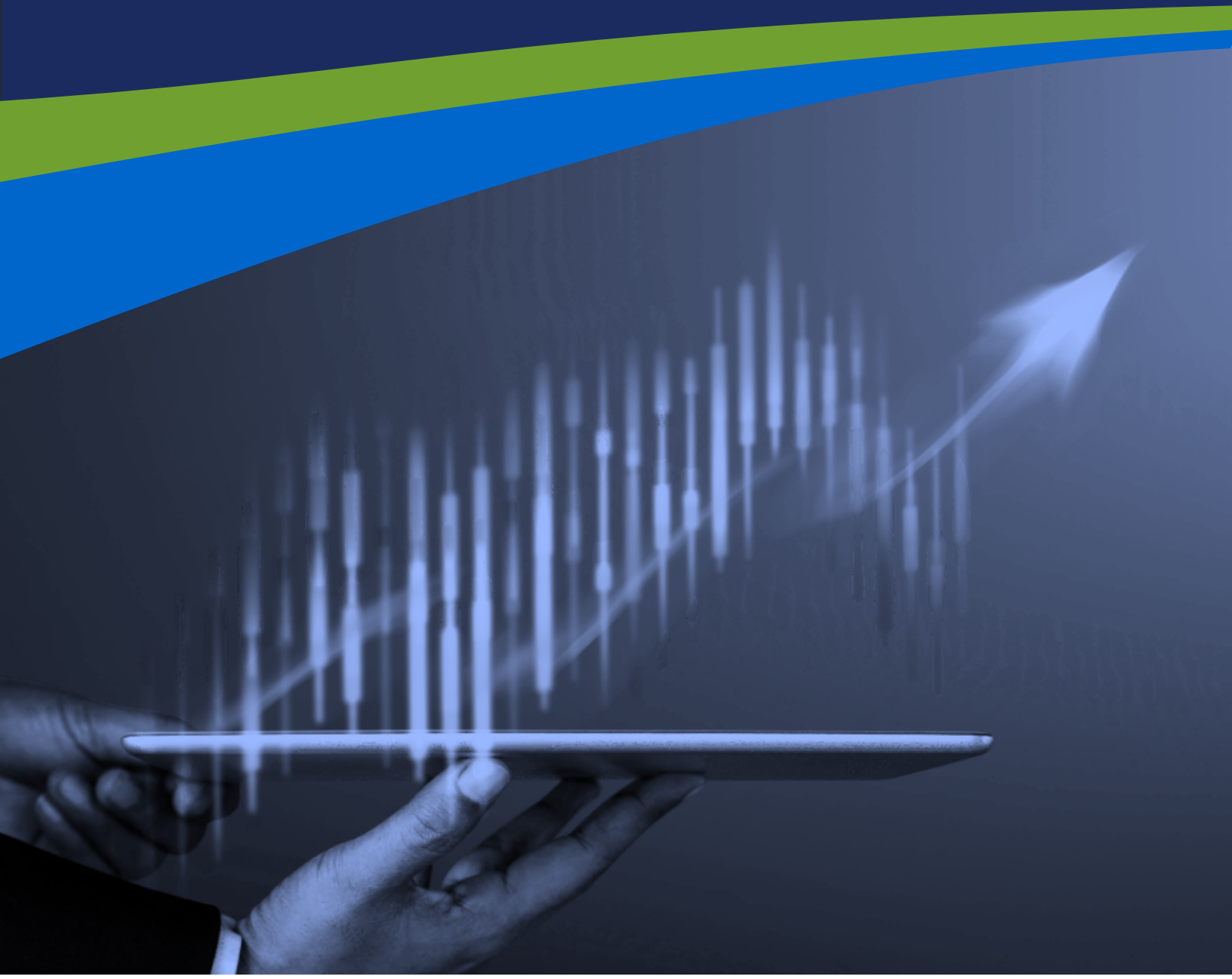
State of Middle Tennessee Tech 2021



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The Middle Tennessee State University Department of

Information Systems & Analytics

In the Jennings A. Jones College of Business

In Partnership With:

Greater Nashville Technology Council

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Executive Summary

- From 2015-2020, the number of tech jobs in Middle Tennessee grew by **51.0%**. This job growth rate outpaced national tech job growth by **32.0%**, statewide tech job growth by **13.0%,** and overall job growth in Middle Tennessee by **41.0%.**

- The projected growth rate for tech jobs in Middle Tennessee (2020-2025) is **12.0%**, compared to **8.0%** projected national tech job growth, **10.0%** projected statewide job growth, and **7.0%** projected growth across all occupations in Middle Tennessee.

- Median compensation for tech jobs in Middle Tennessee was **$71,188** in 2020. This value is **17.7%** below the national median for tech jobs and **76.0%** above the median compensation across all occupations in Middle Tennessee.

- The **Computer Systems Design and Related Services Industry** employed the largest number of tech workers (**7,820**) in the region. This industry employed **11.1%** of Middle Tennessee tech workers. Tech jobs accounted for **68.0%** of all jobs in this industry.

- For 2020, the average number of new monthly job postings across all tech occupations in the region was **14,462**. This is higher than the national average of an area this size (**13,232**[1]).

- The **Software Developers/Quality Assurance Occupations** group had the highest demand with an average of **3,762** new unique monthly job postings in 2020. Posting volume was about what would be expected for a region this size.

- Women comprise **51.1%** of the population in Middle Tennessee, **50.8%** of the workforce as a whole, and **40.1%** of tech workers.

- Across tech occupations, female representation Middle Tennessee was slightly higher than that observed for the state and nation. Women occupied **40.1%** of regional tech roles, compared to **36.8%** of national roles and **39.%** of roles statewide.

- Non-white workers comprise **29.3%** of the local population, **26.3%** of the regional workforce, but only **22.7%** of the regional tech workforce.

- When compared to the general working population in Middle Tennessee, the tech workforce has a **higher** percentage of White (**+3.6%**) and Asian **(+3.9%**) workers.

- When compared to the general working population in Middle Tennessee, the tech workforce has a **lower** percentage of Black (**-4.8%**) and Hispanic or Latino (**-2.7%**) 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 Economic Modeling Specialists Incorporated (Emsi 2021.3). Emsi 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, Emsi 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 used here are based on a hybrid of the BLS's 2010 and 2018 SOC structures. Readers can find detailed data for each of the individual occupations listed in the Appendix.

