12.6%	1,166,870	16.5%	363,704	15.9%
Hispanic or Latino	63,857,613	19.1%	445,173	6.3%	195,102	8.5%
Asian	20,111,509	6.0%	140,024	2.0%	69,414	3.0%
Two or More Races	8,019,707	2.4%	140,159	2.0%	55,360	2.4%
Am. Indian or Alaska Native	2,466,190	0.7%	20,517	0.3%	6,198	0.3%
Native HI or Other Pac. Is.	634,540	0.2%	4,304	0.1%	1,935	0.1%

National, State, and Local Occupation Demographics

Demographic	Nation				Tennessee				Middle Tennessee			
	All Occupations		Tech Occupations		All Occupations		Tech Occupations		All Occupations		Tech Occupations	
	2022 Jobs	% of Jobs	2022 Jobs	% of Jobs	2022 Jobs	% of Jobs	2022 Jobs	% of Jobs	2022 Jobs	% of Jobs	2022 Jobs	% of Jobs
Gender												
Males	85,142,554	51.1%	6,369,590	64.5%	1,792,314	50.9%	87,854	62.8%	626,507	50.7%	39,101	62.5%
Females	81,588,328	48.9%	3,498,647	35.5%	1,725,614	49.1%	52,003	37.2%	610,268	49.3%	23,441	37.5%
Age												
14-18	4,297,576	2.6%	19,602	0.2%	99,851	2.8%	275	0.2%	34,434	2.8%	133	0.2%
19-24	16,749,692	10.0%	515,343	5.2%	373,103	10.6%	7,246	5.2%	131,151	10.6%	3,195	5.1%
25-34	35,673,309	21.4%	2,671,561	27.1%	770,904	21.9%	38,763	27.7%	287,007	23.2%	17,651	28.2%
35-44	36,043,804	21.6%	2,720,195	27.6%	750,726	21.3%	38,369	27.4%	271,265	21.9%	17,594	28.1%
45-54	33,516,659	20.1%	2,094,324	21.2%	708,062	20.1%	29,410	21.0%	241,473	19.5%	13,020	20.8%
55-64	28,689,619	17.2%	1,429,587	14.5%	585,461	16.6%	20,295	14.5%	194,592	15.7%	8,580	13.7%
65+	11,760,222	7.1%	417,625	4.2%	229,822	6.5%	5,499	3.9%	76,853	6.2%	2,369	3.8%
Race/Ethnicity												
White	103,051,604	61.8%	6,212,259	63.0%	2,591,716	73.7%	107,149	76.6%	906,061	73.3%	48,139	77.0%
Hispanic or Latino	27,857,371	16.7%	867,278	8.8%	186,891	5.3%	4,124	2.9%	75,865	6.1%	2,030	3.2%
Black or African Am.	20,340,288	12.2%	805,743	8.2%	583,157	16.6%	16,800	12.0%	192,087	15.5%	6,755	10.8%
Asian	10,560,930	6.3%	1,703,272	17.3%	80,275	2.3%	8,587	6.1%	34,416	2.8%	4,228	6.8%
Two or More Races	3,771,959	2.3%	245,756	2.5%	66,098	1.9%	2,908	2.1%	24,425	2.0%	1,250	2.0%
Am. Ind./AK Native	828,406	0.5%	21,589	0.2%	6,480	0.2%	152	0.1%	2,565	0.2%	80	0.1%
Native HI/Other Pac. Is.	320,322	0.2%	12,339	0.1%	3,311	0.1%	137	0.1%	1,355	0.1%	60	0.1%

Appendix: Detailed Occupation Data

Marketing Managers (11-2021)

Median Salary
\$107,005

▼ -18.1% below national median

Jobs
3,438

▲ 51.7% above national average*

Avg. New Monthly Job Postings
274

▼ -.7% below national average*

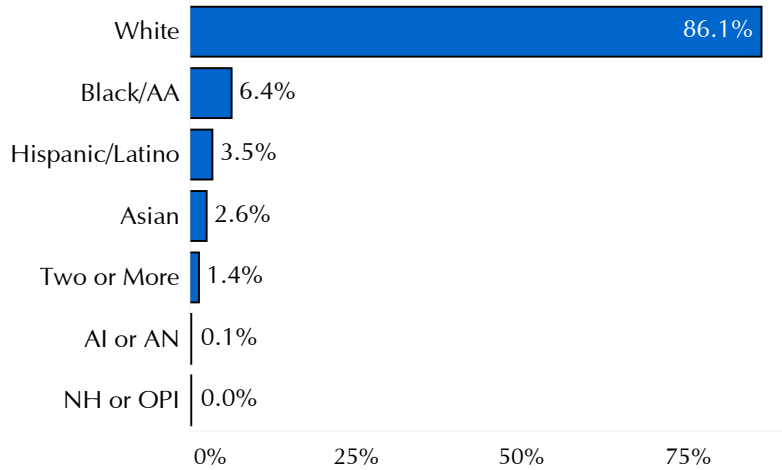
Past Growth
▲ 111.0%

2017 - 2022

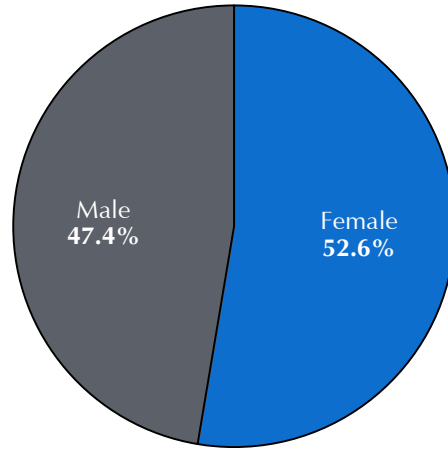
Projected Growth
▲ 9.0%

2022 - 2027

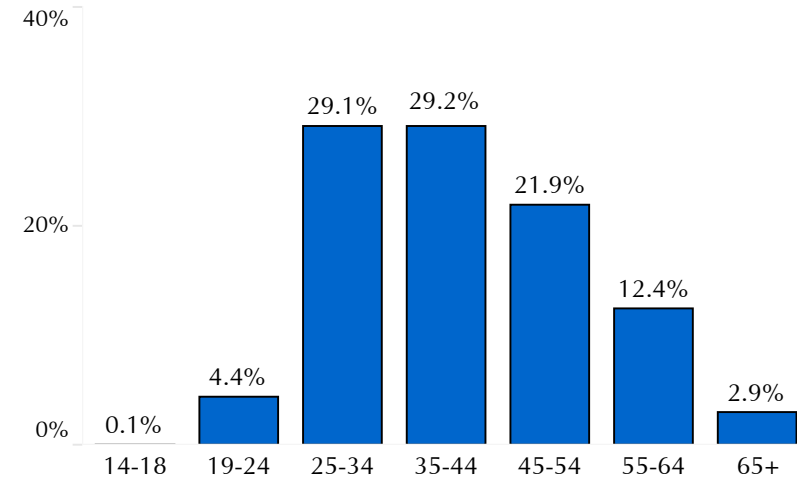
Race / Ethnicity



Gender



Age



Top 10 Job Titles
by Job Posting Volume

Product Managers	282
Marketing Managers	279
Digital Marketing Managers	105
Directors of Marketing	100
Marketing Product Managers	68
Directors of Product Management	59
Marketing Directors	47
Field Marketing Managers	40
Digital Marketing Directors	40
Digital Product Managers	38

Top 10 Specialized Skills
by Job Posting Volume

Marketing	2,322
Product Management	1,108
New Product Development	706
Marketing Management	618
Digital Marketing	593
Marketing Strategies	577
Key Performance Indicators (KPIs)	552
Agile Methodology	492
Go-to-Market Strategy	388
Product Roadmaps	384

Top 10 Software Skills
by Job Posting Volume

Microsoft Excel	528
Microsoft PowerPoint	464
Microsoft Office	423
Microsoft Outlook	215
SQL (Programming Language)	135
JIRA	123
Adobe Photoshop	122
Microsoft Word	109
HyperText Markup Language (HTML)	105
Tableau (Business Intelligence Software)	97

Top 10 Common Skills
by Job Posting Volume

Communications	2,107
Sales	1,648
Leadership	1,484
Management	1,397
Customer Service	906
Planning	875
Detail Oriented	807
Writing	788
Operations	784
Problem Solving	732

Top 10 Qualifications
by Job Posting Volume

Master Of Business Administration (MBA)	350
Project Management Professional Certification	53
Security Clearance	8
Registered Nurse (RN)	8
Certified Public Accountant	7
Certified Information Systems Security Professional	6
ITIL Certifications	4
GIAC Certifications	4
Cisco Certified Network Professional	2
Cisco Certified Network Associate	2

Computer and Information Systems Managers (11-3021)

Median Salary
\$127,145

▼ -19.7% below national median

Jobs
4,176

▲ 10.8% above national average*

Avg. New Monthly Job Postings
28

▼ -9.7% below national average*

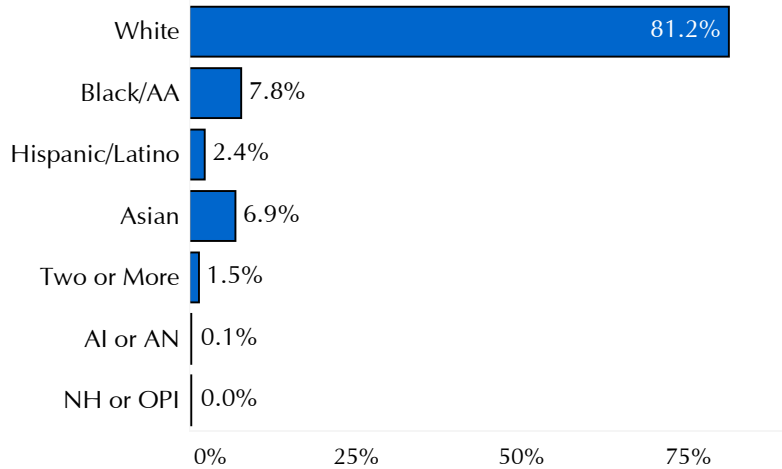
Past Growth
▲ 73.0%

2017 - 2022

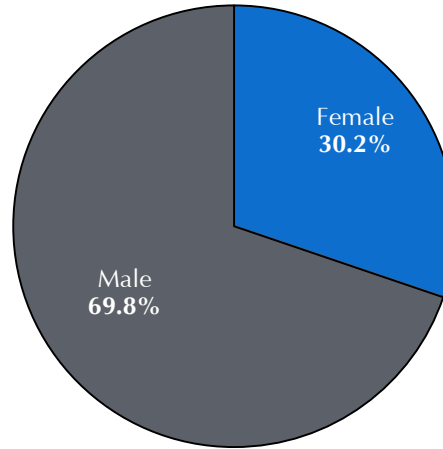
Projected Growth
▲ 9.0%

2022 - 2027

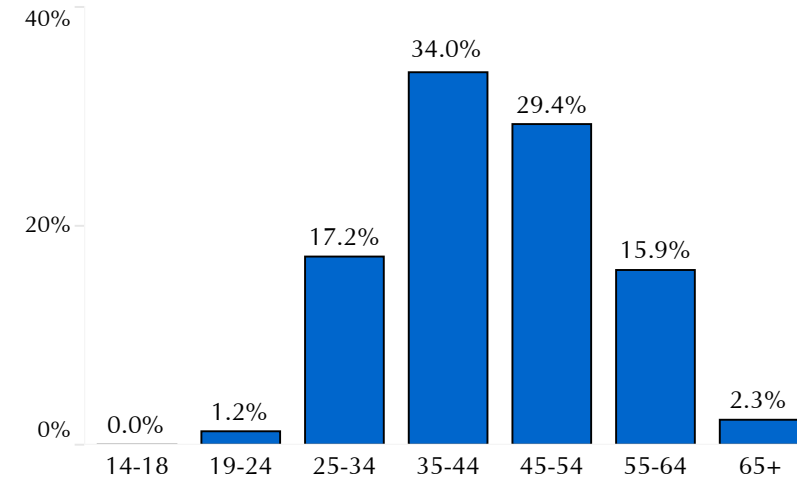
Race / Ethnicity



Gender



Age



Top 10 Job Titles
by Job Posting Volume

Directors of Information Technology	52
Directors of Software Engineering	33
Directors of Technology	19
Chief Information Officers	14
Information Systems Managers	9
Directors of Information Systems	9
Technical Directors	8
Directors of Software Development	8
Directors of Enterprise Architecture	8
Chief Technology Officers	8

Top 10 Specialized Skills
by Job Posting Volume

Computer Science	125
Information Systems	94
Project Management	79
Agile Methodology	65
Software Development	61
Change Management	52
Business Strategies	52
Process Improvement	51
Technology Solutions	50
Business Requirements	45

Top 10 Software Skills
by Job Posting Volume

Microsoft Office	37
Microsoft Excel	36
SQL (Programming Language)	31
Microsoft Azure	31
Amazon Web Services	30
Microsoft PowerPoint	26
Information Technology Infrastructure Library	23
Operating Systems	22
Application Programming Interface (API)	20
Microsoft SharePoint	18

Top 10 Common Skills
by Job Posting Volume

Leadership	257
Management	237
Communications	201
Operations	159
Planning	137
Information Technology	131
Problem Solving	92
Customer Service	86
Writing	83
Innovation	74

Top 10 Qualifications
by Job Posting Volume

Master Of Business Administration (MBA)	35
Project Management Professional Certification	20
Certified Information Systems Security Professional	8
Certified Public Accountant	3
ITIL Certifications	2
Cisco Certified Network Associate	2

Logisticians (13-1081)

Median Salary
\$64,116

▼ -16.6% below national median

Jobs
1,401

▼ -12.2% below national average*

Avg. New Monthly Job Postings

61

▲ 19.6% above national average*

Past Growth

▲ **75.0%**

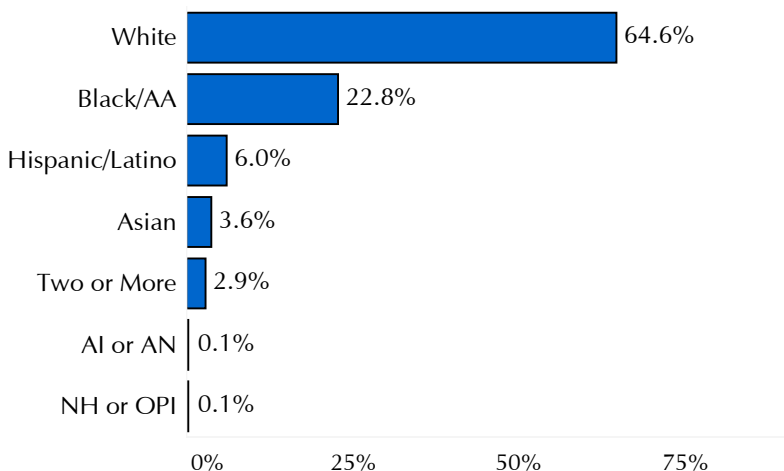
2017 - 2022

Projected Growth

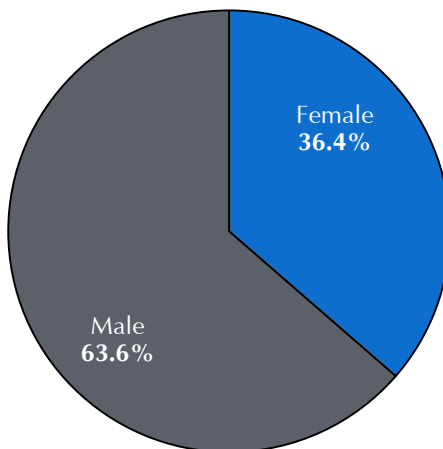
▲ **21.0%**

2022 - 2027

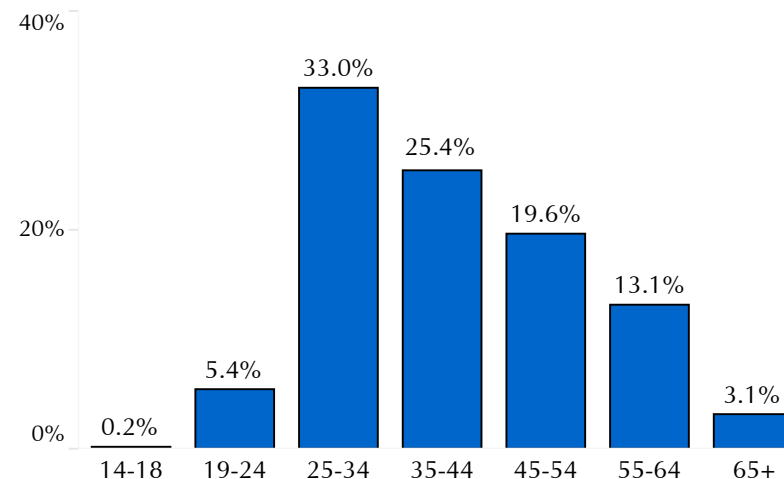
Race / Ethnicity



Gender



Age



Top 10 Job Titles
by Job Posting Volume

Supply Chain Analysts	80
Logistics Specialists	71
Production Planners	34
Supply Chain Operations Managers	33
Material Planners	33
Logistics Analysts	33
Inventory Control Analysts	28
Demand Planners	28
Supply Chain Specialists	26
Transportation Analysts	22

Top 10 Specialized Skills
by Job Posting Volume

Supply Chain	495
Logistics	205
Inventory Management	196
Purchasing	180
Procurement	160
Warehousing	154
Key Performance Indicators (KPIs)	152
Finance	149
Supply Chain Management	148
SAP Applications	144

Top 10 Software Skills
by Job Posting Volume

Microsoft Excel	307
Microsoft Office	256
SAP Applications	147
Microsoft PowerPoint	119
SQL (Programming Language)	96
Microsoft Outlook	85
Microsoft Access	78
Tableau (Business Intelligence Software)	76
Transportation Management Systems	56
Warehouse Management Systems	54

Top 10 Common Skills
by Job Posting Volume

Communications	453
Operations	424
Planning	349
Management	318
Problem Solving	311
Microsoft Excel	307
Customer Service	275
Microsoft Office	256
Detail Oriented	212
Leadership	192

Top 10 Qualifications
by Job Posting Volume

Master Of Business Administration (MBA)	37
Project Management Professional Certification	9
Certified Public Accountant	7
Security Clearance	3
Registered Nurse (RN)	1

Project Management Specialists (13-1082)

Median Salary
\$76,927

▼ -18.4% below national median

Jobs
3,930

▼ -33.4% below national average*

Avg. New Monthly Job Postings
212

▲ 25.4% above national average*

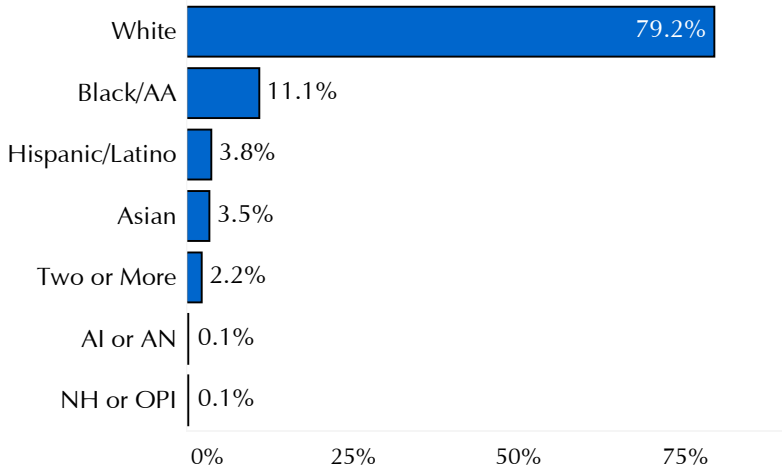
Past Growth
▲ 105.0%

2017 - 2022

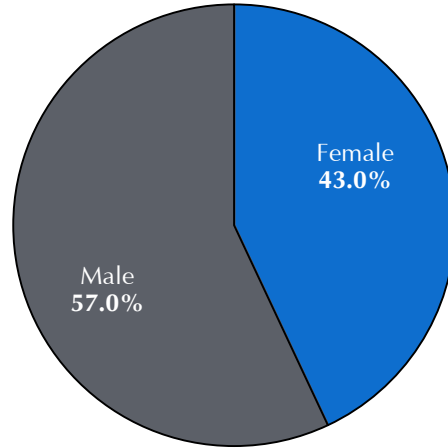
Projected Growth
▲ 13.0%

2022 - 2027

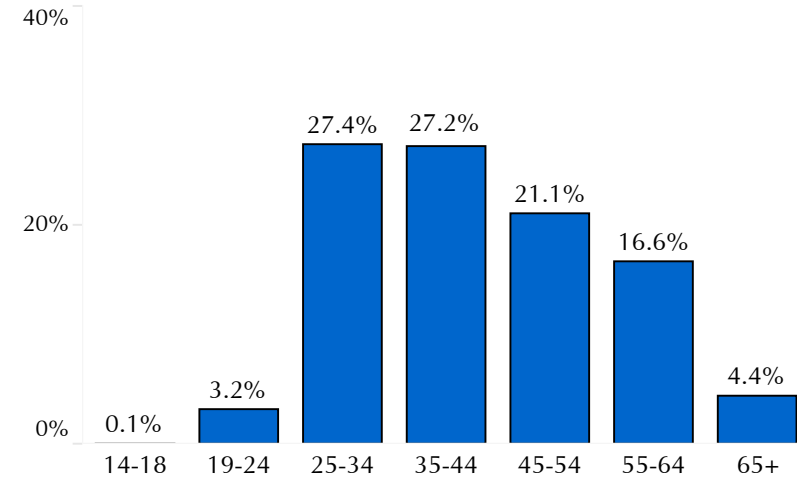
Race / Ethnicity



Gender



Age



Top 10 Job Titles
by Job Posting Volume

Project Managers	921
Human Resources Project Managers	137
Assistant Project Managers	123
Multifamily Project Managers	88
Associate Project Managers	59
Project Management Managers	40
Healthcare Project Managers	27
Implementation Project Managers	26
Commercial Project Managers	26
IT Project Managers	25

Top 10 Specialized Skills
by Job Posting Volume

Project Management	1,102
Construction	628
Project Schedules	513
Project Planning	497
Subcontracting	464
Construction Management	386
Project Scoping	385
Change Orders	362
Milestones (Project Management)	336
Microsoft Project	267

Top 10 Software Skills
by Job Posting Volume

Microsoft Office	641
Microsoft Excel	586
Microsoft PowerPoint	358
Microsoft Outlook	317
Microsoft Project	269
Project Management Software	229
Microsoft Word	155
Microsoft Visio	130
Microsoft SharePoint	103
AutoCAD	99

Top 10 Common Skills
by Job Posting Volume

Communications	1,679
Management	1,421
Leadership	984
Planning	855
Customer Service	753
Coordinating	680
Operations	670
Problem Solving	653
Microsoft Office	641
Microsoft Excel	586

Top 10 Qualifications
by Job Posting Volume

Project Management Professional Certification	521
Master Of Business Administration (MBA)	62
Registered Nurse (RN)	13
Certified Public Accountant	8
Security Clearance	6
ITIL Certifications	3

Management Analysts (13-1111)

Median Salary
\$82,803

▼ -10.8% below national median

Jobs
5,702

▼ -22.4% below national average*

Avg. New Monthly Job Postings
201

▲ .0% below national average*

Past Growth

▼ **-1.0%**

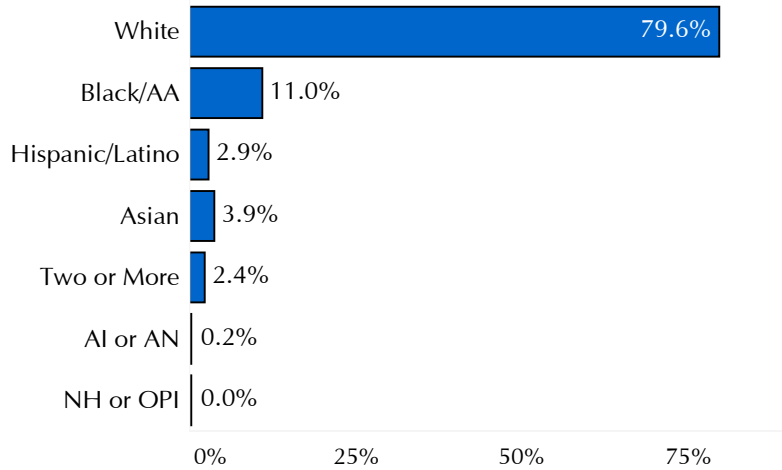
2017 - 2022

Projected Growth

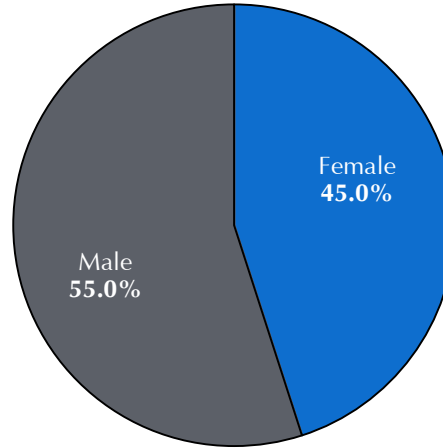
▲ **14.0%**

2022 - 2027

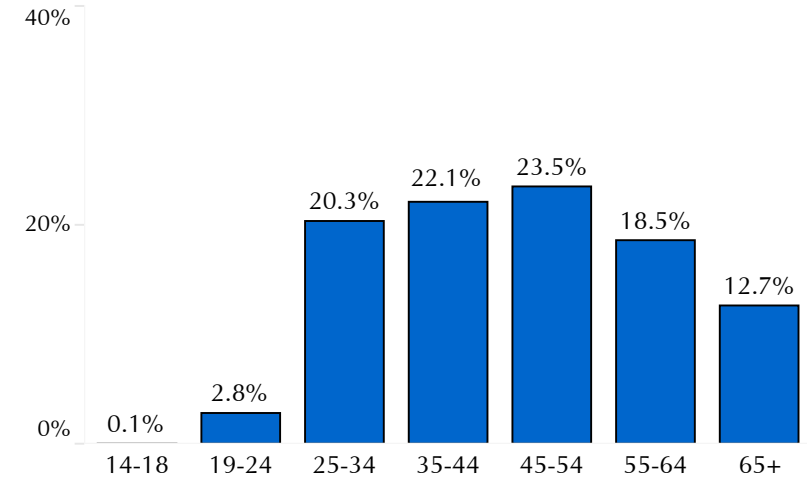
Race / Ethnicity



Gender



Age



Top 10 Job Titles
by Job Posting Volume

Business Analysts	540
Consultants	32
Business Process Analysts	31
Order Management Analysts	21
Business Process Managers	21
Business Advisors	21
Principal Consultants	20
Business Consultants	19
Hospice Care Consultants	18
Healthcare Business Analysts	18

Top 10 Specialized Skills
by Job Posting Volume

Business Process	681
Data Analysis	593
Finance	587
Business Requirements	516
Process Improvement	476
Workflow Management	446
SQL (Programming Language)	444
Business Analysis	439
Agile Methodology	373
Project Management	369

Top 10 Software Skills
by Job Posting Volume

Microsoft Excel	741
Microsoft PowerPoint	495
Microsoft Office	473
SQL (Programming Language)	444
Tableau (Business Intelligence Software)	245
Microsoft Visio	182
Microsoft Outlook	156
Microsoft Access	150
Python (Programming Language)	128
JIRA	123

Top 10 Common Skills
by Job Posting Volume

Communications	1,592
Management	1,186
Operations	908
Leadership	854
Problem Solving	840
Microsoft Excel	741
Writing	677
Customer Service	630
Planning	628
Research	588

Top 10 Qualifications
by Job Posting Volume

Master Of Business Administration (MBA)	135
Project Management Professional Certification	52
Certified Public Accountant	43
Certified Information Systems Security Professional	28
Registered Nurse (RN)	21
ITIL Certifications	13
Security Clearance	9

Market Research Analysts and Marketing Specialists (13-1161)

Median Salary
\$62,332

▼ -1.9% below national median

Jobs
3,683

▼ -37.3% below national average*

Avg. New Monthly Job Postings
225

▲ 29.3% above national average*

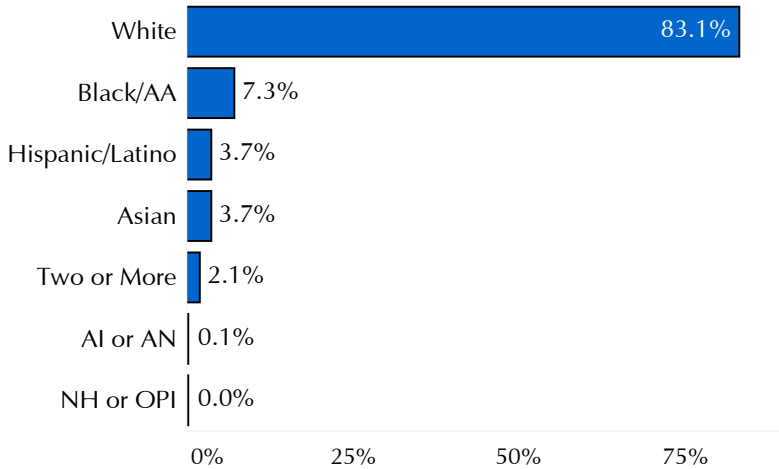
Past Growth
▼ -1.0%

2017 - 2022

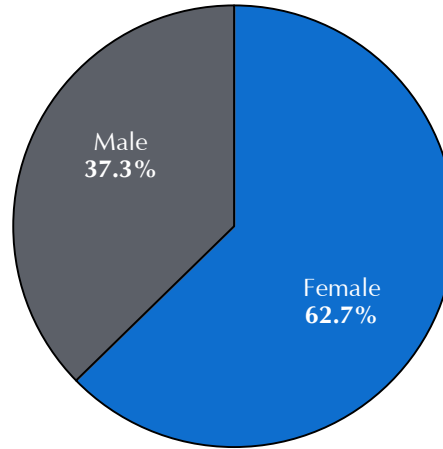
Projected Growth
▲ 22.0%

2022 - 2027

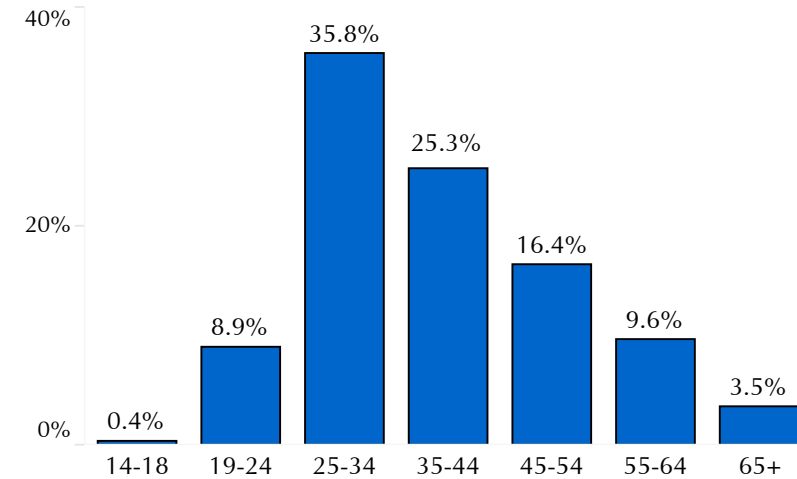
Race / Ethnicity



Gender



Age



Top 10 Job Titles
by Job Posting Volume

Marketing Coordinators	250
Marketing Specialists	137
Marketing Assistants	87
Digital Marketing Specialists	85
Social Media Managers	65
Product Analysts	58
Social Media Coordinators	54
Social Media Specialists	51
Marketing Analysts	51
Marketing Associates	41

Top 10 Specialized Skills
by Job Posting Volume

Marketing	2,199
Digital Marketing	662
Search Engine Optimization	461
Analytics	432
Customer Relationship Management	387
Data Analysis	370
Google Analytics	359
Marketing Strategies	358
Key Performance Indicators (KPIs)	352
Instagram	309

Top 10 Software Skills
by Job Posting Volume

Microsoft Excel	686
Microsoft Office	569
Microsoft PowerPoint	540
Microsoft Outlook	261
Adobe Photoshop	219
Adobe Creative Suite	188
WordPress	173
TikTok	172
HyperText Markup Language (HTML)	169
SQL (Programming Language)	168

Top 10 Common Skills
by Job Posting Volume

Communications	1,785
Sales	1,148
Detail Oriented	1,016
Management	913
Social Media	848
Writing	765
Microsoft Excel	686
Research	678
Planning	633
Self-Motivation	628

Top 10 Qualifications
by Job Posting Volume

Master Of Business Administration (MBA)	71
Registered Nurse (RN)	14
Project Management Professional Certification	12
Certified Public Accountant	4
GIAC Certifications	2
Certified Information Systems Security Professional	2

Financial and Investment Analysts (13-2051)

Median Salary
\$80,435

▼ -12.1% below national median

Jobs
1,887

▼ -18.6% below national average*

Avg. New Monthly Job Postings
160

▲ 25.0% above national average*

Past Growth

▲ **42.0%**

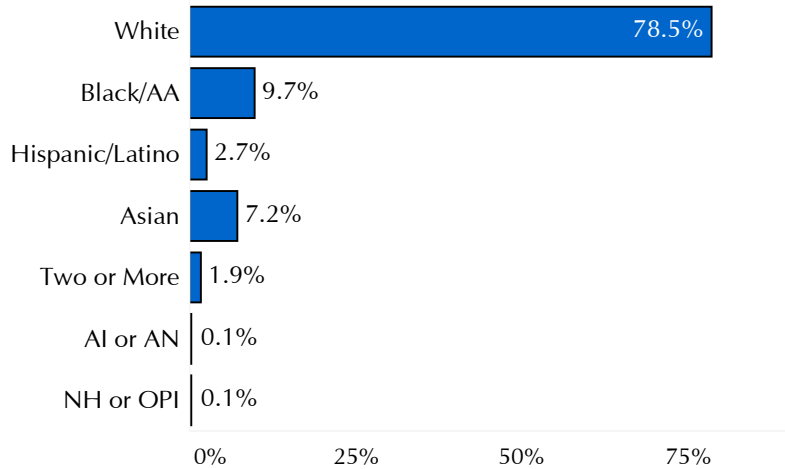
2017 - 2022

Projected Growth

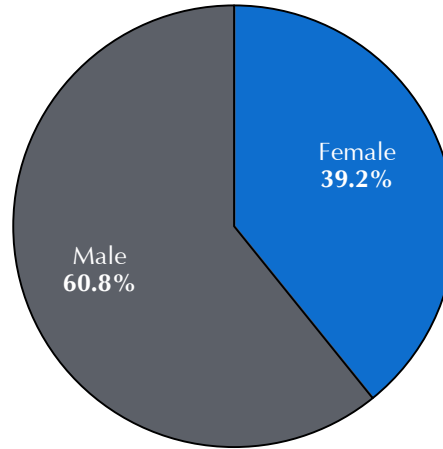
▲ **14.0%**

2022 - 2027

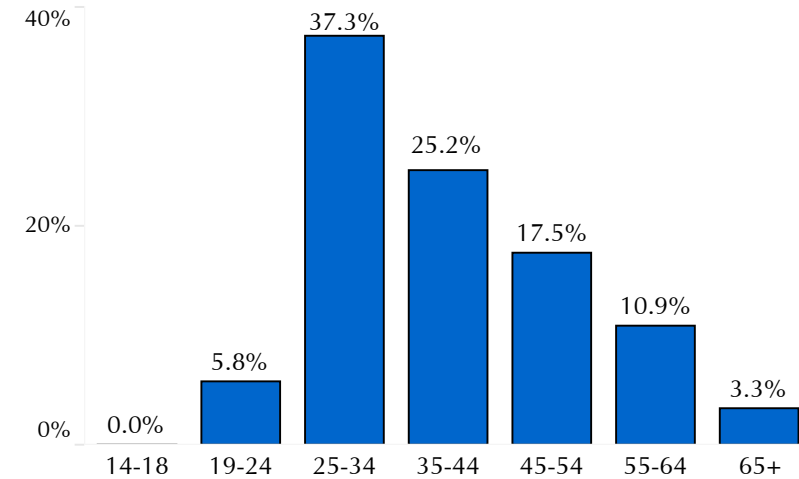
Race / Ethnicity



Gender



Age



Top 10 Job Titles
by Job Posting Volume

Financial Analysts	599
Financial Planning and Analysis Analysts	61
Financial Planning and Analysis Managers	60
Revenue Cycle Specialists	54
Pricing Analysts	49
Underpayment Analysts	48
Accounting Analysts	45
Portfolio Managers	43
Treasury Analysts	42
Finance Analysts	28

Top 10 Specialized Skills
by Job Posting Volume

Accounting	1,435
Finance	1,392
Financial Analysis	1,161
Financial Statements	656
Financial Modeling	500
Economics	432
Process Improvement	350
Data Analysis	338
Auditing	328
Financial Planning	316

Top 10 Software Skills
by Job Posting Volume

Microsoft Excel	929
Microsoft PowerPoint	410
Microsoft Office	381
SQL (Programming Language)	271
Tableau (Business Intelligence Software)	212
SAP Applications	165
Microsoft Access	156
Reporting Tools	152
Microsoft Outlook	143
Oracle Essbase	125

Top 10 Common Skills
by Job Posting Volume

Communications	1,198
Management	1,051
Microsoft Excel	929
Operations	783
Forecasting	706
Leadership	671
Detail Oriented	644
Budgeting	606
Problem Solving	578
Planning	507