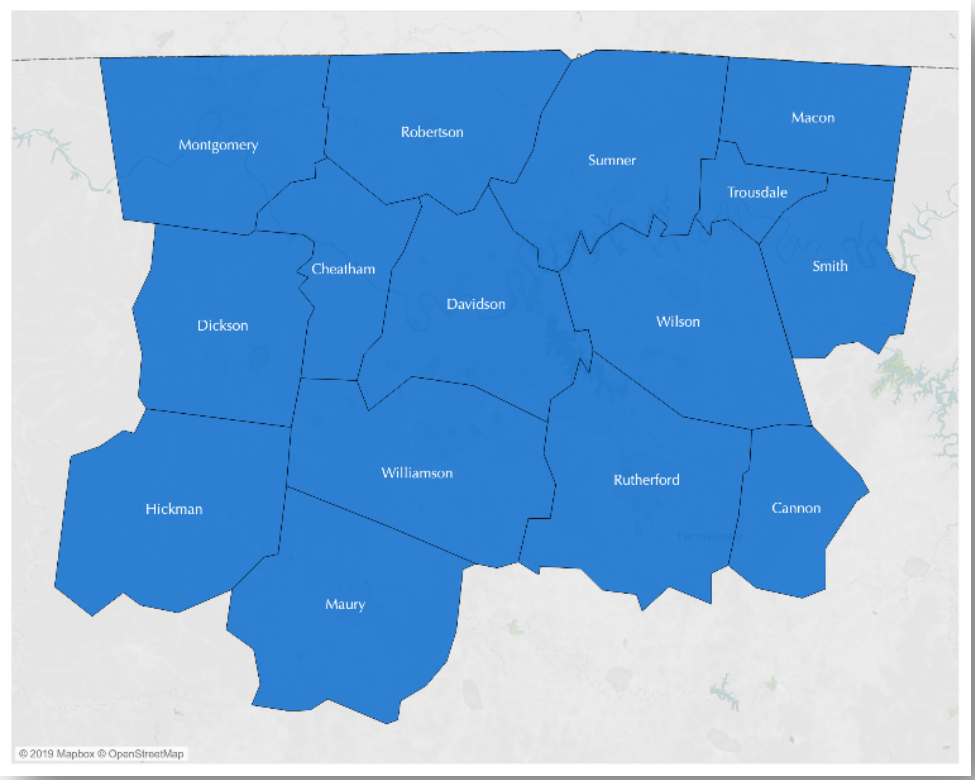
It is acknowledged that some of the codes included in the report capture jobs both inside and outside of the tech space. The prevailing philosophy is that it is better to include codes known to employ tech workers than exclude them due to overestimation concerns. That said, the current hybrid structure increases the likelihood of overestimation and limits the usefulness of making comparisons to previous years' reports. Caution should be exercised in attempting to do so, especially when looking at numbers aggregated across all occupations.

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
	13-1111	Management Analysts
	13-1161	Market Research Analysts and Marketing Specialists
	13-1198	Project Management Specialists and Business Operations Specialists, All Other
	13-2050	Financial and Investment Analysts, Financial Risk Specialists, and Financial Specialists, All Other
Computer & Information Analysts	15-1211	Computer Systems Analysts
	15-1212	Information Security Analysts
Computer & Information Research 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
	15-1244	Network and Computer Systems Administrators
	15-1245	Database Administrators and Architects
Software Developers/Quality Assurance Occupations	15-1251	Computer Programmers
	15-1256	Software Developers and Software Quality Assurance Analysts and Testers
	15-1257	Web Developers 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
Data Scientists and Mathematical Science Occupations, All Other	15-2098	Data Scientists and Mathematical Science Occupations, All Other
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)

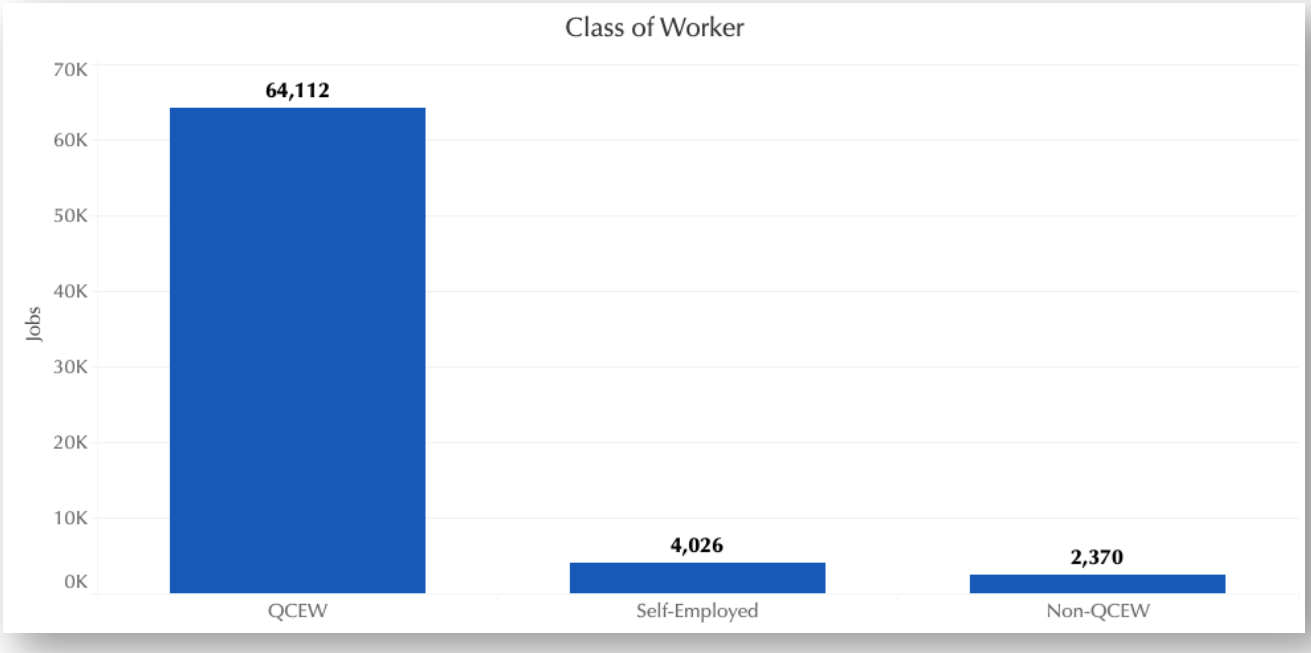
Defining "Class of Worker"

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.

2020 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 2015-2020, the number of tech jobs in Middle Tennessee grew by **51.0%**. This job growth rate outpaced national tech job growth by **32.0%**, statewide tech job growth by **13.0%,** and overall job growth in Middle Tennessee by **41.0%.**
- The projected growth rate for tech jobs in Middle Tennessee (2020-2025) is **12.0%**, compared to **8.0%** projected national tech job growth, **10.0%** projected statewide job growth, and **7.0%** projected growth across all occupations in Middle Tennessee.
- Median compensation for tech jobs in Middle Tennessee was **$71,188** in 2020. This value is **17.7%** below the national median for tech jobs and **76.0%** 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 **9.1%** from 2019 to 2020 to **29,062** jobs. The occupation group with the most significant year-over-year growth in job volume was **Data Scientists and Mathematical Science Occupations, All Other**, which grew by **36.0%** to **948** jobs.
- The occupation group with the highest median salary is **Management Occupations** at **$116,711** – a **1.4% decrease** from 2019. The occupation with the most significant yearly percent increase in median wage was **Computer and Information Research Scientists**. The median salary for this group increased **28.3%** to **$105,732** in 2020.
- The **Computer Systems Design and Related Services Industry** employed the largest number of tech workers (**7,820**) in the region. This industry employed **11.1%** of Middle Tennessee tech workers. Tech jobs accounted for **68.0%** of all jobs in this industry.
- The occupation group with the highest five-year past growth rate (2015-2020) is **Data Scientists and Mathematical Science Occupations, All Other**. The group grew by **92.0%**, bringing the total number of jobs for the occupation group to **948**. The largest occupation group, **Business and Financial Operations Analysts**, is the second-highest in terms of past growth at **86.0%**.
- Occupation groups associated with data and mathematical sciences were among those with the highest five-year projected growth rates. These groups include **Computer and Information Research Scientists (37.0%), Data Scientists and Mathematical Science Occupations, All Other (18.0%), and Mathematical Science Occupations (18.0%)**. **Software Developers/Quality Assurance Occupations** are also projected to experience considerable growth (**18.0%**) by 2025.