Top 10 Qualifications
by Job Posting Volume

Master Of Business Administration (MBA)	349
Certified Public Accountant	223
Project Management Professional Certification	12
Registered Nurse (RN)	10
Certified Information Systems Security Professional	7

Financial Risk Specialists (13-2054)

Median Salary
\$65,294

▼ -34.6% below national median

Jobs
618

▲ 42.1% above national average*

Avg. New Monthly Job Postings
24

▼ -17.2% below national average*

Past Growth

▲ **31.0%**

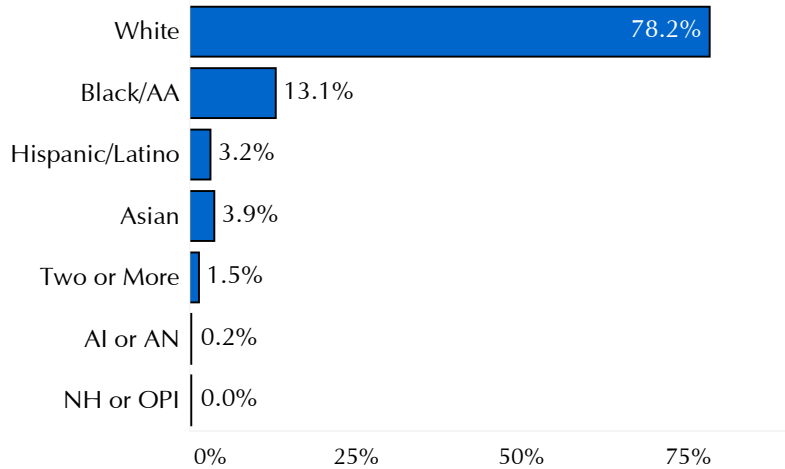
2017 - 2022

Projected Growth

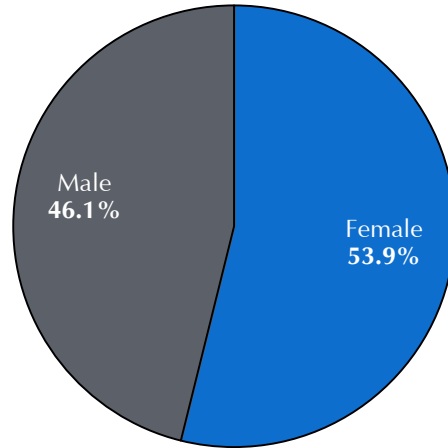
▲ **9.0%**

2022 - 2027

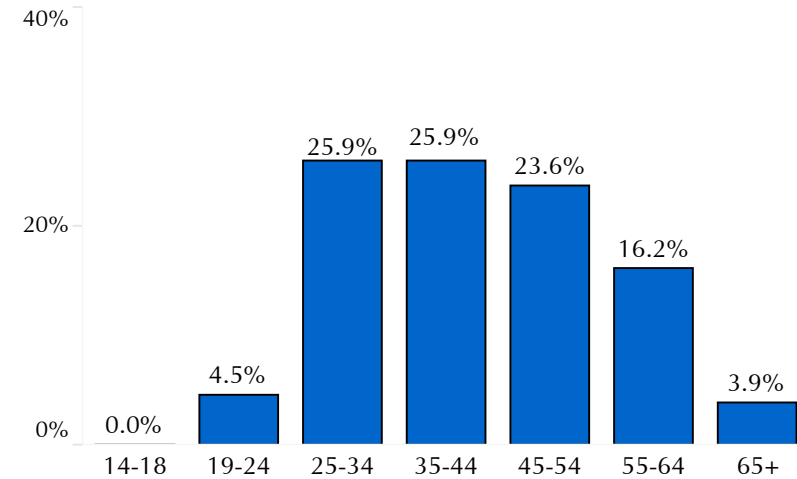
Race / Ethnicity



Gender



Age



Top 10 Job Titles
by Job Posting Volume

Directors of Risk Management	23
Risk Analysts	17
Risk Managers	16
Risk Management Specialists	9
Operational Risk Managers	9
Risk Management Managers	8
Risk Control Consultants	8
Third Party Risk Managers	7
IT Risk Analysts	6
Insurance Loss Control Consultants	6

Top 10 Specialized Skills
by Job Posting Volume

Risk Management	249
Risk Analysis	135
Auditing	103
Finance	68
Project Management	51
Accounting	51
Data Analysis	47
Risk Mitigation	43
Underwriting	41
Process Improvement	37

Top 10 Software Skills
by Job Posting Volume

Microsoft Office	69
Microsoft Excel	63
Microsoft PowerPoint	46
SQL (Programming Language)	26
Management Information Systems	19
Tableau (Business Intelligence Software)	16
Python (Programming Language)	14
Microsoft Access	13
Microsoft Outlook	11
Microsoft Word	9

Top 10 Common Skills
by Job Posting Volume

Management	165
Communications	158
Leadership	119
Operations	87
Detail Oriented	74
Microsoft Office	69
Consulting	69
Problem Solving	68
Writing	64
Microsoft Excel	63

Top 10 Qualifications
by Job Posting Volume

Certified Information Systems Security Professional	24
Master Of Business Administration (MBA)	19
Certified Public Accountant	8
Registered Nurse (RN)	6
Project Management Professional Certification	5
GIAC Certifications	2
Cisco Certified Network Associate	1

Computer Systems Analysts (15-1211)

Median Salary
\$83,626

▼ -15.6% below national median

Jobs
3,215

▼ -18.8% below national average*

Avg. New Monthly Job Postings
188

▲ 13.9% above national average*

Past Growth

▼ **-17.0%**

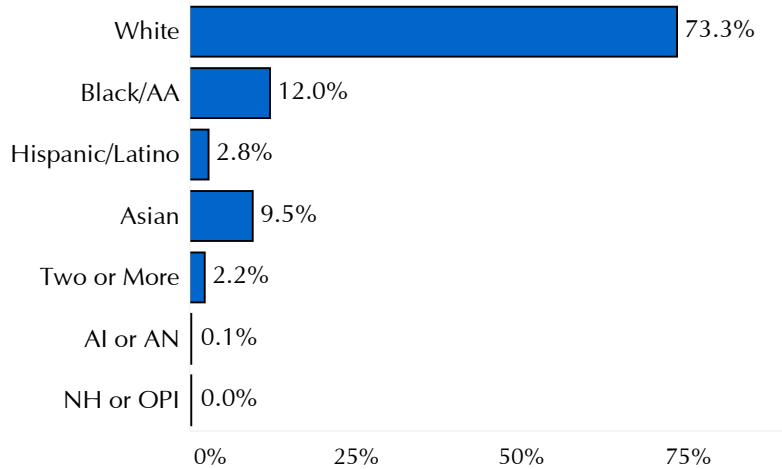
2017 - 2022

Projected Growth

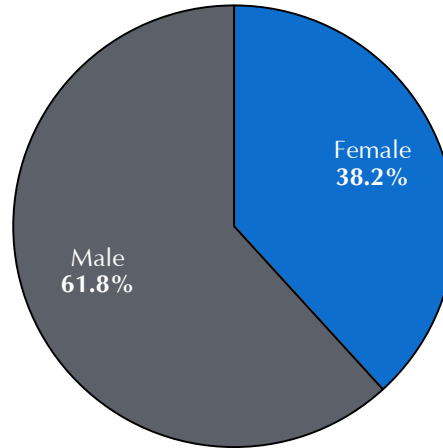
▲ **9.0%**

2022 - 2027

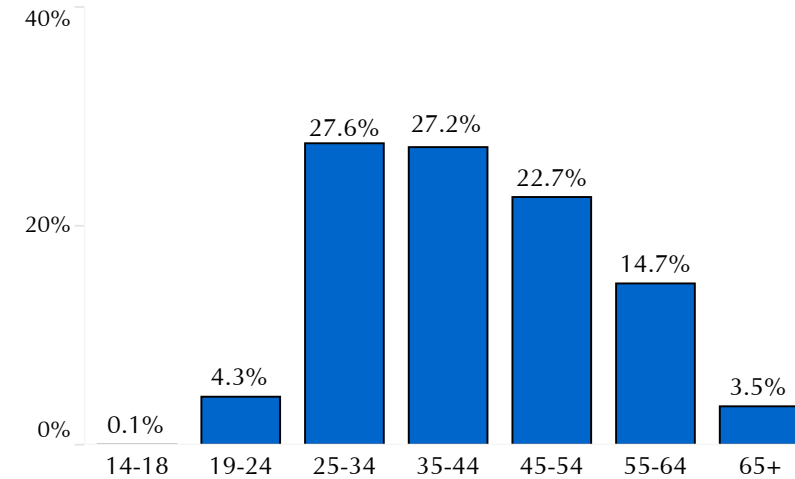
Race / Ethnicity



Gender



Age



Top 10 Job Titles
by Job Posting Volume

Business Systems Analysts	215
Systems Analysts	85
Software Engineering Specialists	55
Implementation Analysts	55
IT Business Analysts	47
Systems Analyst Advisors	43
Implementation Consultants	39
Technical Business Analysts	34
IT Service Desk Analysts	30
Team Leads	29

Top 10 Specialized Skills
by Job Posting Volume

Business Process	542
Computer Science	535
Agile Methodology	468
Business Requirements	453
SQL (Programming Language)	448
Workflow Management	414
Systems Analysis	378
Project Management	363
Business Systems Analysis	327
Information Systems	318

Top 10 Software Skills
by Job Posting Volume

SQL (Programming Language)	448
Microsoft Excel	349
Microsoft Office	339
Microsoft PowerPoint	212
Microsoft Visio	180
JIRA	164
SAP Applications	140
JavaScript (Programming Language)	140
Java (Programming Language)	135
Operating Systems	131

Top 10 Common Skills
by Job Posting Volume

Communications	1,201
Management	854
Leadership	725
Problem Solving	703
Operations	630
Customer Service	565
Troubleshooting (Problem Solving)	516
Planning	427
Team Leadership	405
Information Technology	399

Top 10 Qualifications
by Job Posting Volume

Security Clearance	61
Master Of Business Administration (MBA)	40
Project Management Professional Certification	38
Registered Nurse (RN)	27
Certified Information Systems Security Professional	18
ITIL Certifications	15
Certified Public Accountant	12
GIAC Certifications	5

Information Security Analysts (15-1212)

Median Salary
\$84,840

▼ -17.3% below national median

Jobs
801

▼ -35.5% below national average*

Avg. New Monthly Job Postings
82

▼ -22.6% below national average*

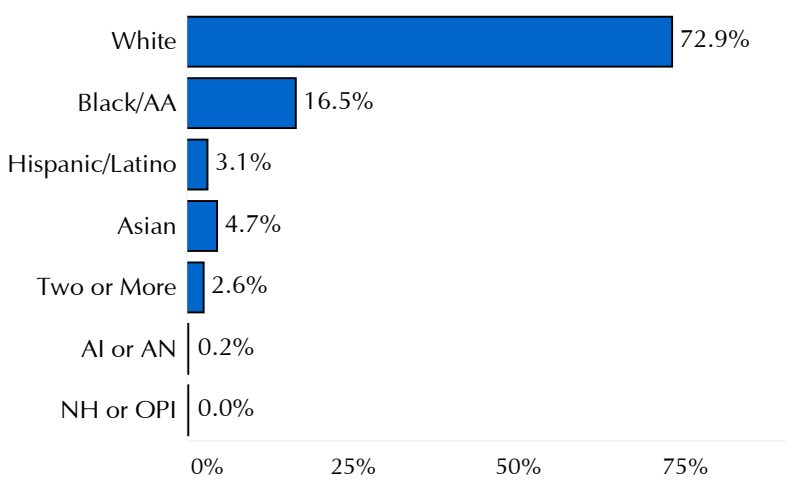
Past Growth
▲ 21.0%

2017 - 2022

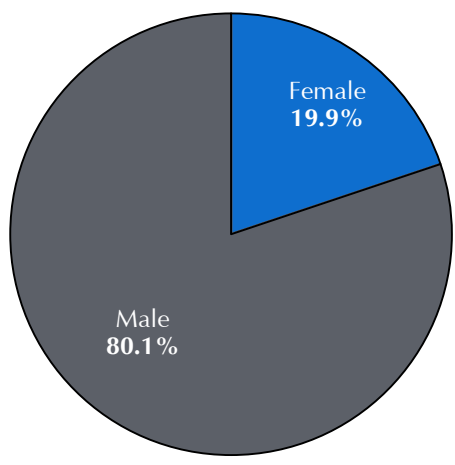
Projected Growth
▲ 25.0%

2022 - 2027

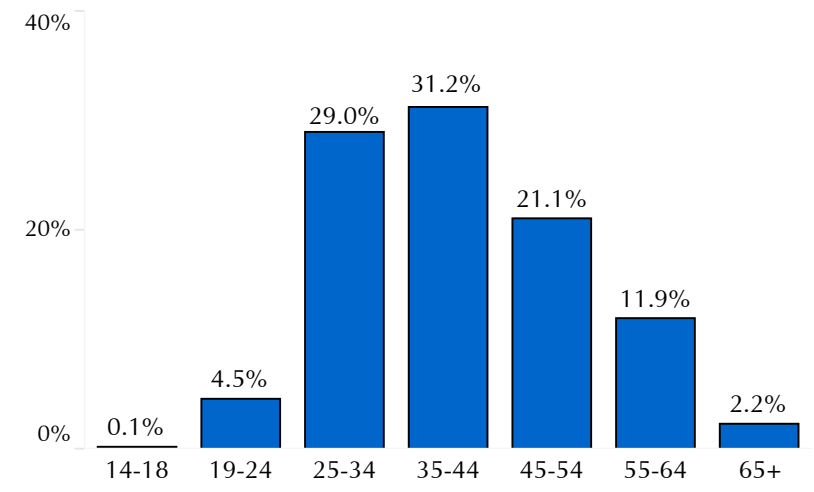
Race / Ethnicity



Gender



Age



Top 10 Job Titles by Job Posting Volume

Cybersecurity Engineers	55
Information Security Analysts	51
Security Analysts	45
Cybersecurity Analysts	42
Security Engineers	39
Information Security Managers	30
Cloud Security Engineers	27
IT Auditors	26
IT Audit Managers	26
Network Security Engineers	25

Top 10 Specialized Skills by Job Posting Volume

Cyber Security	516
Auditing	390
Computer Science	356
Vulnerability	342
Risk Analysis	255
Incident Response	253
Risk Management	239
Firewall	219
Information Systems	210
Automation	208

Top 10 Software Skills by Job Posting Volume

Firewall	220
Operating Systems	181
Microsoft Azure	168
Amazon Web Services	157
Linux	150
Python (Programming Language)	134
Splunk	104
Microsoft Office	102
Windows PowerShell	88
Active Directory	87

Top 10 Common Skills by Job Posting Volume

Management	575
Communications	530
Leadership	436
Operations	350
Information Technology	321
Problem Solving	267
Governance	226
Planning	220
Writing	204
Security Policies	196

Top 10 Qualifications by Job Posting Volume

Certified Information Systems Security Professional	467
GIAC Certifications	183
Cisco Certified Network Associate	24
Security Clearance	22
Certified Public Accountant	19
Cisco Certified Network Professional	13
Project Management Professional Certification	12
Master Of Business Administration (MBA)	10
ITIL Certifications	10

Computer and Information Research Scientists (15-1221)

Median Salary
\$94,025

▼ -28.5% below national median

Jobs
85

▼ -66.1% below national average*

Avg. New Monthly Job Postings
5

▼ -37.5% below national average*

Past Growth

▲ **138.0%**

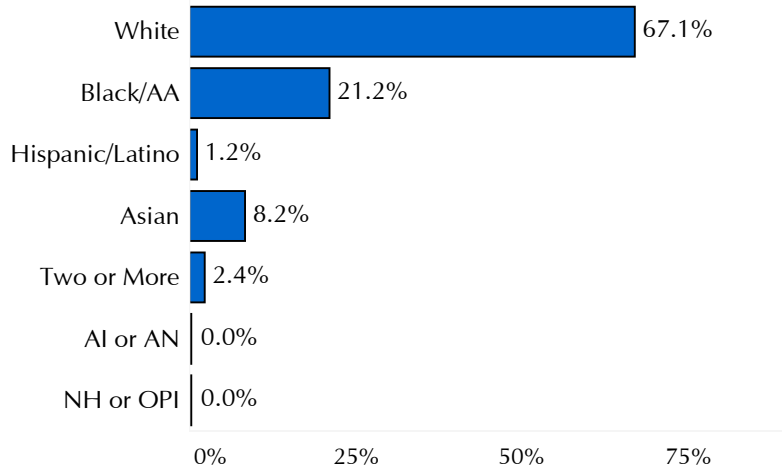
2017 - 2022

Projected Growth

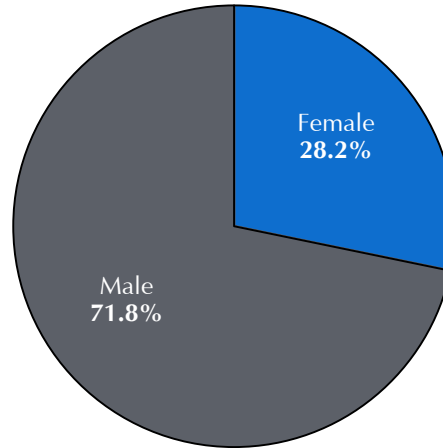
▲ **18.0%**

2022 - 2027

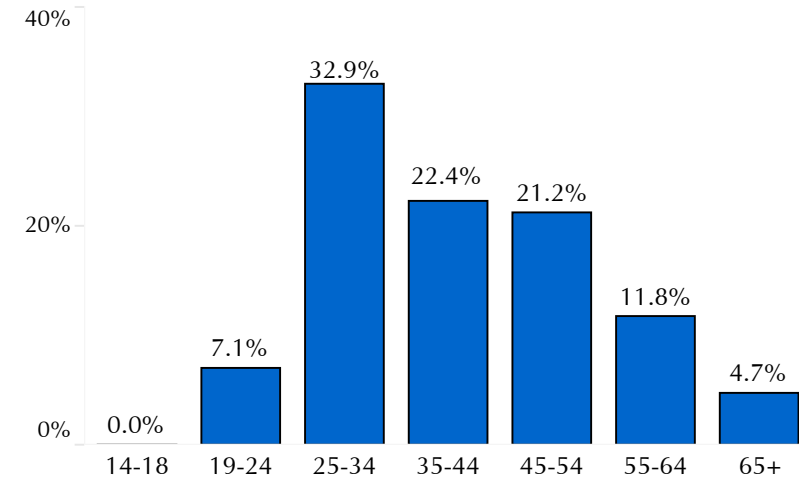
Race / Ethnicity



Gender



Age



Top 10 Job Titles
by Job Posting Volume

Staff Scientists	28
Engineering Associates	6
Nephrologists	3
Infectious Disease Scientists	3
Anesthesiologist Assistants	3
Research Engineers	2
Endocrinology Diabetes Care Specialists	2
Donor Development Managers	2
Directors of Innovation	2
BTS Engineers	2