Tech Job Supply, Compensation and Growth Trends

All Occupations: National	
Supply (Jobs)	158,256,721
Median Compensation	$41,802
Supply (Jobs) Past Growth (2015-2020)	0%
Supply (Jobs) Projected Growth (2020-2025)	4%

Tech Occupations: National	
Supply (Jobs)	10,066,030
Median Compensation	$86,488
Supply (Jobs) Past Growth (2015-2020)	19%
Supply (Jobs) Projected Growth (2020-2025)	8%

All Occupations: Tennessee	
Supply (Jobs)	3,321,266
Median Compensation	$37,466
Supply (Jobs) Past Growth (2015-2020)	3%
Supply (Jobs) Projected Growth (2020-2025)	5%

Tech Occupations: Tennessee	
Supply (Jobs)	154,982
Median Compensation	$69,271
Supply (Jobs) Past Growth (2015-2020)	38%
Supply (Jobs) Projected Growth (2020-2025)	10%

All Occupations: Middle Tennessee	
Supply (Jobs)	1,142,089
Median Compensation	$40,440
Supply (Jobs) Past Growth (2015-2020)	10%
Supply (Jobs) Projected Growth (2020-2025)	7%

Tech Occupations: Middle Tennessee	
Supply (Jobs)	70,508
Median Compensation	$71,188
Supply (Jobs) Past Growth (2015-2020)	51%
Supply (Jobs) Projected Growth (2020-2025)	12%

Tech Jobs by Occupation Group

Occupation Group	2020 Jobs	2019 Jobs	% Change from 2019	2020 National Average	% Diff from 2020 Nat'l Average
Business & Financial Operations Analysts	29,062	26,650	9.1%	28,468	2.1%
Software Developers/Quality Assurance Occupations	9,923	9,285	6.9%	13,925	-28.7%
Management Occupations	6,441	5,954	8.2%	5,576	15.5%
Computer & Information Analysts	6,094	5,838	4.4%	5,447	11.9%
Computer Support Specialists	6,049	6,194	-2.3%	6,332	-4.5%
Database & Systems Administrators & Network Architects	4,549	4,371	4.1%	4,745	-4.1%
Computer Occupations, All Other	3,402	3,282	3.7%	2,978	14.2%
Special Effects Artists, Animators & Graphic Designers	1,999	2,176	-8.1%	2,187	-8.6%
Mathematical Science Occupations	1,168	1,144	2.1%	1,015	15.1%
Data Scientists and Mathematical Science Occupations, All Other	948	697	36.0%	446	112.6%
Computer, Automated Teller, and Office Machine Repairers	718	735	-2.3%	798	-10.0%
Computer Hardware Engineers	118	130	-9.2%	486	-75.7%
Computer & Information Research Scientists	37	39	-5.1%	239	-84.5%

Middle Tennessee Median Tech Salary by Occupation Group

Occupation Group	2020 Median Salary	2019 Median Salary	% Diff from 2019 Median Salary	2020 Nat'l Median	% Diff from 2020 Nat'l Average
Management Occupations	$116,711	$118,426	-1.4%	$146,661	-20.4%
Computer & Information Research Scientists	$105,732	$82,402	28.3%	$126,818	-16.6%
Software Developers/Quality Assurance Occupations	$89,599	$90,160	-0.6%	$104,281	-14.1%
Computer Hardware Engineers	$88,114	$74,797	17.8%	$119,231	-26.1%
Database & Systems Administrators & Network Architects	$83,368	$83,180	0.2%	$93,784	-11.1%
Computer & Information Analysts	$79,988	$77,797	2.8%	$95,425	-16.2%
Data Scientists and Mathematical Science Occupations, All Other	$76,394	$74,482	2.6%	$97,899	-22.0%
Mathematical Science Occupations	$66,048	$63,846	3.4%	$87,934	-24.9%
Business & Financial Operations Analysts	$64,927	$63,201	2.7%	$78,326	-17.1%
Computer Occupations, All Other	$63,428	$63,712	-0.4%	$91,846	-30.9%
Computer Support Specialists	$49,583	$49,011	1.2%	$55,305	-10.3%
Special Effects Artists, Animators & Graphic Designers	$48,689	$51,426	-5.3%	$52,451	-7.2%
Computer, Automated Teller, and Office Machine Repairers	$41,621	$37,044	12.4%	$40,384	3.1%

Top 10 Industries Employing Middle Tennessee Tech Workers

Industry	Tech Jobs in Industry (2020)	Tech Jobs in Industry (2019)	% Change (2019 - 2020)	% of Tech Workers Employed by Industry (2020)	Tech Jobs as % of Total Jobs in Industry (2020)
Computer Systems Design and Related Services	7,820	7,566	3.4%	11.1%	68.0%
Management Consulting Services	7,229	6,490	11.4%	10.3%	40.3%
Management of Companies and Enterprises	6,096	6,192	-1.5%	8.6%	25.9%
State Government, Excluding Education and Hospitals	2,409	2,225	8.2%	3.4%	19.8%
Federal Government, Civilian, Excluding Postal Service	2,391	2,165	10.4%	3.4%	19.8%
Data Processing, Hosting, and Related Services	2,164	2,022	7.0%	3.1%	52.7%
Software Publishers	1,905	1,588	19.9%	2.7%	55.8%
Temporary Help Services	1,819	1,761	3.3%	2.6%	6.3%
Accounting, Tax Preparation, Bookkeeping, and Payroll Services	1,765	1,623	8.7%	2.5%	10.1%
Local Government, Excluding Education and Hospitals	1,572	1,359	15.7%	2.2%	4.5%

Growth Trends by Occupation Group

Occupation Group	2020 Jobs	2020 % of Tech Workforce	Past Growth (2015-2020)	Projected Growth (2020-2025)
Business & Financial Operations Analysts	29,062	41.2%	86%	11%
Software Developers/Quality Assurance Occupations	9,923	14.1%	42%	18%
Management Occupations	6,441	9.1%	60%	11%
Computer & Information Analysts	6,094	8.6%	61%	10%
Computer Support Specialists	6,049	8.6%	12%	9%
Database & Systems Administrators & Network Architects	4,549	6.5%	24%	8%
Computer Occupations, All Other	3,402	4.8%	45%	7%
Special Effects Artists, Animators & Graphic Designers	1,999	2.8%	-7%	8%
Mathematical Science Occupations	1,168	1.7%	26%	18%
Data Scientists and Mathematical Science Occupations, All Other	948	1.3%	92%	18%
Computer, Automated Teller, and Office Machine Repairers	718	1.0%	4%	13%
Computer Hardware Engineers	118	0.2%	-73%	19%
Computer & Information Research Scientists	37	0.1%	-19%	37%

Job Demand

This section provides an overview of current tech job demand in Middle Tennessee as measured by the number of unique job postings[3] 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 (hard and common), and demand by qualification. These are the key findings:

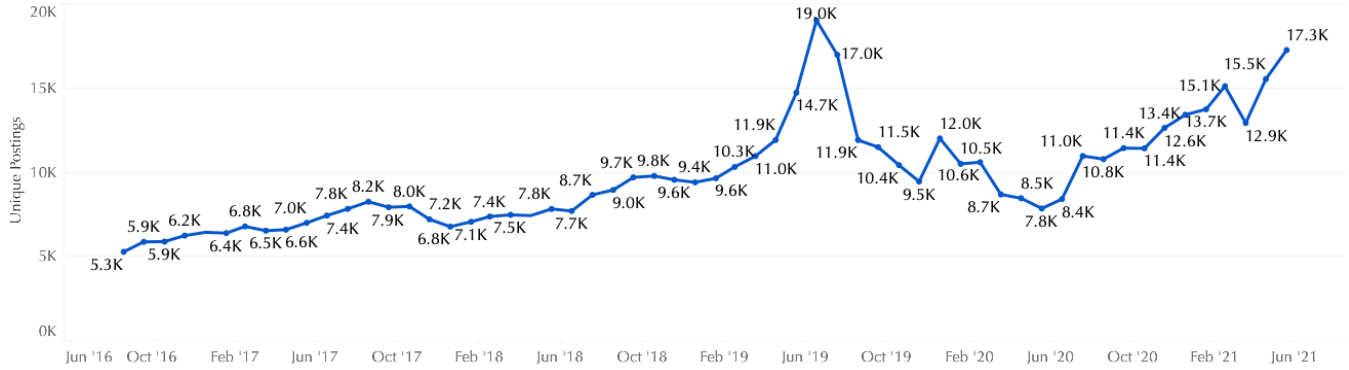
- For 2020, the average number of new monthly job postings across all tech occupations in the region was **14,462**. This is higher than the national average of an area this size (**13,232**[4]).
- The **Software Developers/Quality Assurance Occupations** group had the highest demand with an average of **3,762** new unique monthly job postings in 2020. Posting volume was about what would be expected for a region this size.
- Of the job postings that mentioned education level, a Bachelor's degree was cited most frequently (**28,383** posts).
- Of the job postings mentioning a required minimum experience level, the majority (**15,616**) required a minimum of **2-3 years of experience**.
- The most in-demand job title was **Software Engineer**, which appeared in **1.3%** of postings (**773**) from July 2020 through June 2021. An important note here is the relatively small number of postings referencing the title. This reflects the heterogenous nature of job titles.
- The top hard skill was **Structured Query Language (SQL)**, which appeared in **15.1%** of postings (**8,817**) from July 2020 through June 2021.
- **Communications** was the most in-demand common skill, appearing in **39.2%** of postings (**22,966**).
- The top qualification was the **Master of Business Administration** with **3.4%** (**1,968**) 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 Time[5] (September 2016 – June 2021)

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



Demand by Occupation Group (2020)

Occupation Group	Average New Monthly Job Postings (2020)	National Average	% Difference
Software Developers/Quality Assurance Occupations	3,762	3,811	-1.3%
Business & Financial Operations Analysts	2,840	2,341	17.6%
Management Occupations	1,963	1,761	10.3%
Computer Occupations, All Other	1,712	1567	8.5%
Computer & Information Analysts	1,501	1282	14.6%
Computer Support Specialists	1,193	981	17.8%
Database & Systems Administrators & Network Architects	1,063	985	7.3%
Mathematical Science Occupations	257	198	23.0%
Special Effects Artists, Animators, & Graphic Designers	195	182	6.7%
Computer & Information Research Scientists	115	181	-57.4%
Computer Hardware Engineers	28	84	-200.0%
Computer, Automated Teller, and Office Machine Repairers	6	3	50.0%
Data Scientists and Mathematical Occupations, All Other	0[6]	0	0.0%

[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.

[6] *Reliable competition information is not available because there are too few postings.

Demand by Education Level (Jul 2020 – Jun 2021)[7]

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	3,706	995	478	6,359	1,652	438
Computer & Information Analysts	2,206	344	271	3,255	588	137
Computer & Information Research Scientists	111	4	6	171	161	127
Computer Hardware Engineers	66	2	1	33	15	9
Computer Occupations, All Other	2,744	299	235	3,483	867	119
Computer Support Specialists	2,212	1,208	803	1,338	130	60
Computer, Automated Teller, and Office Machine Repairers	19	11	6	1	0	0
Data Scientists and Mathematical Science Occupations, All Other	1	0	0	0	0	0
Database & Systems Administrators & Network Architects	2,246	263	243	1,797	217	67
Management Occupations	2,372	258	143	5,135	1,988	251
Mathematical Science Occupations	226	98	42	601	299	146
Software Developers/Quality Assurance Occupations	8,032	228	346	5,905	1,180	249
Special Effects Artists, Animators & Graphic Designers	522	50	36	305	10	8
Grand Total	**24,463**	**3,760**	**2,610**	**28,383**	**7,107**	**1,611**

Demand by Minimum Experience (Jul 2020 – Jun 2021)

Occupation Group	No experience listed	0-1 Years	2-3 Years	4-6 Years	7-9 Years	10+ Years
Business & Financial Operations Analysts	3,962	1,672	3,593	1,722	261	167
Computer & Information Analysts	2,083	546	1,852	1,172	212	101
Computer & Information Research Scientists	154	31	100	81	16	6
Computer Hardware Engineers	60	10	24	10	3	2
Computer Occupations, All Other	2,363	476	1,803	1,424	403	235
Computer Support Specialists	2,347	978	1,301	361	38	28
Computer, Automated Teller, and Office Machine Repairers	22	6	3	0	0	0
Data Scientists and Mathematical Science Occupations, All Other	1	0	0	0	0	0
Database & Systems Administrators & Network Architects	1,808	330	1,072	878	207	86
Management Occupations	2,122	363	1,924	2,322	733	627
Mathematical Science Occupations	354	157	345	209	12	12
Software Developers/Quality Assurance Occupations	6,322	1,187	3,409	2,691	621	242
Special Effects Artists, Animators & Graphic Designers	394	134	190	164	18	3
Grand Total	**21,992**	**5,890**	**15,616**	**11,034**	**2,524**	**1,509**

[7] Postings may be counted in more than one education level if they reference a range of levels.

Demand by Job Title, Skills, and Qualifications (Jul 2020 – Jun 2021)

Top 10 Job Titles

Job Title	Total Unique Postings (Jul 2020 - Jun 2021)	Frequency in Postings
Software Engineers	773	1.3%
Business Analysts	469	0.8%
.NET Developers	396	0.7%
Web Technology Specialists	321	0.5%
Network Engineers	306	0.5%
Financial Analysts	282	0.5%
Project Managers	275	0.5%
Software Developers	274	0.5%
Java Developers	269	0.5%
DevOps Engineers	252	0.4%

Top 10 Hard Skills

Hard Skill	Total Unique Postings (Jul 2020 - Jun 2021)	Frequency in Postings
SQL	8,817	15.1%
Agile Methodology	8,370	14.3%
Computer Science	6,131	10.5%
Automation	6,098	10.4%
Python	5,203	8.9%
Amazon Web Services	5,189	8.9%
Java	4,886	8.3%
Data Analysis	4,875	8.3%
Finance	4,709	8.0%
Software Development	4,598	7.9%