Top 10 Specialized Skills
by Job Posting Volume

Data Collection	34
Independent Studies	33
Purchasing	32
Facilities Planning	31
Environment Health And Safety	31
Asset Management	31
Hearing Conservation Programs	12
Audiometry	12
New Product Development	11
Electrical Engineering	9

Top 10 Software Skills
by Job Posting Volume

Python (Programming Language)	7
SolidWorks (CAD)	6
R (Programming Language)	6
Microsoft Office	4
Microsoft PowerPoint	3
Microsoft Excel	3
SQL (Programming Language)	2
Node.js	2
Git (Version Control System)	2
Amazon Web Services	2

Top 10 Common Skills
by Job Posting Volume

Communications	50
Research	49
Writing	42
Editing	33
Coordinating	32
Problem Solving	15
Innovation	15
Management	14
Leadership	14
Ability To Meet Deadlines	13

Top 10 Qualifications
by Job Posting Volume

Registered Nurse (RN)	4
Project Management Professional Certification	1

Computer Network Support Specialists (15-1231)

Median Salary
\$53,751

▼ -14.3% below national median

Jobs
1,559

▲ 12.6% above national average*

Avg. New Monthly Job Postings

17

▼ -10.5% below national average*

Past Growth

▲ **.0%**

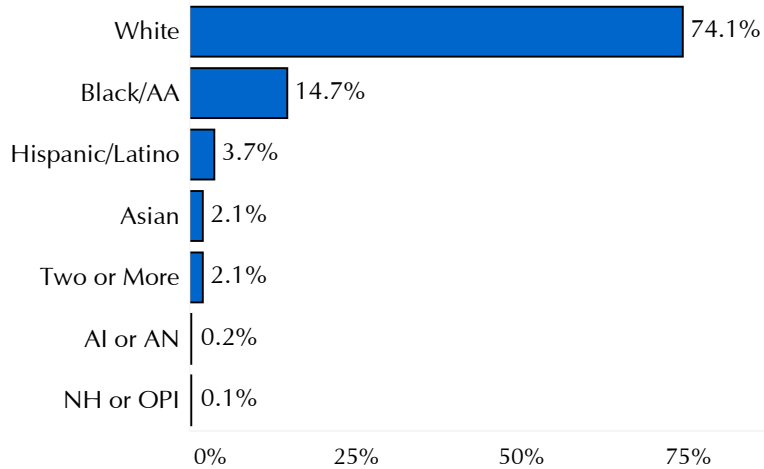
2017 - 2022

Projected Growth

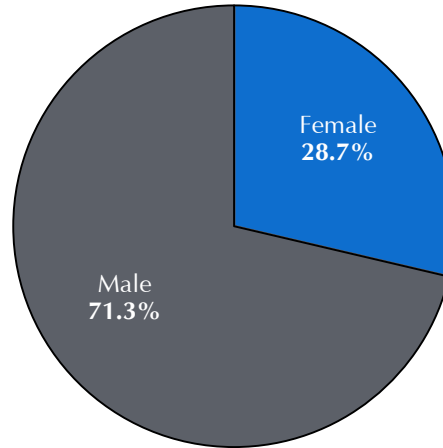
▲ **4.0%**

2022 - 2027

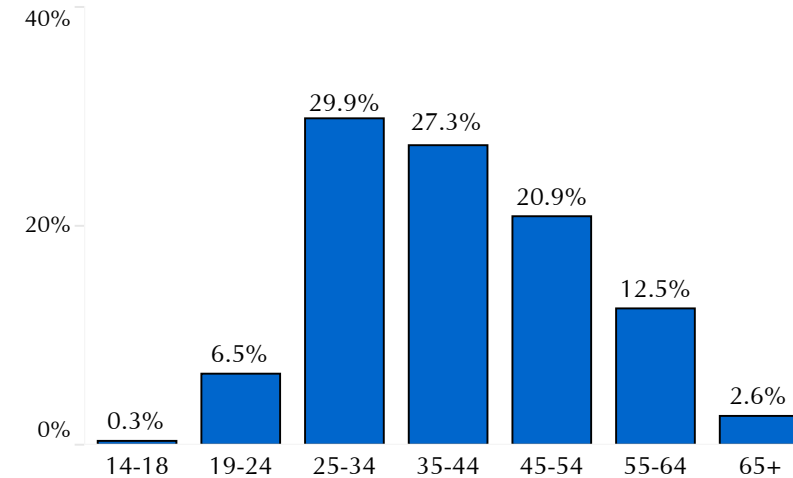
Race / Ethnicity



Gender



Age



Top 10 Job Titles
by Job Posting Volume

Network Technicians	24
Infrastructure Support Specialists	18
Systems Support Analysts	15
Systems Support Specialists	13
Systems Support Representatives	12
Workstation Specialists	8
Network Support Technicians	8
Network Support Engineers	8
Customer Engineers	8
Customer Engagement Managers	8

Top 10 Specialized Skills
by Job Posting Volume

Computer Science	74
Technical Support	53
Network Switches	44
Network Support	39
Firewall	38
Operating Systems	36
Local Area Networks	34
Automation	33
Help Desk Support	29
Active Directory	29

Top 10 Software Skills
by Job Posting Volume

Microsoft Excel	41
Firewall	39
Operating Systems	36
Microsoft Office	34
Microsoft Outlook	33
Active Directory	29
SQL (Programming Language)	26
Microsoft PowerPoint	26
Linux	26
Python (Programming Language)	24

Top 10 Common Skills
by Job Posting Volume

Troubleshooting (Problem Solving)	141
Communications	118
Customer Service	102
Management	95
Operations	91
Problem Solving	81
Leadership	60
Detail Oriented	54
Planning	47
Valid Driver's License	41

Top 10 Qualifications
by Job Posting Volume

Cisco Certified Network Associate	29
Cisco Certified Network Professional	11
Security Clearance	4
Project Management Professional Certification	4
Master Of Business Administration (MBA)	2
ITIL Certifications	2
Certified Public Accountant	1
Certified Information Systems Security Professional	1

Computer User Support Specialists (15-1232)

Median Salary
\$47,488

▼ -4.6% below national median

Jobs
3,347

▼ -35.9% below national average*

Avg. New Monthly Job Postings

300

▲ 33.3% above national average*

Past Growth

▼ **-11.0%**

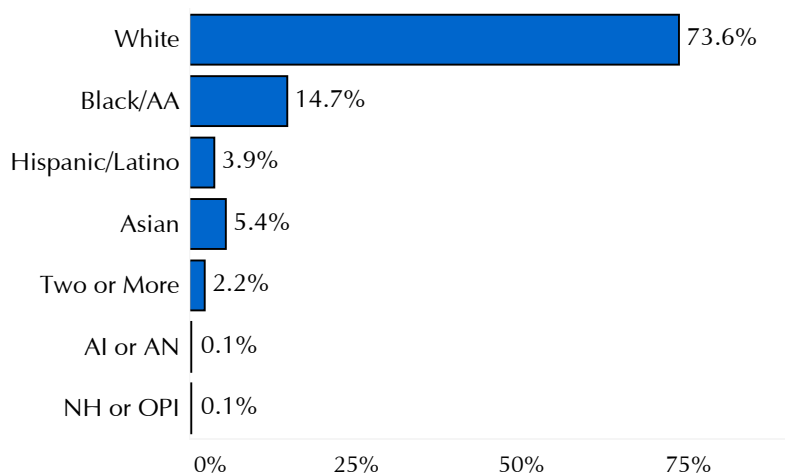
2017 - 2022

Projected Growth

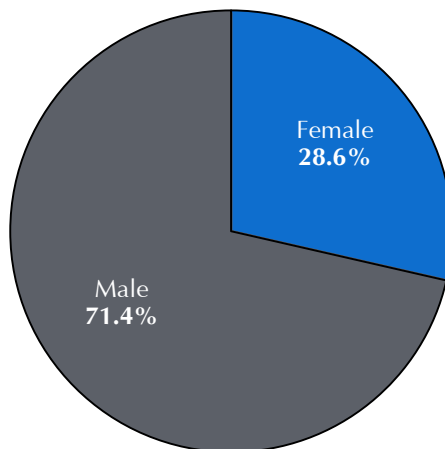
▲ **12.0%**

2022 - 2027

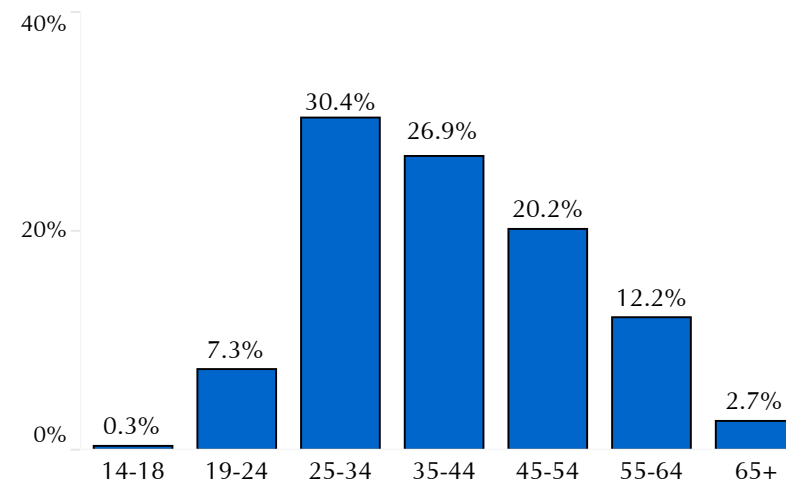
Race / Ethnicity



Gender



Age



Top 10 Job Titles
by Job Posting Volume

Desktop Support Technicians	178
Help Desk Analysts	124
Technical Support Specialists	115
Field Service Technicians	114
IT Support Specialists	108
Help Desk Technicians	107
Service Desk Analysts	88
IT Support Technicians	76
IT Specialists	72
Application Support Analysts	65

Top 10 Specialized Skills
by Job Posting Volume

Technical Support	1,317
Help Desk Support	1,231
Operating Systems	757
Active Directory	757
Desktop Support	717
Computer Science	564
Issue Tracking	536
Computer Hardware	515
Peripheral Devices	513
Customer Support	497

Top 10 Software Skills
by Job Posting Volume

Microsoft Office	1,022
Operating Systems	757
Active Directory	757
Microsoft Excel	546
Microsoft Outlook	476
Microsoft Office 365	402
Microsoft Windows	388
Microsoft Windows 10	358
ServiceNow	303
Apple IOS	293

Top 10 Common Skills
by Job Posting Volume

Troubleshooting (Problem Solving)	2,419
Customer Service	2,231
Communications	2,069
Problem Solving	1,305
Management	1,213
Microsoft Office	1,022
Operations	809
Writing	777
Detail Oriented	658
Information Technology	576

Top 10 Qualifications
by Job Posting Volume

ITIL Certifications	79
Cisco Certified Network Associate	67
Security Clearance	34
Cisco Certified Network Professional	29
Registered Nurse (RN)	10
Project Management Professional Certification	6
Certified Public Accountant	5

Computer Network Architects (15-1241)

Median Salary
\$102,986

▼ -14.3% below national median

Jobs
1,144

▼ -11.7% below national average*

Avg. New Monthly Job Postings

59

▼ -7.8% below national average*

Past Growth

▲ **10.0%**

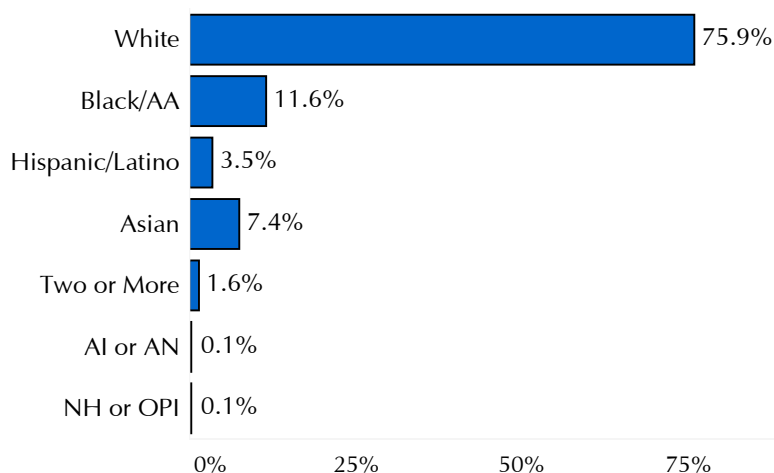
2017 - 2022

Projected Growth

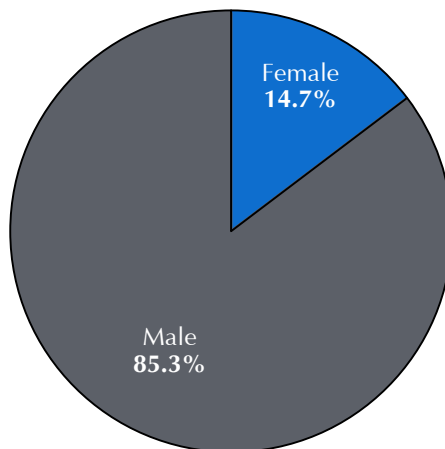
▲ **7.0%**

2022 - 2027

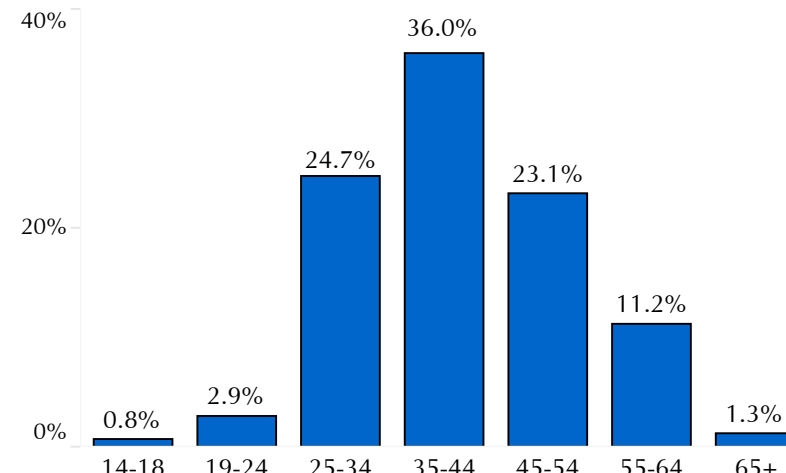
Race / Ethnicity



Gender



Age



Top 10 Job Titles
by Job Posting Volume

Network Engineers	177
Automation Engineers	22
Network Architects	19
Data Visualization Engineers	18
Cloud Network Engineers	18
Azure Architects	18
Network Specialists	16
Unified Communications Engineers	15
IT Architects	14
Telecommunications Sales Representatives	12

Top 10 Specialized Skills
by Job Posting Volume

Network Engineering	246
Computer Science	219
Wide Area Networks	185
Firewall	174
Automation	155
Microsoft Azure	145
Network Switches	132
Network Routing	129
Border Gateway Protocol	118
Telecommunications	111

Top 10 Software Skills
by Job Posting Volume

Firewall	176
Microsoft Azure	146
Border Gateway Protocol	123
Python (Programming Language)	104
Amazon Web Services	99
Linux	92
SQL (Programming Language)	88
Operating Systems	72
Microsoft Office	71
.NET Framework	58

Top 10 Common Skills
by Job Posting Volume

Communications	381
Troubleshooting (Problem Solving)	316
Management	278
Leadership	210
Operations	186
Problem Solving	166
Planning	165
Customer Service	126
Information Technology	121
Writing	112

Top 10 Qualifications
by Job Posting Volume

Cisco Certified Network Professional	93
Cisco Certified Network Associate	86
Certified Information Systems Security Professional	12
Project Management Professional Certification	7
ITIL Certifications	6
GIAC Certifications	5
Security Clearance	4
Registered Nurse (RN)	3

Database Administrators (15-1242)

Median Salary
\$81,376

▼ -15.7% below national median

Jobs
685

▲ 3.6% above national average*

Avg. New Monthly Job Postings

114

▲ 22.6% above national average*

Past Growth

▲ **.0%**

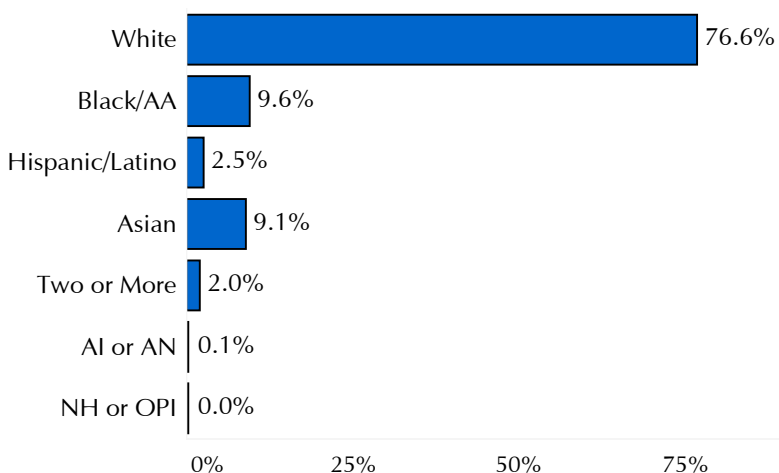
2017 - 2022

Projected Growth

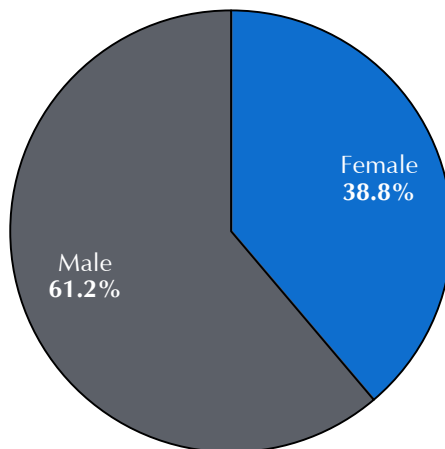
▲ **8.0%**

2022 - 2027

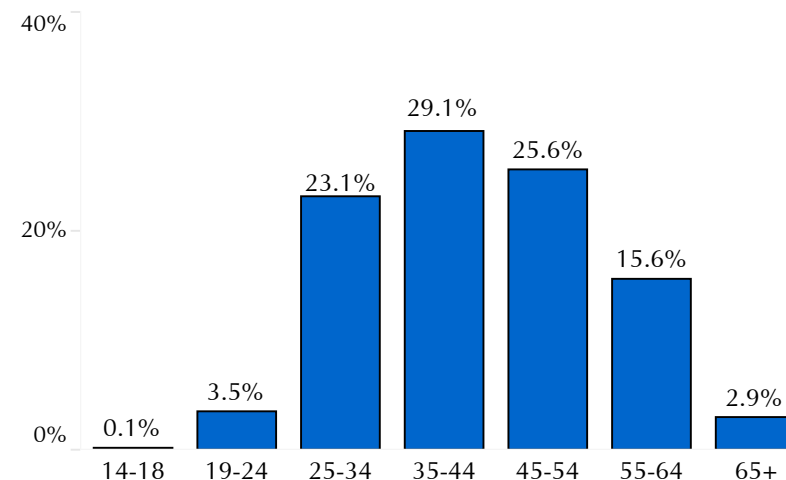
Race / Ethnicity



Gender



Age



Top 10 Job Titles
by Job Posting Volume

Data Engineers	272
Database Administrators	93
Salesforce Administrators	88
Oracle Database Administrators	57
SQL Database Administrators	46
Data Center Technicians	45
Database Analysts	43
SQL Developers	42
Database Developers	33
Big Data Engineers	33