Top 10 Common Skills

Common Skill	Total Unique Postings (Jul 2020 - Jun 2021)	Frequency in Postings
Communications	22,966	39.2%
Management	17,099	29.2%
Leadership	13,639	23.3%
Operations	12,254	20.9%
Problem Solving	11,264	19.2%
Innovation	9,345	16.0%
Sales	8,410	14.4%
Planning	8,045	13.7%
Presentations	7,964	13.6%
Troubleshooting (Problem Solving)	7,935	13.5%

Top 10 Qualifications

Qualification	Total Unique Postings (Jul 2020 - Jun 2021)	Frequency in Postings
Master of Business Administration (MBA)	1,968	3.4%
Certified Information Systems Security Professional	1,133	1.9%
Bachelor of Science in Business	1,108	1.9%
Project Management Professional Certification	981	1.7%
Security Clearance	669	1.1%
Certified Information Security Manager	504	0.9%
Certified Information System Auditor (CISA)	466	0.8%
GIAC Certifications	446	0.8%
Cisco Certified Network Associate	408	0.7%
Secret Clearance	339	0.6%

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 **51.1%** of the population in Middle Tennessee, **50.8%** of the workforce as a whole, and **40.1%** of tech workers.
- Across tech occupations, female representation Middle Tennessee was slightly higher than that observed for the state and nation. Women occupied **40.1%** of regional tech roles, compared to **36.8%** of national roles and **39.%** of roles statewide.
- When looking at individual occupations (see Appendix: Detailed Occupation Data), 10 of the 26 occupations (**38.5%)** had female representation at or above **40.1%,** 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 **62.6%** of those roles. The occupation with the lowest percentage of female workers was **Computer, Automated Teller, and Office Machine Repairers** where females held only **12.0%** of jobs.
- Non-white workers comprise **29.3%** of the local population, **26.3%** of the regional workforce, but only **22.7%** of the regional tech workforce.
- When compared to the general working population in Middle Tennessee, the tech workforce has a **higher** percentage of White (**+3.6%**) and Asian **(+3.9%**) workers.
- When compared to the general working population in Middle Tennessee, the tech workforce has a **lower** percentage of Black (**-4.8%**) and Hispanic or Latino (**-2.7%**) workers.
- The tech occupation with the most racial diversity (as measured by the percentage on non-white workers) was **Logisticians**, where **33.0%** of roles were held by non-white workers. The occupation with the least racial diversity was **Special Effects Artists and Animators** where only **12.6%** of jobs were held by non-white workers.

National, State, and Local Population Demographics

Demographics	Nation		Tennessee		Middle Tennessee	
Gender	2020 Population	% Population	2020 Population	% Population	2020 Population	% Population
Females	167,227,921	50.8%	3,528,814	51.2%	1,124,761	51.1%
Males	162,256,202	49.2%	3,358,020	48.8%	1,076,109	48.9%
Age	2020 Population	% of Population	2020 Population	% of Population	2020 Population	% of Population
Under 15	60,293,426	18.3%	1,254,988	18.2%	424,013	19.3%
15-19	20,960,929	6.4%	422,864	6.1%	137,620	6.3%
20-24	21,594,755	6.6%	447,159	6.5%	149,262	6.8%
25-34	46,069,646	14.0%	961,939	14.0%	349,433	15.9%
35-44	42,136,192	12.8%	854,962	12.4%	302,845	13.8%
45-54	40,366,133	12.3%	863,787	12.5%	273,788	12.4%
55-64	42,403,677	12.9%	900,592	13.1%	264,245	12.0%
65+	55,659,365	16.9%	1,180,543	17.1%	299,664	13.6%
Race/Ethnicity	2020 Population	% of Population	2020 Population	% of Population	2020 Population	% of Population
White	196,773,390	59.7%	5,050,700	73.3%	1,556,742	70.7%
Black or African Am.	41,427,341	12.6%	1,147,521	16.7%	345,341	15.7%
Hispanic or Latino	61,264,392	18.6%	404,410	5.9%	175,571	8.0%
Asian	19,367,197	5.9%	132,295	1.9%	64,451	2.9%
Two or More Races	7,557,471	2.3%	128,561	1.9%	50,844	2.3%
Am. Indian or Alaska Native	2,432,338	0.7%	19,503	0.3%	6,133	0.3%
Native HI or Other Pac. Is.	613,507	0.2%	3,844	0.1%	1,788	0.1%

National, State, and Local Occupation Demographics

	Nation				Tennessee				Middle Tennessee			
Demographic	**All Occupations**		**Tech Occupations**		**All Occupations**		**Tech Occupations**		**All Occupations**		**Tech Occupations**	
Gender	2020 Jobs	% of Jobs	2020 Jobs	% of Jobs	2020 Jobs	% of Jobs	2020 Jobs	% of Jobs	2020 Jobs	% of Jobs	2020 Jobs	% of Jobs
Males	80,757,416	51.0%	6,361,131	63.2%	1,696,937	51.1%	93,635	60.4%	580,486	50.8%	42,248	59.9%
Females	77,499,306	49.0%	3,704,899	36.8%	1,624,329	48.9%	61,347	39.6%	561,603	49.2%	28,260	40.1%
Age	2020 Jobs	% of Jobs	2020 Jobs	% of Jobs	2020 Jobs	% of Jobs	2020 Jobs	% of Jobs	2020 Jobs	% of Jobs	2020 Jobs	% of Jobs
14-18	3,407,338	2.2%	16,780	0.2%	81,169	2.4%	238	0.2%	28,786	2.5%	119	0.2%
19-24	15,799,773	10.0%	538,344	5.3%	339,978	10.2%	8,088	5.2%	117,807	10.3%	3,704	5.3%
25-34	34,481,042	21.8%	2,713,438	27.0%	735,410	22.1%	41,865	27.0%	269,384	23.6%	19,881	28.2%
35-44	33,785,428	21.3%	2,704,939	26.9%	705,408	21.2%	40,983	26.4%	247,709	21.7%	19,121	27.1%
45-54	32,252,793	20.4%	2,163,336	21.5%	683,346	20.6%	33,571	21.7%	226,946	19.9%	14,912	21.1%
55-64	27,623,569	17.5%	1,504,634	14.9%	560,751	16.9%	23,415	15.1%	181,832	15.9%	9,910	14.1%
65+	10,906,779	6.9%	424,560	4.2%	215,204	6.5%	6,823	4.4%	69,625	6.1%	2,861	4.1%
Race/Ethnicity	2020 Jobs	% of Jobs	2020 Jobs	% of Jobs	2020 Jobs	% of Jobs	2020 Jobs	% of Jobs	2020 Jobs	% of Jobs	2020 Jobs	% of Jobs
White	99,585,833	62.9%	6,421,167	63.8%	2,468,119	74.3%	120,343	77.6%	841,977	73.7%	54,494	77.3%
Hispanic or Latino	25,412,970	16.1%	886,349	8.8%	159,674	4.8%	4,024	2.6%	64,043	5.6%	2,072	2.9%
Black or African Am.	19,751,290	12.5%	882,690	8.8%	574,537	17.3%	19,144	12.4%	186,219	16.3%	8,142	11.5%
Asian	9,676,722	6.1%	1,642,045	16.3%	69,021	2.1%	8,945	5.8%	30,375	2.7%	4,627	6.6%
Two or More Races	2,672,417	1.7%	193,088	1.9%	41,732	1.3%	2,279	1.5%	16,148	1.4%	1,035	1.5%
Am. Ind./AK Native	866,003	0.5%	28,219	0.3%	6,448	0.2%	192	0.1%	2,516	0.2%	106	0.1%
Native HI/Other Pac. Is.	291,486	0.2%	12,472	0.1%	1,735	0.1%	56	0.0%	812	0.1%	33	0.0%