Top 10 Specialized Skills
by Job Posting Volume

SQL (Programming Language)	741
Extract Transform Load (ETL)	417
Computer Science	412
Data Engineering	397
Python (Programming Language)	389
Database Administration	344
Microsoft Azure	318
Data Warehousing	301
Automation	286
Amazon Web Services	255

Top 10 Software Skills
by Job Posting Volume

SQL (Programming Language)	741
Python (Programming Language)	389
Microsoft Azure	318
Amazon Web Services	255
Microsoft SQL Servers	219
SQL Server Integration Services (SSIS)	208
Stored Procedure	185
PostgreSQL	171
Apache Spark	161
Java (Programming Language)	142

Top 10 Common Skills
by Job Posting Volume

Communications	524
Troubleshooting (Problem Solving)	383
Management	356
Problem Solving	306
Leadership	229
Operations	221
Writing	207
Detail Oriented	187
Customer Service	183
Planning	156

Top 10 Qualifications
by Job Posting Volume

Security Clearance	15
Project Management Professional Certification	8
Master Of Business Administration (MBA)	7
Registered Nurse (RN)	4
Cisco Certified Network Professional	3
Certified Information Systems Security Professional	3
ITIL Certifications	2
Cisco Certified Network Associate	2

Database Architets (15-1243)

Median Salary
\$123,917

▲ 1.0% above national median

Jobs
228

▼ -40.0% below national average*

Avg. New Monthly Job Postings

58

▼ -6.5% below national average*

Past Growth

▼ **-1.0%**

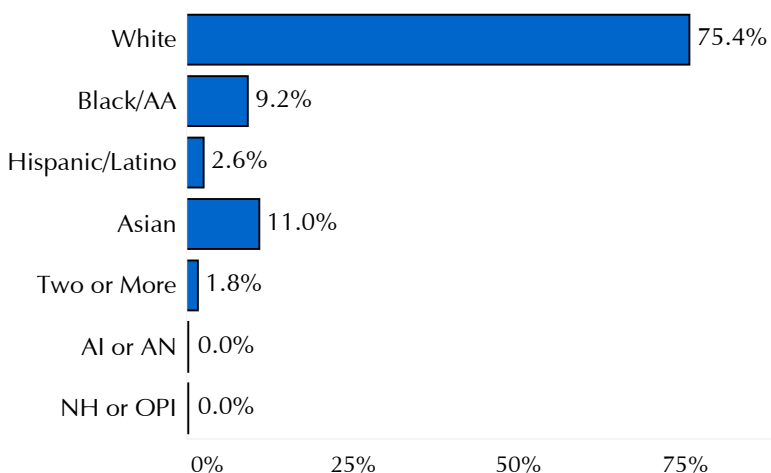
2017 - 2022

Projected Growth

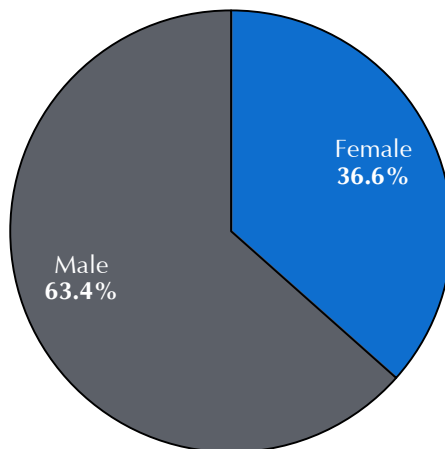
▲ **17.0%**

2022 - 2027

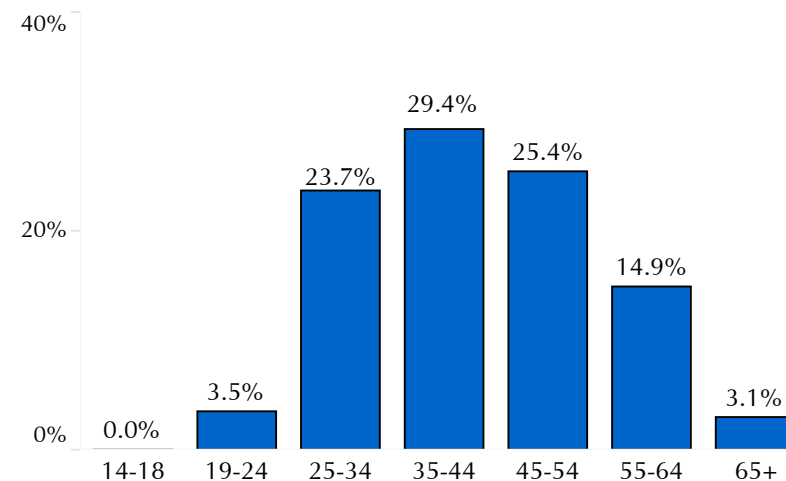
Race / Ethnicity



Gender



Age



Top 10 Job Titles
by Job Posting Volume

Data Architects	80
Database Administrators	27
Informatica Developers	23
Data Modelers	21
Data Governance Managers	20
SQL Database Administrators	19
Database Engineers	16
Infrastructure Architects	14
Database Developers	13
Cloud Infrastructure Architects	13

Top 10 Specialized Skills
by Job Posting Volume

SQL (Programming Language)	347
Data Warehousing	230
Computer Science	224
Extract Transform Load (ETL)	220
Data Modeling	205
Data Analysis	195
Data Architecture	176
Automation	148
Data Management	146
Microsoft Azure	138

Top 10 Software Skills
by Job Posting Volume

SQL (Programming Language)	347
Microsoft Azure	140
Python (Programming Language)	127
Amazon Web Services	123
Microsoft SQL Servers	97
Tableau (Business Intelligence Software)	96
SQL Server Integration Services (SSIS)	96
Microsoft Excel	79
Stored Procedure	72
Informatica	70

Top 10 Common Skills
by Job Posting Volume

Communications	279
Management	273
Leadership	244
Operations	222
Problem Solving	160
Troubleshooting (Problem Solving)	137
Planning	132
Writing	116
Customer Service	103
Governance	102

Top 10 Qualifications
by Job Posting Volume

Master Of Business Administration (MBA)	22
Security Clearance	13
Project Management Professional Certification	9
ITIL Certifications	6
Certified Information Systems Security Professional	6
Registered Nurse (RN)	3
Certified Public Accountant	3

Network and Computer Systems Administrators (15-1244)

Median Salary
\$78,677

▼ -2.1% below national median

Jobs
1,966

▼ -20.4% below national average*

Avg. New Monthly Job Postings

83

▲ 1.2% above national average*

Past Growth

▼ **-8.0%**

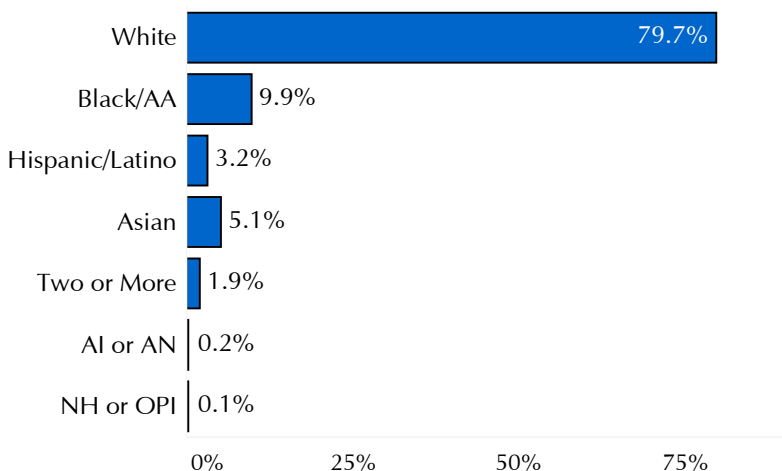
2017 - 2022

Projected Growth

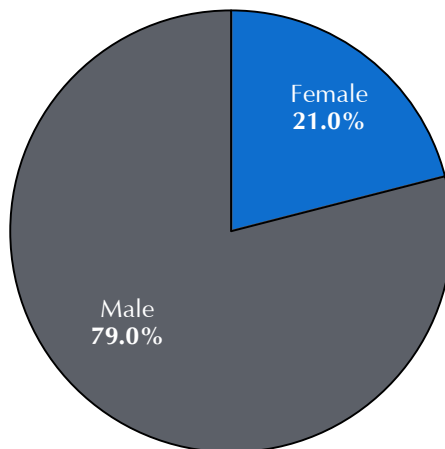
▲ **7.0%**

2022 - 2027

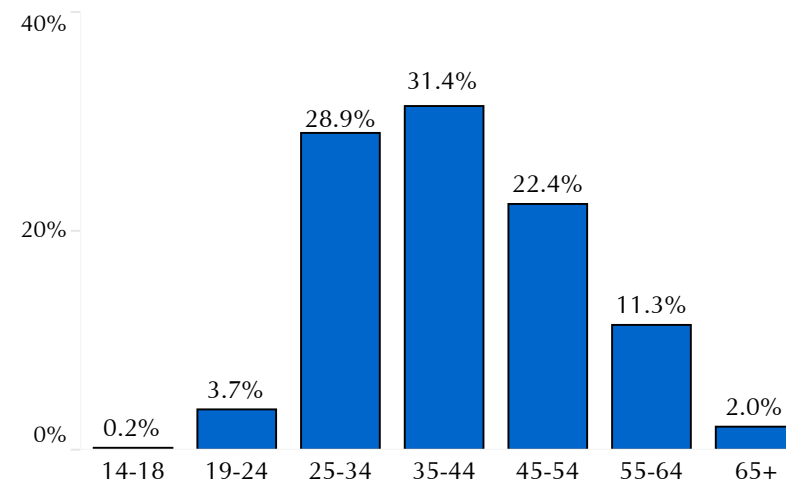
Race / Ethnicity



Gender



Age



Top 10 Job Titles
by Job Posting Volume

Systems Administrators	182
Network Administrators	47
Installation Coordinators	33
Application Administrators	31
Sharepoint Administrators	28
IT Administrators	26
Linux System Administrators	25
Linux Administrators	25
Support Coordinators	20
Branch Coordinators	20

Top 10 Specialized Skills
by Job Posting Volume

Operating Systems	255
Computer Science	243
Active Directory	216
System Administration	186
Automation	175
Microsoft Azure	168
Linux	157
Firewall	141
Scripting	139
Information Systems	129

Top 10 Software Skills
by Job Posting Volume

Operating Systems	255
Active Directory	216
Microsoft Excel	181
Microsoft Azure	168
Microsoft Office	162
Linux	157
Firewall	145
Windows Servers	130
Microsoft Office 365	117
Microsoft Outlook	108

Top 10 Common Skills
by Job Posting Volume

Communications	582
Troubleshooting (Problem Solving)	473
Management	429
Operations	334
Problem Solving	324
Customer Service	313
Leadership	250
Planning	224
Writing	208
Information Technology	183

Top 10 Qualifications
by Job Posting Volume

Cisco Certified Network Associate	43
ITIL Certifications	30
Registered Nurse (RN)	16
Cisco Certified Network Professional	16
Master Of Business Administration (MBA)	13
Security Clearance	12
Certified Information Systems Security Professional	12
GIAC Certifications	7
Project Management Professional Certification	5
Certified Public Accountant	4

Computer Programmers (15-1251)

Median Salary
\$95,024

▲ 4.3% above national median

Jobs
797

▼ -37.3% below national average*

Avg. New Monthly Job Postings

48

▼ -2.0% below national average*

Past Growth

▼ **-54.0%**

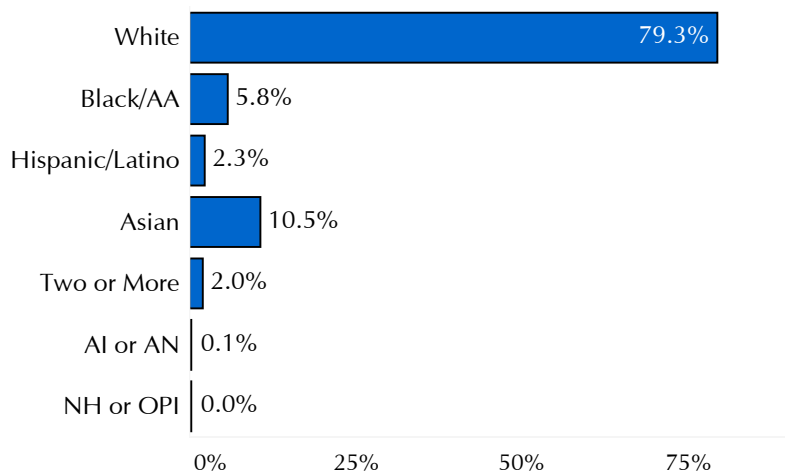
2017 - 2022

Projected Growth

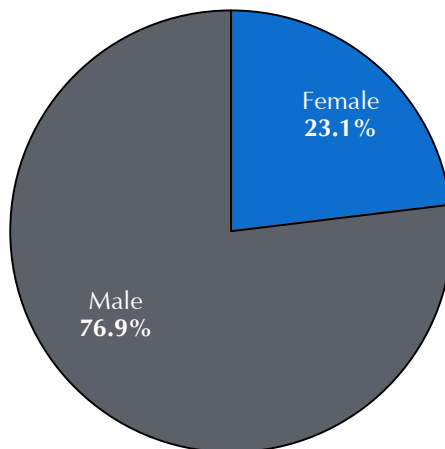
▲ **3.0%**

2022 - 2027

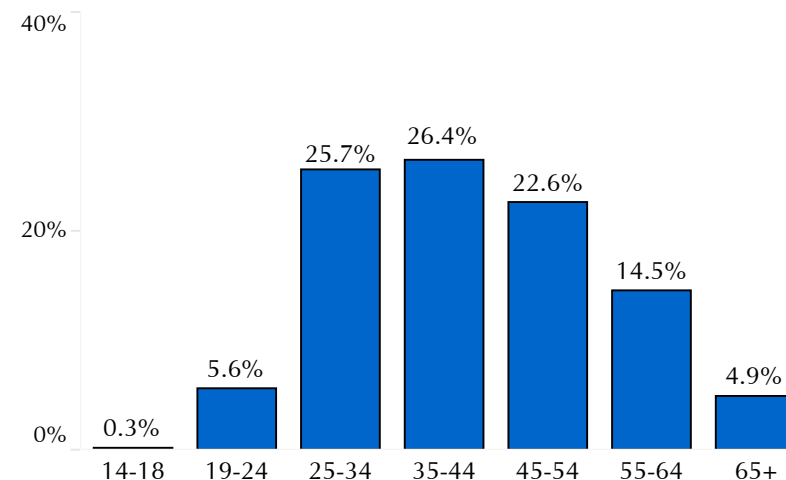
Race / Ethnicity



Gender



Age



Top 10 Job Titles
by Job Posting Volume

Programmer Analysts	80
Mobile Experts	38
Systems Programmers	17
RPG Programmers	17
Computer Programmers	17
Programmers	10
Barbacks	9
Life Insurance Sales Professionals	7
DevOps Leads	7
Lead Guides	6

Top 10 Specialized Skills
by Job Posting Volume

SQL (Programming Language)	120
Computer Science	100
Automation	77
Java (Programming Language)	66
C# (Programming Language)	65
Python (Programming Language)	58
Operating Systems	58
Amazon Web Services	56
Microsoft Azure	52
JavaScript (Programming Language)	50

Top 10 Software Skills
by Job Posting Volume

SQL (Programming Language)	122
Python (Programming Language)	67
Java (Programming Language)	66
C# (Programming Language)	66
Microsoft Office	64
Operating Systems	61
Amazon Web Services	56
Microsoft Azure	53
Microsoft Excel	52
JavaScript (Programming Language)	50

Top 10 Common Skills
by Job Posting Volume

Communications	266
Management	152
Customer Service	140
Problem Solving	139
Troubleshooting (Problem Solving)	131
Leadership	119
Operations	110
Sales	102
Writing	93
Interpersonal Communications	84

Top 10 Qualifications
by Job Posting Volume

Security Clearance	7
Master Of Business Administration (MBA)	6
Project Management Professional Certification	4
ITIL Certifications	4
Certified Public Accountant	4
Certified Information Systems Security Professional	3
Registered Nurse (RN)	2

Software Developers (15-1252)

Median Salary
\$101,250

▼ -15.8% below national median

Jobs
6,547

▼ -38.5% below national average*

Avg. New Monthly Job Postings

670

▼ -14.3% below national average*

Past Growth

▲ **26.0%**

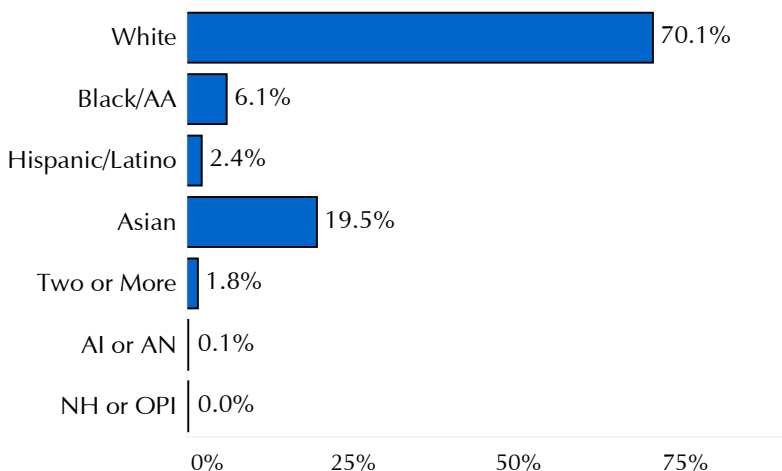
2017 - 2022

Projected Growth

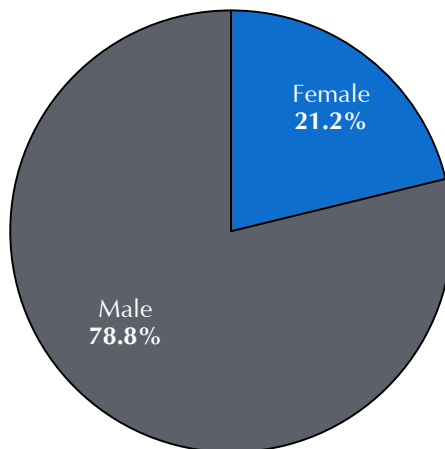
▲ **23.0%**

2022 - 2027

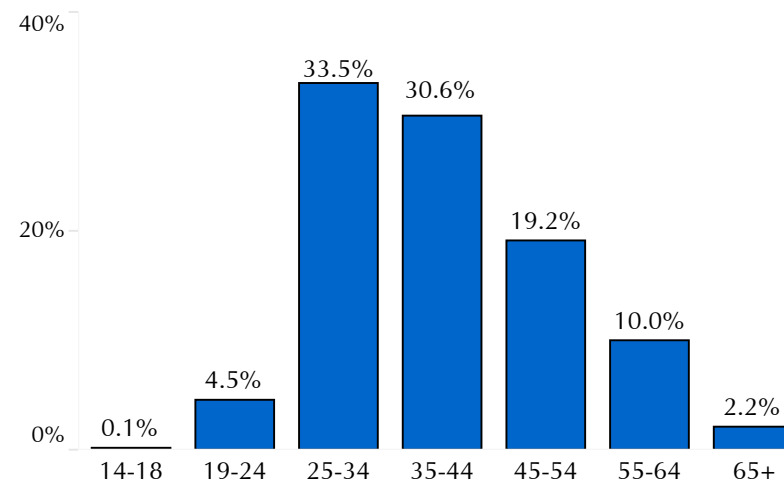
Race / Ethnicity



Gender



Age



Top 10 Job Titles
by Job Posting Volume

Software Engineers	808
.NET Developers	272
Software Developers	252
DevOps Engineers	215
Full Stack Developers	201
Java Developers	120
Salesforce Developers	119
Business Intelligence Developers	110
Lead Software Engineers	102
Software Engineering Managers	93