Appendix: Detailed Occupation Data

Marketing Managers (11-2021)

Median Salary

$108,583

▼ -21.4% below national median

Past Growth
(2015-2020)

▲ 70%

Jobs

2,517

▲ 19.6% above national average*

Average New Monthly Job Postings

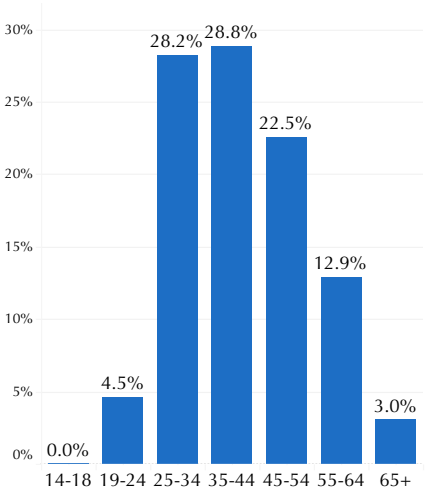
1,360

▲ 9.3% above national average*

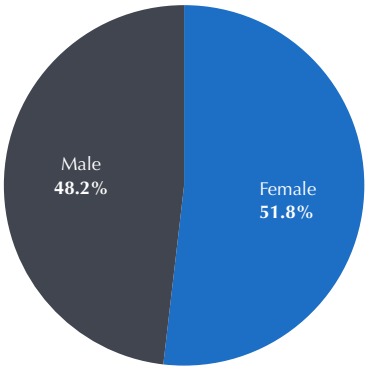
Projected Growth
(2020-2025)

▲ 11%

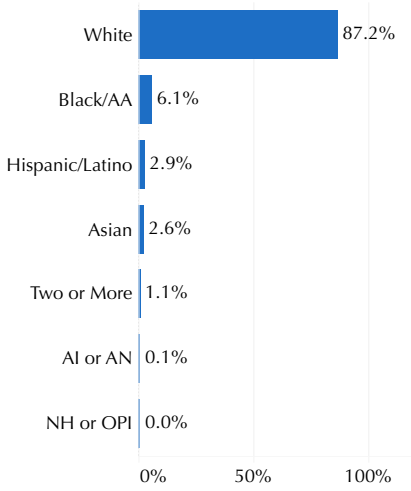
Age



Gender



Race/Ethnicity



Top 10 Job Titles

by Job Posting Volume (Jul 20 - Jun 21)

Product Managers	241
Marketing Managers	222
Business Development Managers	110
Directors of Business Development	103
Digital Marketing Managers	101
Marketing Product Managers	97
Web Technology Specialists	78
Directors of Marketing	58
Account Managers	56
Directors of Product Management	54

Top 10 Hard Skills

by Job Posting Volume (Jul 20 - Jun 21)

Product Management	1,242
Business Development	960
New Product Development	959
Digital Marketing	871
Strategic Planning	844
Marketing Strategies	825
Key Performance Indicators (KPIs)	701
Go-to-Market Strategy	643
Marketing Management	614
Finance	603

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

Computer and Information Systems Managers (11-3021)

Median Salary

$120,728

▼ -19.8% below national median

Past Growth
(2015-2020)

▲ 54%

Jobs

3,924

▲ 13.1% above national average*

Projected Growth
(2020-2025)

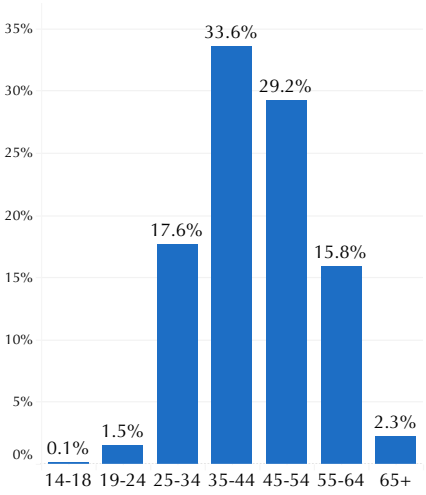
▲ 11%

Average New Monthly Job Postings

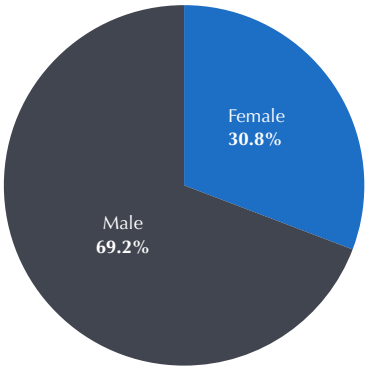
603

▲ 16.4% above national average*

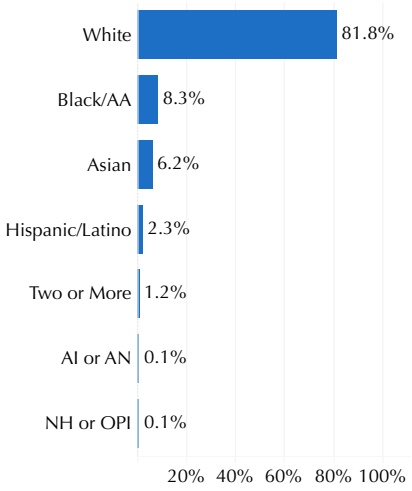
Age



Gender



Race/Ethnicity



Top 10 Job Titles

by Job Posting Volume (Jul 20 - Jun 21)

IT Managers	52
Program Managers	48
Directors of Information Technology	36
Identity and Access Management Managers	33
Cyber Risk Managers	31
Product Owners	25
Data Governance Managers	25
Directors of Software Development	21
Chief Technology Officers	21
IT Audit Managers	18

Top 10 Hard Skills

by Job Posting Volume (Jul 20 - Jun 21)

Project Management	541
Computer Science	462
Strategic Planning	424
Agile Methodology	396
Business Process	350
Finance	348
Auditing	336
Information Systems	288
Automation	288
Change Management	266

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

Logisticians (13-1081)

Median Salary

$58,199

▼ -23.6% below national median

Past Growth
(2015-2020)

▲ 94%

Jobs

1,254

▼ -19.3% below national average*

Projected Growth
(2020-2025)