Top 10 Specialized Skills
by Job Posting Volume

Computer Science	3,046
Agile Methodology	2,676
Software Engineering	2,631
SQL (Programming Language)	2,620
Software Development	2,252
JavaScript (Programming Language)	2,132
Java (Programming Language)	2,063
C# (Programming Language)	2,062
Amazon Web Services	1,936
Python (Programming Language)	1,736

Top 10 Software Skills
by Job Posting Volume

SQL (Programming Language)	2,620
JavaScript (Programming Language)	2,132
Java (Programming Language)	2,063
C# (Programming Language)	2,062
Amazon Web Services	1,936
Python (Programming Language)	1,736
Application Programming Interface (API)	1,732
Microsoft Azure	1,491
Angular (Web Framework)	1,343
React.js	1,238

Top 10 Common Skills
by Job Posting Volume

Communications	3,347
Management	2,009
Problem Solving	1,887
Troubleshooting (Problem Solving)	1,734
Leadership	1,693
Operations	1,375
Writing	1,141
Customer Service	1,084
Planning	1,047
Detail Oriented	1,003

Top 10 Qualifications
by Job Posting Volume

Security Clearance	81
Master Of Business Administration (MBA)	71
Certified Information Systems Security Professional	46
Project Management Professional Certification	44
Registered Nurse (RN)	31
GIAC Certifications	24
Cisco Certified Network Associate	23
ITIL Certifications	17
Cisco Certified Network Professional	14
Certified Public Accountant	14

Software Quality Assurance Analysts and Testers (15-1253)

Median Salary
\$92,795

▼ -5.5% below national median

Jobs
685

▼ -52.6% below national average*

Avg. New Monthly Job Postings
70

▼ -14.6% below national average*

Past Growth

▲ **27.0%**

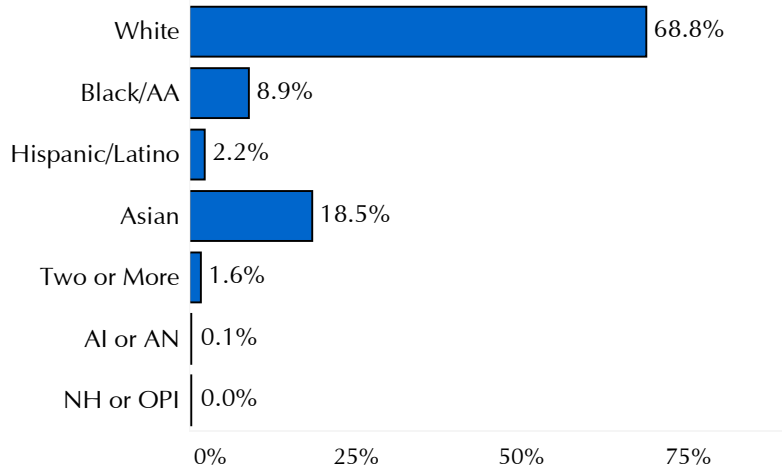
2017 - 2022

Projected Growth

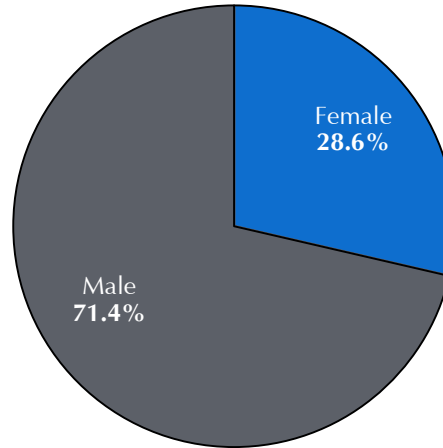
▲ **26.0%**

2022 - 2027

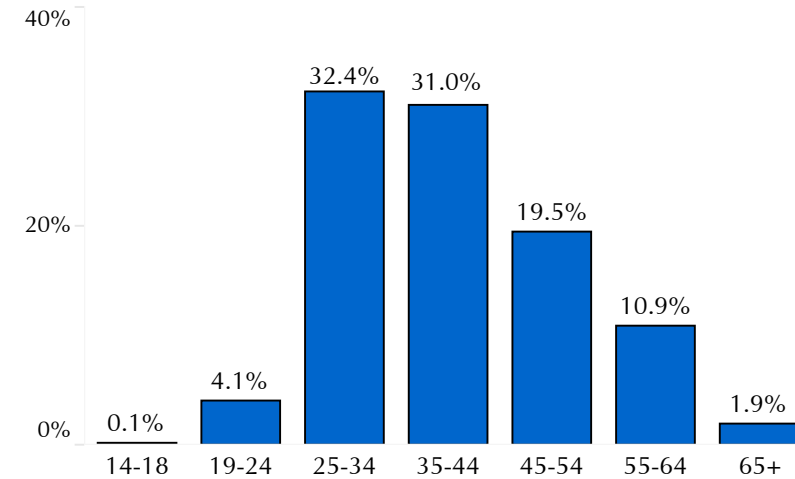
Race / Ethnicity



Gender



Age



Top 10 Job Titles
by Job Posting Volume

Quality Assurance Analysts	111
Quality Assurance Engineers	50
Quality Assurance Testers	31
Quality Assurance Testing Analysts	30
Quality Assurance Leads	27
Quality Assurance Automation Engineers	23
Software Quality Engineers	17
Test Engineers	16
Software Quality Assurance Consultants	15
Quality Consultants	14

Top 10 Specialized Skills
by Job Posting Volume

Test Planning	359
Automation	322
Test Automation	319
Agile Methodology	307
Computer Science	261
SQL (Programming Language)	240
Software Quality (SQA/SQC)	222
Regression Testing	186
Selenium (Software)	185
Software Testing	174

Top 10 Software Skills
by Job Posting Volume

SQL (Programming Language)	240
Selenium (Software)	188
JIRA	152
Java (Programming Language)	125
Application Programming Interface (API)	118
Microsoft Office	91
Microsoft Excel	87
C# (Programming Language)	81
Python (Programming Language)	73
JavaScript (Programming Language)	69

Top 10 Common Skills
by Job Posting Volume

Safety Assurance	501
Quality Assurance	455
Communications	362
Management	294
Problem Solving	242
Detail Oriented	207
Leadership	191
Planning	183
Operations	170
Troubleshooting (Problem Solving)	148

Top 10 Qualifications
by Job Posting Volume

Security Clearance	26
Registered Nurse (RN)	16
Project Management Professional Certification	9
Master Of Business Administration (MBA)	8
ITIL Certifications	2
Certified Public Accountant	2
Certified Information Systems Security Professional	1

Web Developers (15-1254)

Median Salary
\$60,384

▼ -14.7% below national median

Jobs
816

▲ 2.8% above national average*

Avg. New Monthly Job Postings
104

▼ -23.5% below national average*

Past Growth

▲ **53.0%**

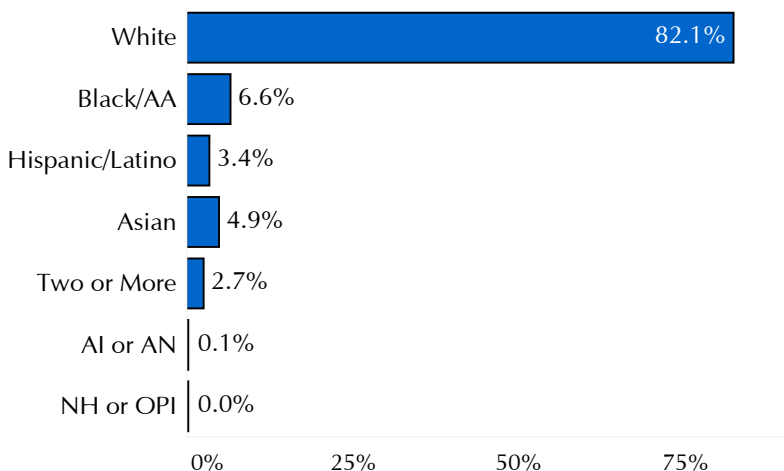
2017 - 2022

Projected Growth

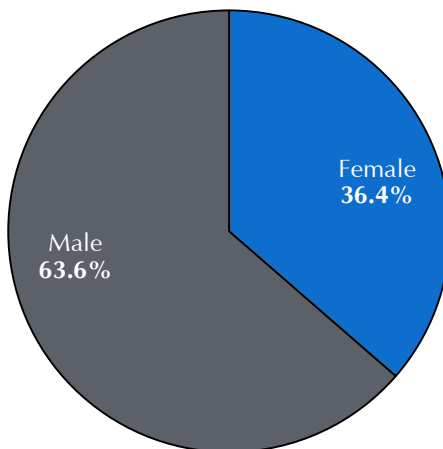
▲ **12.0%**

2022 - 2027

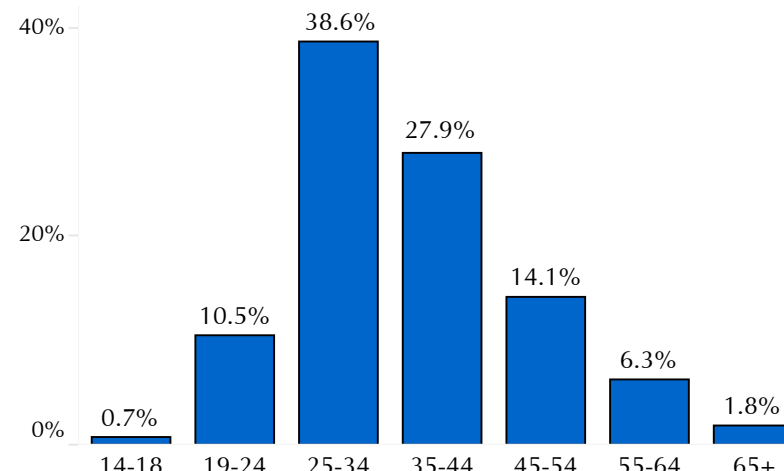
Race / Ethnicity



Gender



Age



Top 10 Job Titles
by Job Posting Volume

Front End Developers	83
Web Developers	78
UI/UX Designers	55
UX Designers	42
Front End Engineers	42
Customer Experience Specialists	40
Lead UX Designers	36
Back End Developers	30
PHP Developers	29
UX Researchers	28

Top 10 Specialized Skills
by Job Posting Volume

JavaScript (Programming Language)	572
Cascading Style Sheets (CSS)	475
User Experience	407
HyperText Markup Language (HTML)	365
User Interface	325
React.js	315
Front End (Software Engineering)	312
Agile Methodology	310
Application Programming Interface (API)	261
Angular (Web Framework)	245

Top 10 Software Skills
by Job Posting Volume

JavaScript (Programming Language)	572
Cascading Style Sheets (CSS)	475
HyperText Markup Language (HTML)	365
React.js	316
Application Programming Interface (API)	262
Angular (Web Framework)	245
Amazon Web Services	181
Node.js	180
Git (Version Control System)	178
RESTful API	172

Top 10 Common Skills
by Job Posting Volume

Communications	488
Problem Solving	239
Research	210
Management	187
Detail Oriented	172
Customer Service	162
Leadership	152
Writing	151
Innovation	144
Troubleshooting (Problem Solving)	143

Top 10 Qualifications
by Job Posting Volume

Security Clearance	6
Master Of Business Administration (MBA)	2
Certified Public Accountant	2
Project Management Professional Certification	1

Web and Digital Interface Designers (15-1255)

Median Salary
\$49,672

▼ -32.4% below national median

Jobs
746

▼ -3.0% below national average*

Avg. New Monthly Job Postings
12

▲ .0% below national average*

Past Growth

▲ **42.0%**

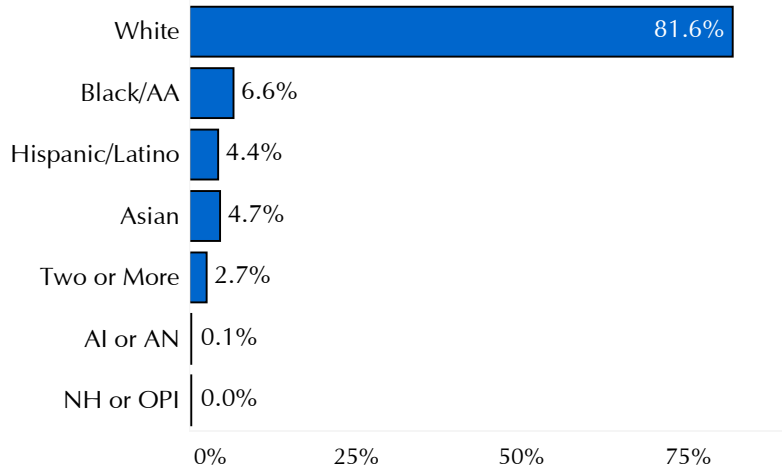
2017 - 2022

Projected Growth

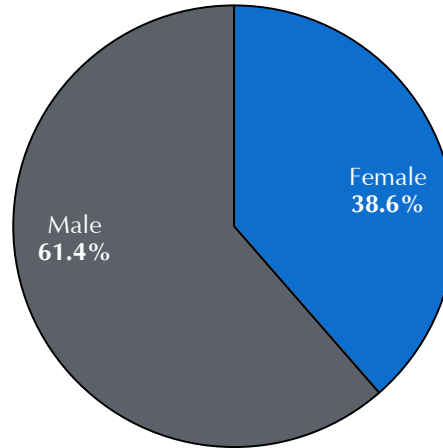
▲ **14.0%**

2022 - 2027

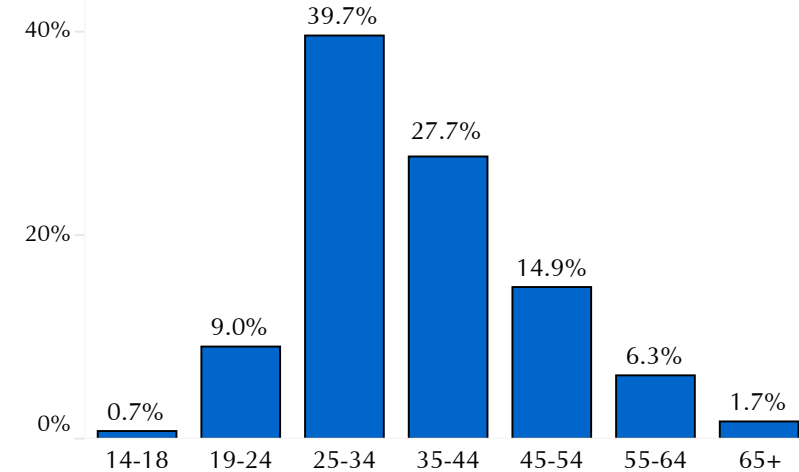
Race / Ethnicity



Gender



Age



Top 10 Job Titles
by Job Posting Volume

Content Creators	25
Care Guides	14
Youtube Content Creators	3
Technology Implementation Manag..	3
Industrialization Engineers	3
Game Day Staff	3
Directors of Infrastructure	3
Project Quality Leads	2
Healthcare Managers	2
Gameplay Engineers	2

Top 10 Specialized Skills
by Job Posting Volume

Marketing	30
Data Analysis	20
Contract Management	20
Agile Methodology	19
Project Management	17
Procurement	16
Computer Science	15
Procurement Software	14
PeopleSoft Applications	14
Finance	13

Top 10 Software Skills
by Job Posting Volume

Microsoft Office	20
Procurement Software	14
PeopleSoft Applications	14
Microsoft Excel	13
SAP Applications	12
Microsoft Outlook	11
Microsoft Azure	10
Geographic Information Systems	9
Microsoft PowerPoint	8
Adobe After Effects	7

Top 10 Common Skills
by Job Posting Volume

Communications	65
Management	49
Leadership	40
Planning	36
Operations	35
Writing	32
Problem Solving	32
Research	30
Detail Oriented	30
Decision Making	28

Top 10 Qualifications
by Job Posting Volume

Project Management Professional Certification	5
Master Of Business Administration (MBA)	4
ITIL Certifications	2
Certified Public Accountant	2
Security Clearance	1
Registered Nurse (RN)	1

Computer Occupations, All Other (15-1299)