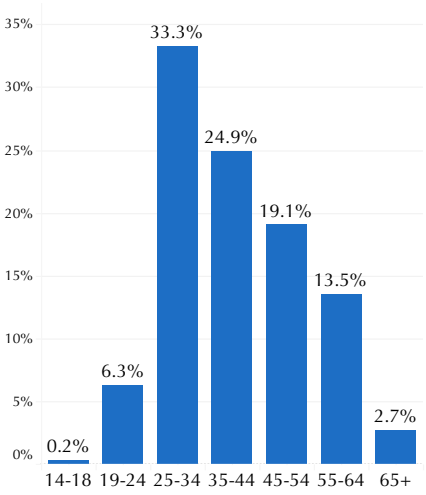
▲ 11%

Average New Monthly Job Postings

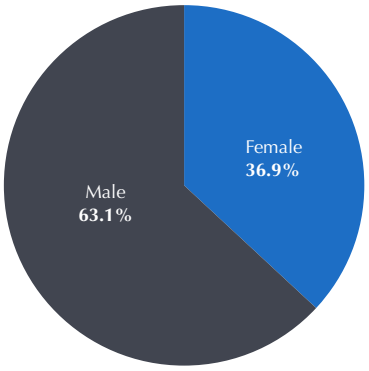
174

▲ 1.8% above national average*

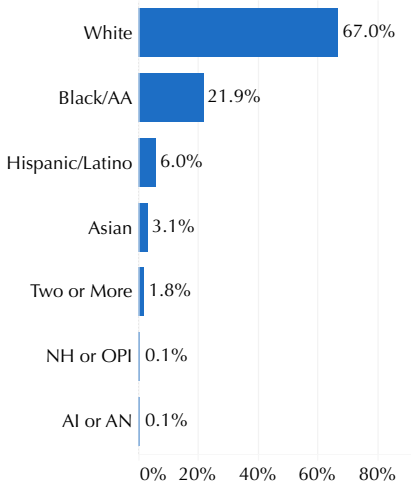
Age



Gender



Race/Ethnicity



Top 10 Job Titles

by Job Posting Volume (Jul 20 - Jun 21)

Supply Chain Automated Logistical Specialists	67
Logistics Coordinators	59
Logistics Specialists	44
Logistics Analysts	23
Demand Planners	19
Supply Chain Coordinators	17
Owner-Operator Flatbed Truck Drivers	16
Supply Chain Managers	13
Warehouse Logistics Managers	12
Supply Planners	12

Top 10 Hard Skills

by Job Posting Volume (Jul 20 - Jun 21)

Supply Chain	375
Logistics	235
Warehousing	204
Supply Chain Management	171
Accounting	111
Inventory Management	109
Automation	104
Purchasing	98
Shipping And Receiving	92
Procurement	87

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

Management Analysts (13-1111)

Median Salary

$75,734

▼ -13.9% below national median

Past Growth

(2015-2020)

▲ 67%

Jobs

7,487

▲ 12.0% above national average*

Average New Monthly Job Postings

1,089

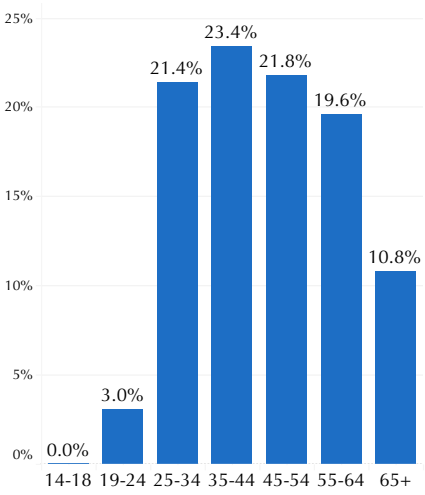
▲ 34.9% above national average*

Projected Growth

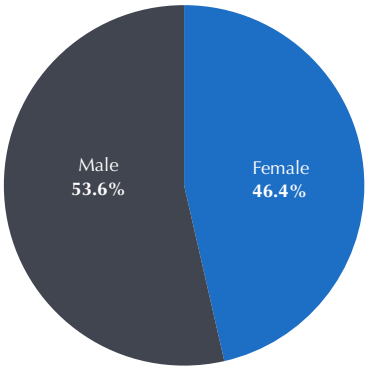
(2020-2025)

▲ 12%

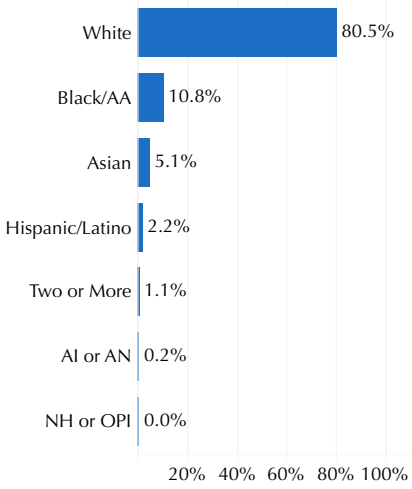
Age



Gender



Race/Ethnicity



Top 10 Job Titles

by Job Posting Volume (Jul 20 - Jun 21)

Business Analysts	387
Data Analysts	172
Human Resources Business Analysts	99
IT Business Analysts	39
Human Resources Business Partners	37
Salesforce Business Analysts	34
Solutions Consultants	33
Business Analyst Consultants	32
Healthcare Data Analysts	31
Business Data Analysts	31

Top 10 Hard Skills

by Job Posting Volume (Jul 20 - Jun 21)

Data Analysis	1,069
SQL (Programming Language)	860
Finance	792
Business Process	769
Business Requirements	582
Process Improvement	567
Agile Methodology	551
Project Management	538
Tableau (Business Intelligence Software)	530
Accounting	452

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

Market Research Analysts and Marketing Specialists (13-1161)

Median Salary

$59,851

▼ -8.7% below national median

Past Growth
(2015-2020)

▲ 54%

Jobs

4,572

▼ -13.8% below national average*

Projected Growth
(2020-2025)

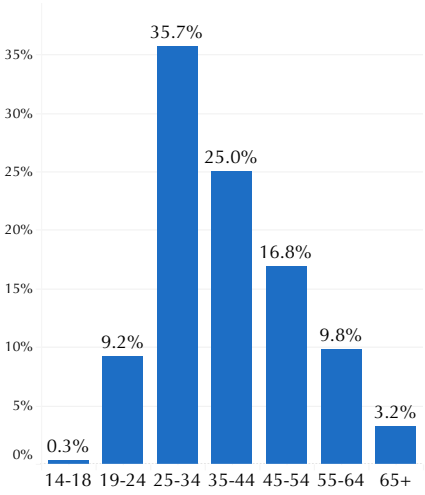
▲ 19%

Average New Monthly Job Postings

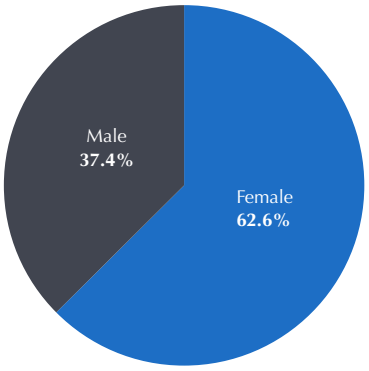
601

▲ 9.5% above national average*

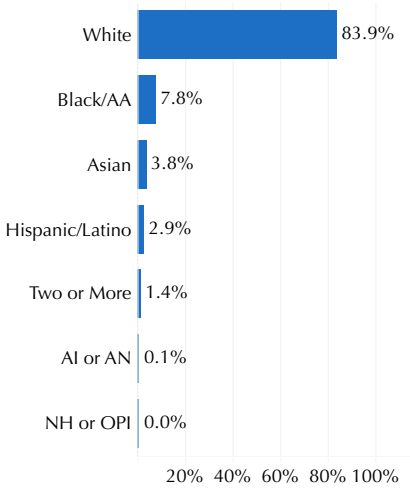
Age



Gender



Race/Ethnicity



Top 10 Job Titles

by Job Posting Volume (Jul 20 - Jun 21)