Median Salary
\$54,793

▼ -41.7% below national median

Jobs
5,891

▲ 89.4% above national average*

Avg. New Monthly Job Postings
408

▼ -5.8% below national average*

Past Growth

▲ **113.0%**

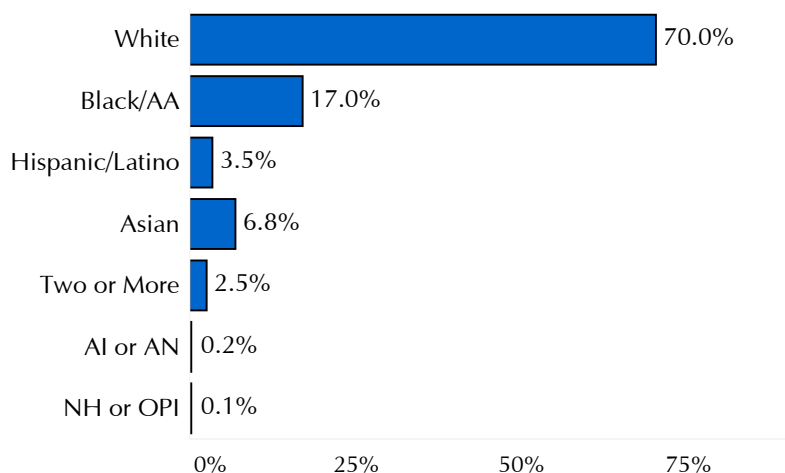
2017 - 2022

Projected Growth

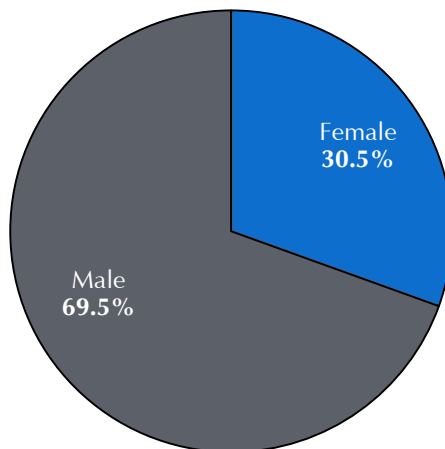
▲ **5.0%**

2022 - 2027

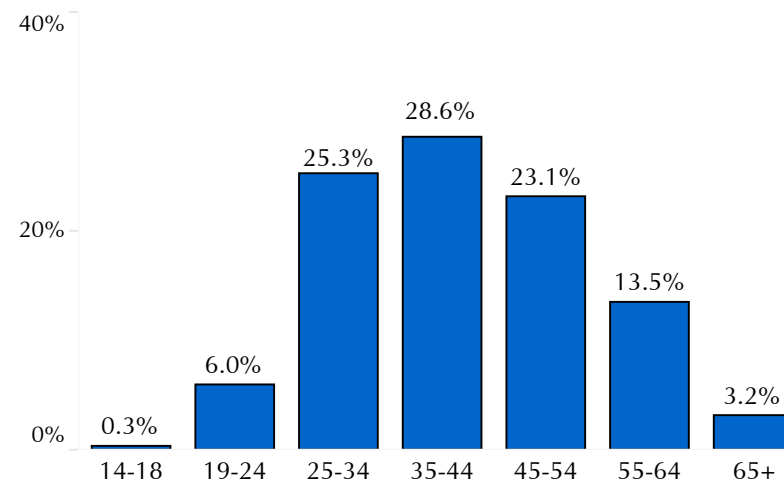
Race / Ethnicity



Gender



Age



Top 10 Job Titles
by Job Posting Volume

IT Project Managers	235
Solutions Architects	202
Systems Engineers	155
Scrum Masters	154
Project Managers	115
IT Managers	92
Credentialing Specialists	68
Computer Operators	65
Technical Project Managers	56
Enterprise Architects	48

Top 10 Specialized Skills
by Job Posting Volume

Agile Methodology	1,298
Computer Science	1,215
Project Management	1,074
Scrum (Software Development)	742
Automation	728
Solution Architecture	694
Microsoft Azure	672
Amazon Web Services	602
Software Development	579
SQL (Programming Language)	532

Top 10 Software Skills
by Job Posting Volume

Microsoft Azure	672
Microsoft Office	668
Microsoft Excel	628
Amazon Web Services	602
SQL (Programming Language)	532
Python (Programming Language)	490
Microsoft PowerPoint	437
Application Programming Interface (API)	398
Java (Programming Language)	370
Linux	366

Top 10 Common Skills
by Job Posting Volume

Communications	2,615
Management	2,192
Leadership	1,849
Operations	1,370
Problem Solving	1,277
Planning	1,263
Customer Service	1,023
Troubleshooting (Problem Solving)	930
Detail Oriented	868
Writing	863

Top 10 Qualifications
by Job Posting Volume

Project Management Professional Certification	486
Master Of Business Administration (MBA)	161
Cisco Certified Network Associate	86
Certified Information Systems Security Professional	86
Security Clearance	66
ITIL Certifications	53
Cisco Certified Network Professional	50
GIAC Certifications	35
Certified Public Accountant	33
Registered Nurse (RN)	22

Operations Research Analysts (15-2031)

Median Salary
\$60,886

▼ -26.1% below national median

Jobs
638

▼ -15.3% below national average*

Avg. New Monthly Job Postings
88

▼ -26.7% below national average*

Past Growth

▲ **34.0%**

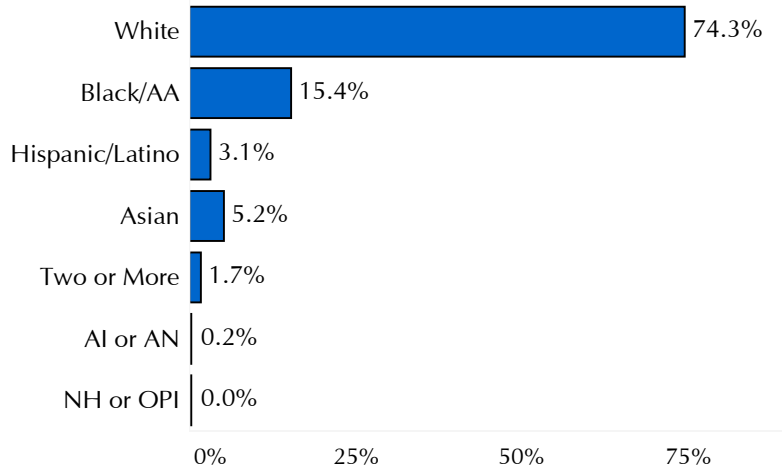
2017 - 2022

Projected Growth

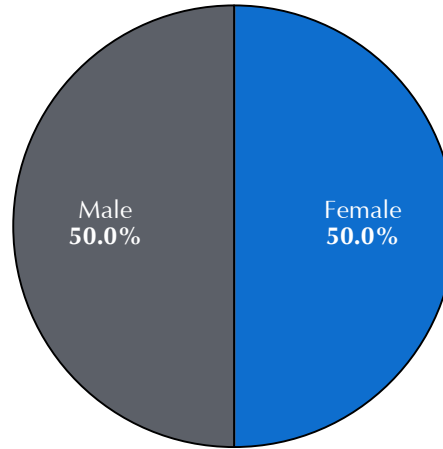
▲ **18.0%**

2022 - 2027

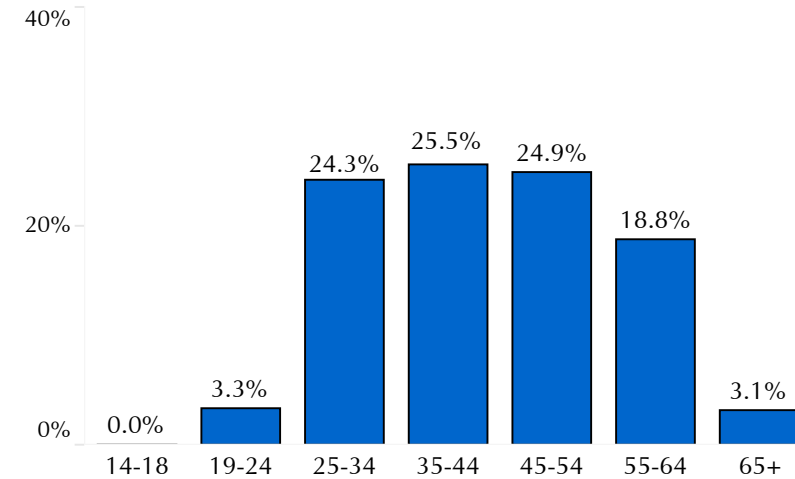
Race / Ethnicity



Gender



Age



Top 10 Job Titles
by Job Posting Volume

Directors of Business Development	99
Operations Analysts	76
Research Assistants	52
Research Analysts	52
Business Operations Analysts	24
Operations Support Specialists	23
Imaging Research Associates	22
Research Coordinators	20
Business Operations Specialists	17
Research Scientists	15

Top 10 Specialized Skills
by Job Posting Volume

Data Analysis	258
Finance	190
Marketing	187
Process Improvement	177
SQL (Programming Language)	150
Business Development	149
Data Collection	129
Auditing	120
Supply Chain	113
Key Performance Indicators (KPIs)	112

Top 10 Software Skills
by Job Posting Volume

Microsoft Excel	298
Microsoft Office	209
Microsoft PowerPoint	166
SQL (Programming Language)	153
Tableau (Business Intelligence Software)	85
Microsoft Word	79
Microsoft Access	68
Python (Programming Language)	63
Microsoft Outlook	58
R (Programming Language)	57

Top 10 Common Skills
by Job Posting Volume

Communications	713
Research	712
Operations	596
Management	528
Leadership	407
Writing	362
Problem Solving	354
Detail Oriented	326
Microsoft Excel	298
Planning	274

Top 10 Qualifications
by Job Posting Volume

Master Of Business Administration (MBA)	50
Registered Nurse (RN)	20
Certified Public Accountant	12
Security Clearance	3
GIAC Certifications	3
Certified Information Systems Security Professional	3
Project Management Professional Certification	2

Statisticians (15-2041)

Median Salary
\$79,285

▼ -16.7% below national median

Jobs
405

▲ 58.2% above national average*

Avg. New Monthly Job Postings
18

▲ 12.5% above national average*

Past Growth

▲ **71.0%**

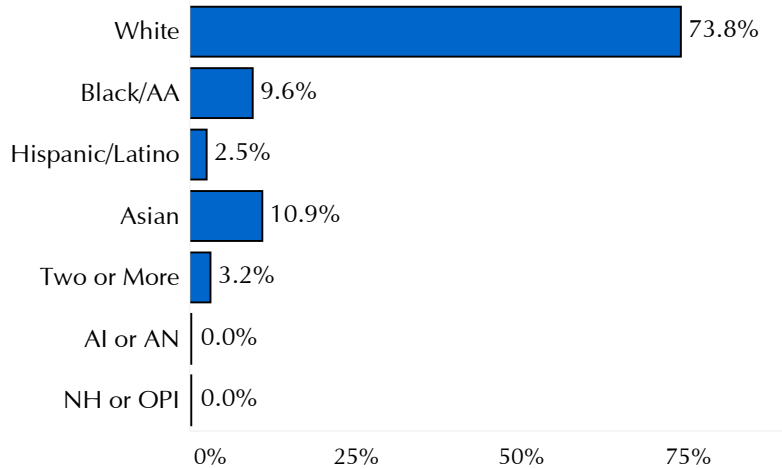
2017 - 2022

Projected Growth

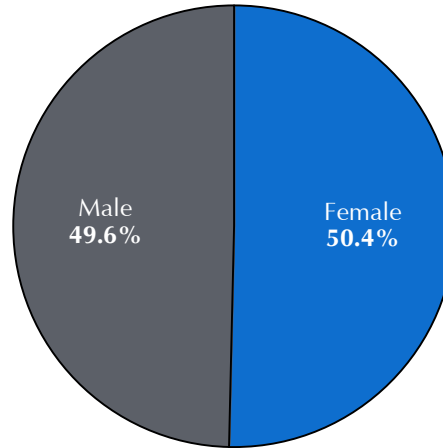
▲ **17.0%**

2022 - 2027

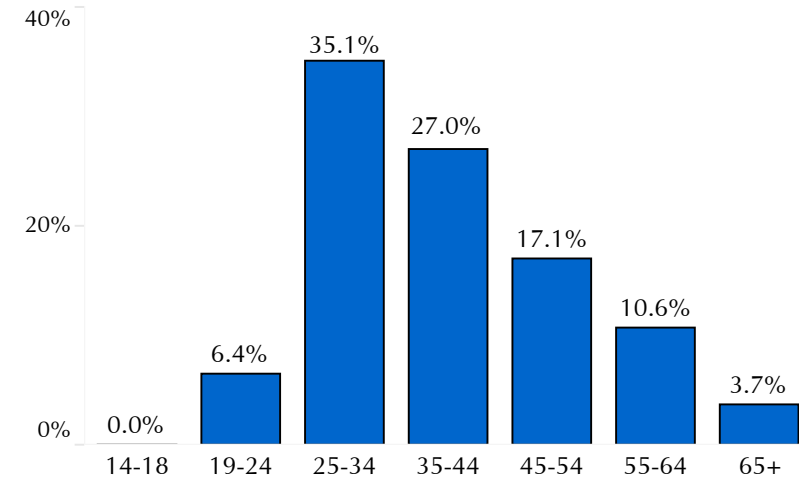
Race / Ethnicity



Gender



Age



Top 10 Job Titles
by Job Posting Volume

Biostatisticians	34
Statistical Programmers	27
Statistical Programming Analysts	21
Statistical Geneticists	18
Statistical Analysts	17
Bioinformaticians	10
Principal Biostatisticians	7
Bioinformatics Scientists	7
Medical Informatics Analysts	5
Data Operations Specialists	5

Top 10 Specialized Skills
by Job Posting Volume

Data Analysis	110
Statistical Analysis	104
SAS (Software)	99
Biostatistics	89
Clinical Trials	65
Statistical Programming	59
Computer Science	58
Statistics	49
Python (Programming Language)	47
Data Mining	47

Top 10 Software Skills
by Job Posting Volume

SAS (Software)	99
Python (Programming Language)	47
R (Programming Language)	46
SQL (Programming Language)	36
Microsoft Office	35
SAP Applications	29
SAS Macros	28
Microsoft Excel	28
Statistical Software	25
SAS/STAT	25

Top 10 Common Skills
by Job Posting Volume

Communications	118
Presentations	104
Research	96
Management	84
Writing	81
Mathematics	68
Problem Solving	60
Leadership	51
Operations	44
Customer Service	41

Top 10 Qualifications
by Job Posting Volume

Security Clearance	11
Registered Nurse (RN)	2
Project Management Professional Certification	1
Master Of Business Administration (MBA)	1
Certified Information Systems Security Professional	1

Data Scientists (15-2051)

Median Salary
\$80,609

▼ -19.9% below national median

Jobs
651

▼ -20.2% below national average*

Avg. New Monthly Job Postings
176

▲ 5.4% above national average*

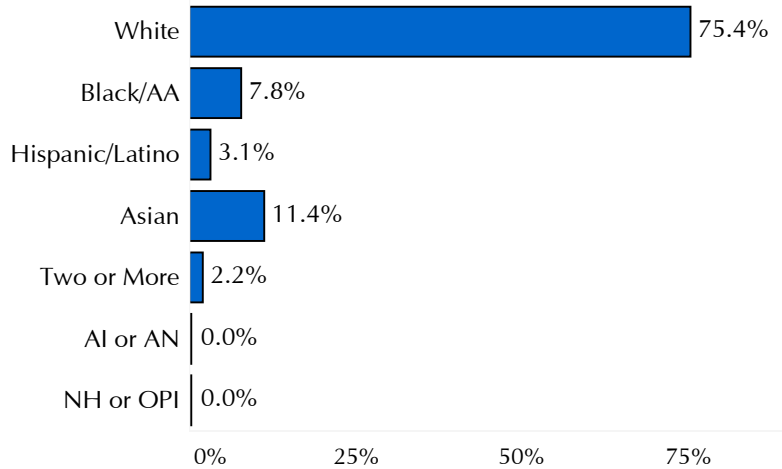
Past Growth
▼ -53.0%

2017 - 2022

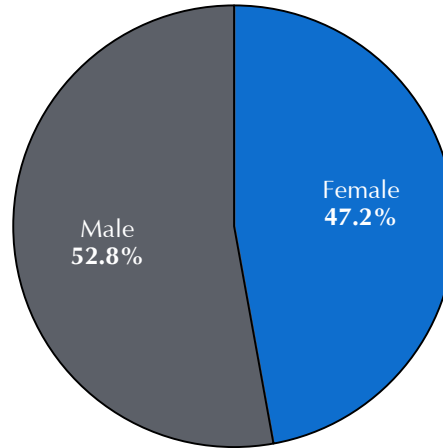
Projected Growth
▲ 23.0%

2022 - 2027

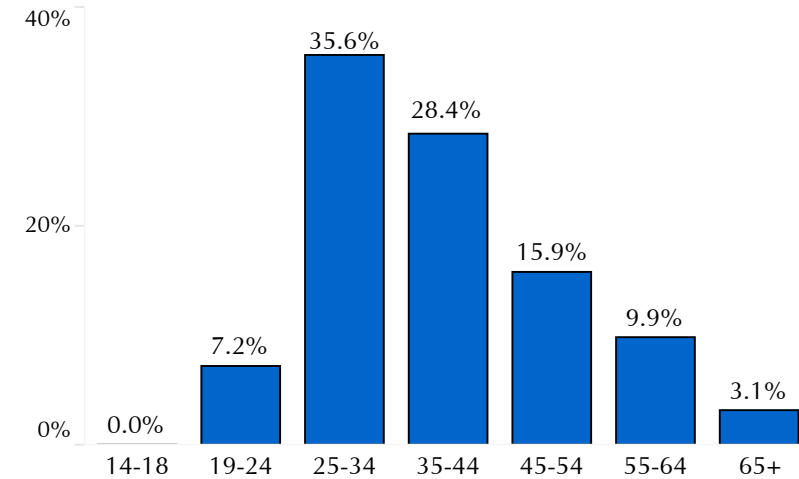
Race / Ethnicity



Gender



Age



Top 10 Job Titles
by Job Posting Volume

Data Analysts	340
Data Scientists	205
Business Intelligence Analysts	153
Business Data Analysts	40
Business Analysts	26
Data Science Managers	25
Master Data Analysts	24
Lead Data Scientists	24
Machine Learning Engineers	23
Reporting Analysts	22

Top 10 Specialized Skills
by Job Posting Volume

Data Analysis	1,182
SQL (Programming Language)	1,009
Python (Programming Language)	655
Computer Science	640
Tableau (Business Intelligence Software)	627
Business Intelligence	611
Power BI	553
Data Science	536
Dashboard	521
R (Programming Language)	422

Top 10 Software Skills
by Job Posting Volume

SQL (Programming Language)	1,009
Python (Programming Language)	655
Tableau (Business Intelligence Software)	627
Microsoft Excel	540
R (Programming Language)	424
Microsoft Office	326
Microsoft PowerPoint	251
SAS (Software)	196
Microsoft Azure	193
SAP Applications	163

Top 10 Common Skills
by Job Posting Volume

Communications	1,035
Management	796
Operations	619
Problem Solving	598
Leadership	596
Microsoft Excel	540
Mathematics	502
Research	477
Detail Oriented	466
Writing	415

Top 10 Qualifications
by Job Posting Volume

Master Of Business Administration (MBA)	67
Project Management Professional Certification	26
Registered Nurse (RN)	23
Security Clearance	12
Certified Information Systems Security Professional	7
Certified Public Accountant	4
ITIL Certifications	2
GIAC Certifications	2

Computer Hardware Engineers (17-2061)

Median Salary
\$106,196

▼ -16.8% below national median

Jobs
177

▼ -69.5% below national average*

Avg. New Monthly Job Postings

1

▼ -87.5% below national average*

Past Growth

▼ **-62.0%**

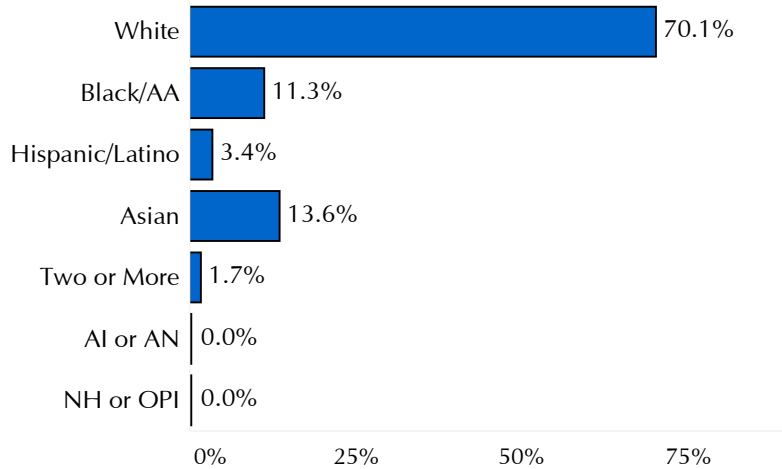
2017 - 2022

Projected Growth

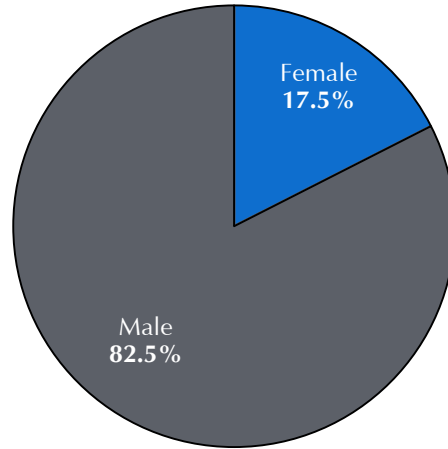
▲ **11.0%**

2022 - 2027

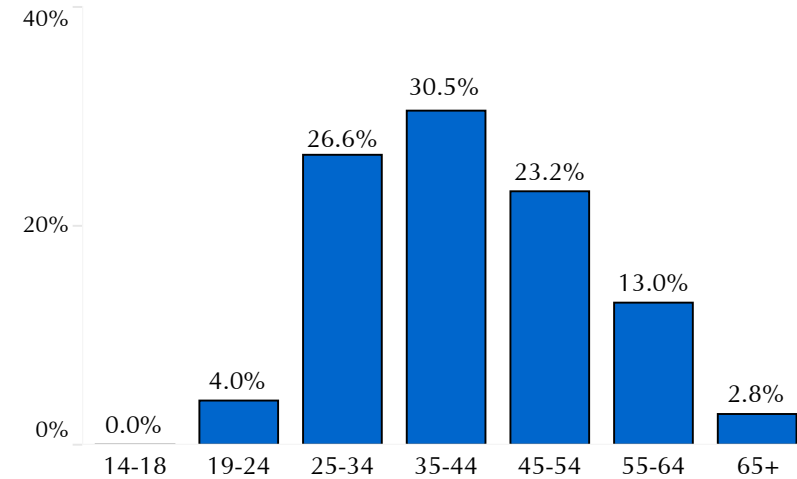
Race / Ethnicity



Gender



Age



Top 10 Job Titles
by Job Posting Volume

Hardware Engineers	7
Computer Vision Engineers	3
Hardware Quality Engineers	2
Online Reporters	1
Integration Engineers	1
Hardware Development Engineers	1
Hardware Architects	1
Hardware Applications Engineers	1
Digital Hardware Engineers	1
ASIC Design Engineers	1

Top 10 Specialized Skills
by Job Posting Volume

Computer Science	9
Hardware Architecture	6
Electrical Engineering	5
C++ (Programming Language)	5
Technical Design	4
Sensors	4
Printed Circuit Board	4
Java (Programming Language)	4
C (Programming Language)	4
Artificial Intelligence	4

Top 10 Software Skills
by Job Posting Volume

C++ (Programming Language)	5
Python (Programming Language)	4
Microsoft Office	4
Java (Programming Language)	4
C (Programming Language)	4
Microsoft Visio	3
Firmware	3
AutoCAD	3
Microsoft Excel	2
Go (Programming Language)	2

Top 10 Common Skills
by Job Posting Volume

Communications	9
Sales	8
Innovation	7
Troubleshooting (Problem Solving)	6
Problem Solving	6
Management	5
Microsoft Office	4
Leadership	4
Customer Service	4
Consulting	4

Top 10 Qualifications
by Job Posting Volume

LEED Accredited Professional (AP)	1
Architecture License	1

Special Effects Artists and Animators (27-1014)

Median Salary
\$44,464

▼ -26.9% below national median

Jobs
302

▲ 2.0% above national average*

Avg. New Monthly Job Postings

4

▼ -20.0% below national average*

Past Growth

▼ **-25.0%**

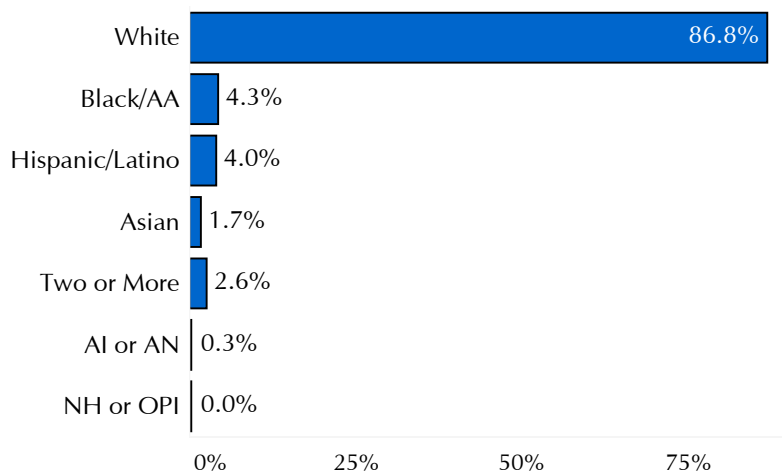
2017 - 2022

Projected Growth

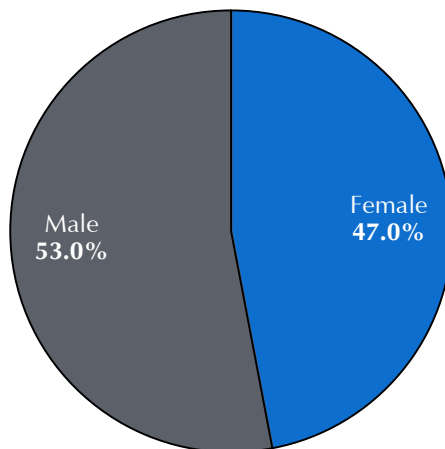
▲ **15.0%**

2022 - 2027

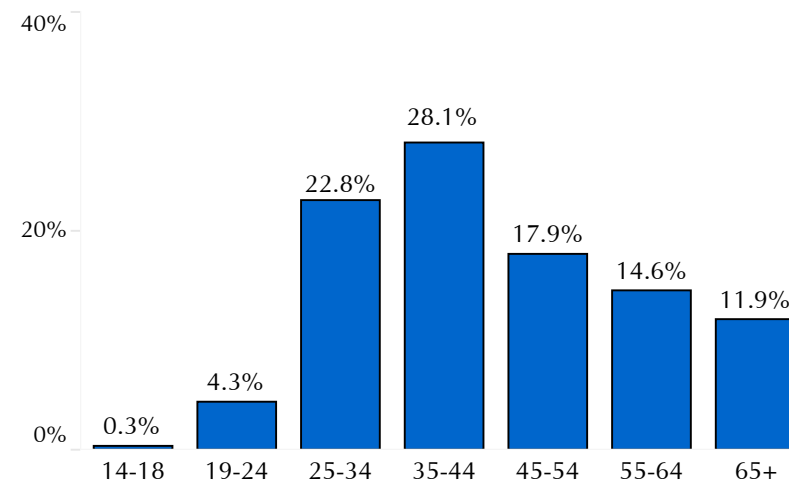
Race / Ethnicity



Gender



Age



Top 10 Job Titles
by Job Posting Volume

Motion Graphics Designers	15
Digital Content Producers	15
3D Modelers	6
Animators	5
Experience Designers	3
Technical Authors	2
Digital Executive Producers	2
3D Designers	2
Motion Graphics Designers/Video Editors	1
Interactive Designers	1

Top 10 Specialized Skills
by Job Posting Volume

Animations	25
Adobe Photoshop	25
Motion Graphics	21
Adobe Illustrator	21
Adobe After Effects	19
Storyboarding	17
Digital Content	17
Graphic Design	15
Content Creation	13
Marketing	12

Top 10 Software Skills
by Job Posting Volume

Adobe Photoshop	25
Adobe Illustrator	21
Adobe After Effects	19
Adobe Premiere Pro	11
HyperText Markup Language (HTML)	8
Adobe Creative Suite	7
3D Modeling Software	7
SolidWorks (CAD)	6
Content Management Systems	6
Adobe Animate	6

Top 10 Common Skills
by Job Posting Volume

Communications	29
Writing	18
Social Media	15
Problem Solving	14
Editing	13
Detail Oriented	13
Operations	11
Ability To Meet Deadlines	11
Time Management	10
Management	10

Top 10 Qualifications
by Job Posting Volume

Master Of Business Administration (MBA)	1
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Graphic Designers (27-1024)

Median Salary
\$47,436

▼ -3.7% below national median

Jobs
2,045

▲ .5% above national average*

Avg. New Monthly Job Postings
45

▲ 28.6% above national average*

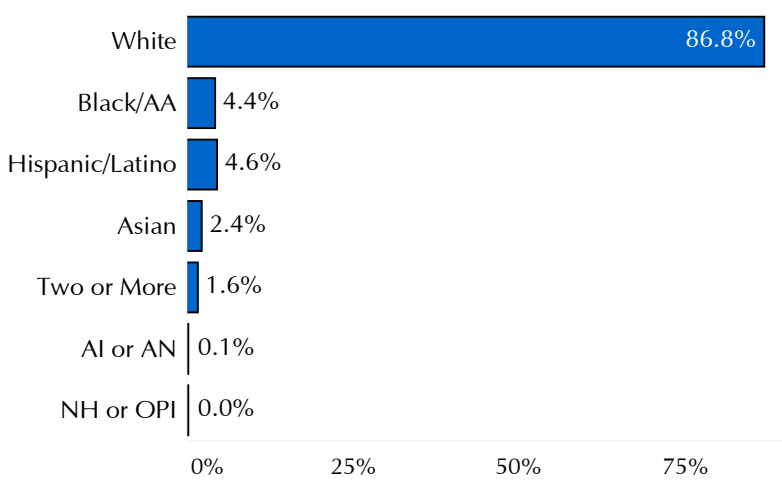
Past Growth
▲ 20.0%

2017 - 2022

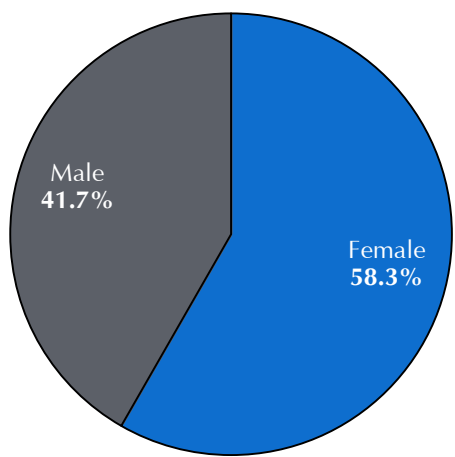
Projected Growth
▲ 10.0%

2022 - 2027

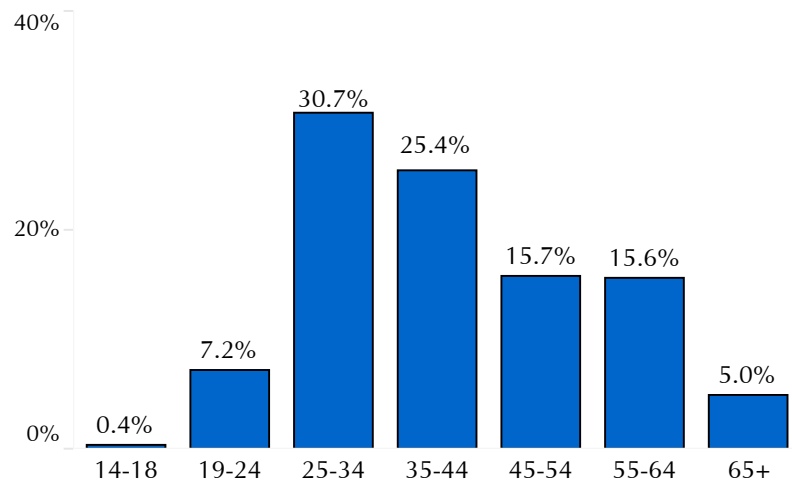
Race / Ethnicity



Gender



Age



Top 10 Job Titles by Job Posting Volume

Graphic Designers	265
Partner Graphic Designers	28
Graphic Artists	16
Graphic Design Specialists	12
Creative Designers	10
Visual Designers	9
Graphics Specialists	9
Graphic Designers/Production S...	9
Corporate Graphic Designers	9
Marketing Graphic Designers	8

Top 10 Specialized Skills by Job Posting Volume

Graphic Design	392
Adobe Illustrator	320
Adobe Photoshop	299
Marketing	269
Adobe InDesign	267
Adobe Creative Suite	234
Typography	116
Photography	114
Illustration	107
Brochures	96

Top 10 Software Skills by Job Posting Volume

Adobe Illustrator	320
Adobe Photoshop	299
Adobe InDesign	267
Adobe Creative Suite	234
Microsoft Office	121
HyperText Markup Language (HTML)	91
Adobe After Effects	89
Microsoft PowerPoint	71
Cascading Style Sheets (CSS)	58
Microsoft Excel	45

Top 10 Common Skills by Job Posting Volume

Communications	324
Detail Oriented	188
Presentations	153
Ability To Meet Deadlines	153
Microsoft Office	121
Sales	110
Time Management	108
Self-Motivation	106
Writing	101
Management	90

Top 10 Qualifications by Job Posting Volume

Security Clearance	1
Master Of Business Administration (MBA)	1

Computer, Automated Teller, and Office Machine Repairers (49-2011)

Median Salary
\$37,592

▼ -7.2% below national median

Jobs
877

▲ 12.7% above national average*

Avg. New Monthly Job Postings
3

▲ 50.0% above national average*

Past Growth

▲ **32.0%**

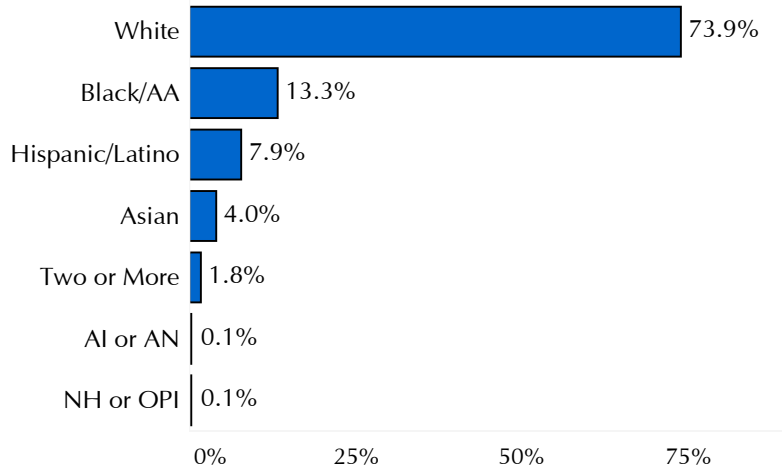
2017 - 2022

Projected Growth

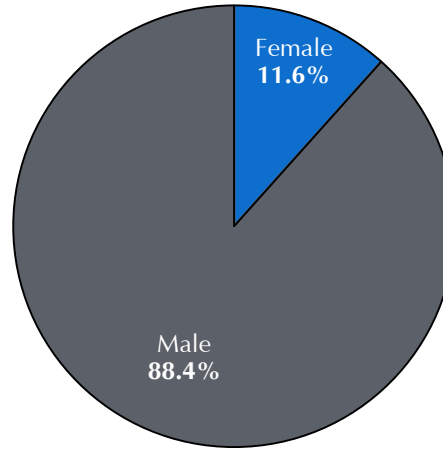
▲ **9.0%**

2022 - 2027

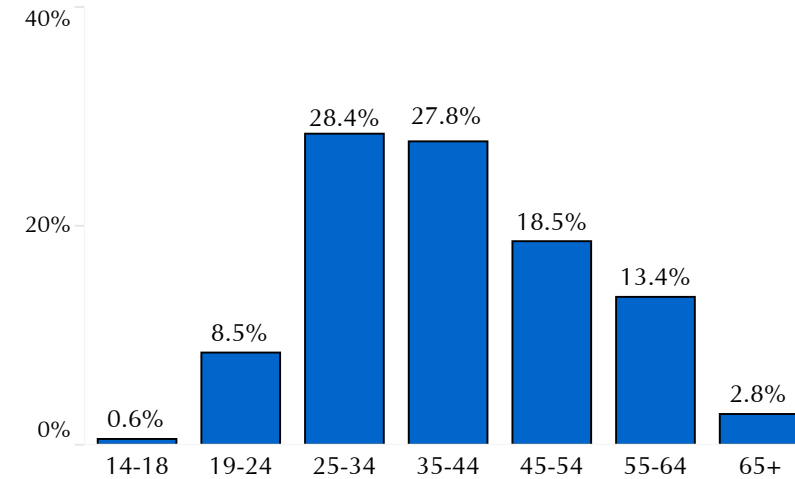
Race / Ethnicity



Gender



Age



Top 10 Job Titles
by Job Posting Volume

Copier Technicians	11
Break/Fix Technicians	9
Printer Technicians	6
Warehouse workers	3
PC Repair Technicians	3
IT Hardware Technicians	3
Systems Administrators	2
Governance Specialists	2
Field Support Representatives	2
ATM Technicians	2

Top 10 Specialized Skills
by Job Posting Volume

Field Service Management	15
Warehousing	9
Additive Manufacturing (3D Printing)	8
Post Processing	6
Peripheral Devices	6
Excavation	6
Electronics	6
Office Equipment	5
Network Switches	5
Computer Building	4

Top 10 Software Skills
by Job Posting Volume

Microsoft Office	4
Active Directory	3
Bash (Scripting Language)	2
Microsoft Windows	1
Microsoft Teams	1
Microsoft Excel	1
Microsoft Azure	1
Mac OS X	1
Git (Version Control System)	1
Amazon Web Services	1

Top 10 Common Skills
by Job Posting Volume

Troubleshooting (Problem Solving)	37
Communications	24
Valid Driver's License	20
Customer Service	18
Management	12
Detail Oriented	11
Multitasking	10
Self-Motivation	9
Lifting Ability	8
Interpersonal Communications	8

Top 10 Qualifications
by Job Posting Volume

Security Clearance	1
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