Web Technology Specialists	69
Marketing Specialists	65
Marketing Coordinators	43
Digital Marketing Specialists	42
Product Analysts	36
Consumer Insights Managers	30
Pricing Analysts	29
Email Marketing Specialists	26
Marketing Associates	24
Marketing Analysts	24

Top 10 Hard Skills

by Job Posting Volume (Jul 20 - Jun 21)

Data Analysis	420
Digital Marketing	348
Analytics	313
SQL (Programming Language)	292
Market Research	279
Finance	275
Tableau (Business Intelligence Software)	246
Key Performance Indicators (KPIs)	217
Customer Relationship Management	216
Google Analytics	211

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

Project Management Specialists and Business Operations Specialists, All Other (13-1198)

Median Salary

$60,672

▼ -21.5% below national median

Past Growth
(2015-2020)

▲ 137%

Jobs

11,832

▲ 4.3% above national average*

Projected Growth
(2020-2025)

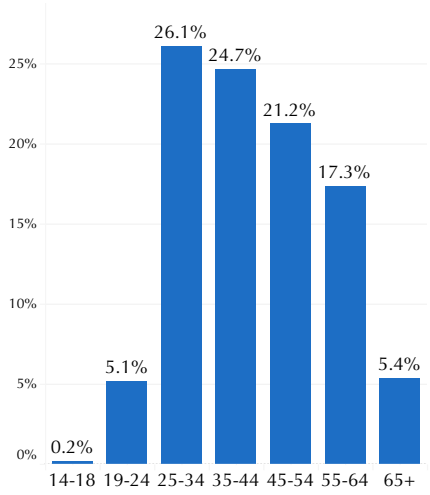
▲ 7%

Average New Monthly Job Postings

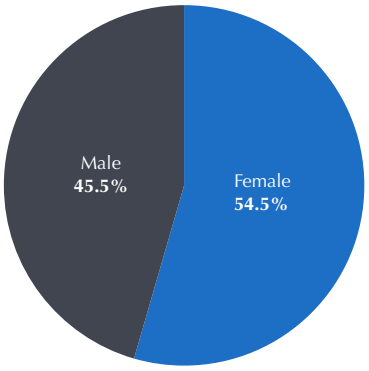
632

▲ 17.9% above national average*

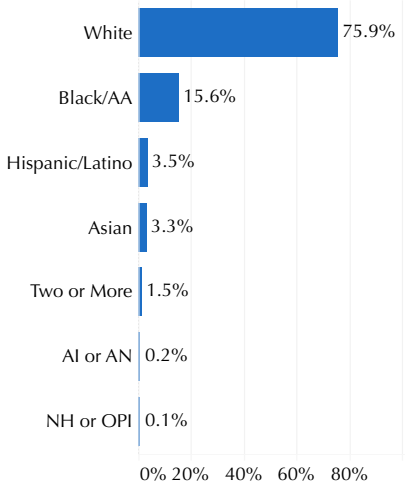
Age



Gender



Race/Ethnicity



Top 10 Job Titles

by Job Posting Volume (Jul 20 - Jun 21)

Credentialing Specialists	55
Operations Specialists	44
Contract Specialists	40
Contract Analysts	32
Operations Coordinators	31
Operations Associates	29
Proposal Specialists	20
Business Development Specialists	20
Sales Operations Specialists	18
WHS Managers	17

Top 10 Hard Skills

by Job Posting Volume (Jul 20 - Jun 21)

Auditing	435
Finance	334
Process Improvement	240
Accounting	235
Business Development	195
Data Analysis	190
Project Management	163
Customer Relationship Management	146
Billing	137
Managed Care	131

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

Financial Analysts and Advisors (13-2050)

Median Salary

$70,118

▼ -15.3% below national median

Jobs

2,649

▼ -7.4% below national average*

Average New Monthly Job Postings

213

▲ 19.7% above national average*

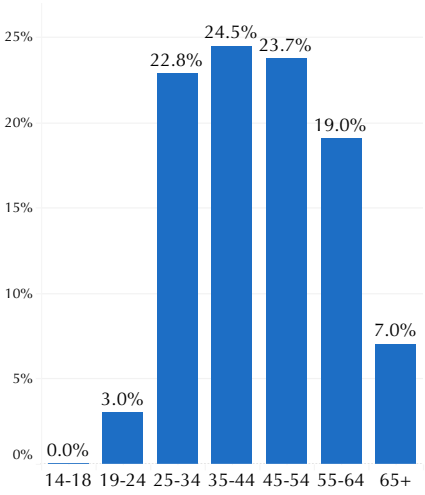
Past Growth
(2015-2020)

▲ 20%

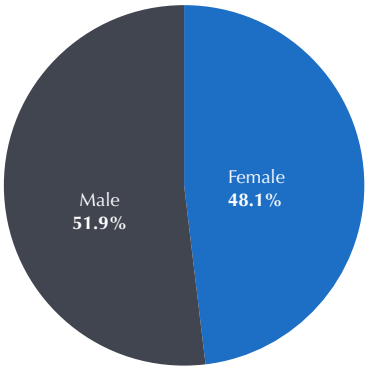
Projected Growth
(2020-2025)

▲ 10%

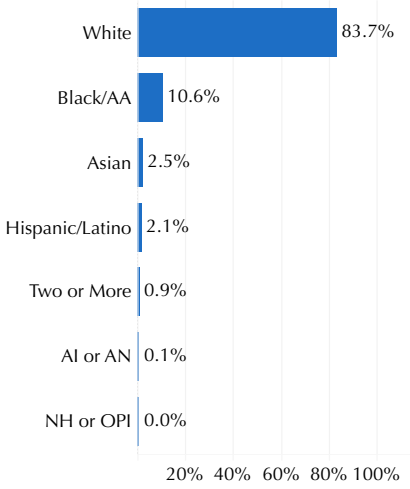
Age



Gender



Race/Ethnicity



Top 10 Job Titles

by Job Posting Volume (Jul 20 - Jun 21)

Financial Advisors	201
Wealth Management Advisors	29
Underwriters	24
Financial Consultants	18
Wealth Advisors	16
Private Wealth Management Associates	16
Private Wealth Advisors	16
Surety Underwriters	10
Underwriting Analysts	9
Benefits Advisors	9

Top 10 Hard Skills

by Job Posting Volume (Jul 20 - Jun 21)

Financial Services	292
Investments	281
Underwriting	225
Wealth Management	199
Securities (Finance)	157
Finance	153
Financial Planning	136
Accounting	128
Business Development	114
Relationship Building	89

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

Computer Systems Analysts (15-1211)

Median Salary
$80,079
▼ -14.4% below national median

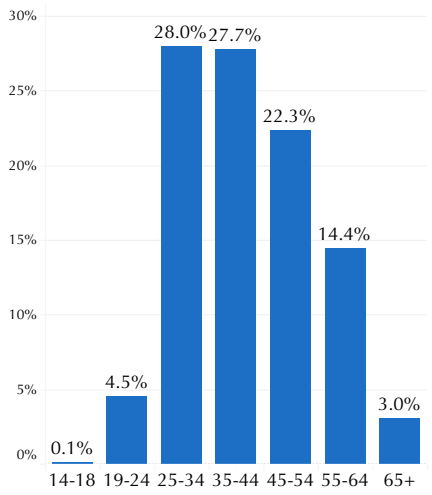
Past Growth
(2015-2020)
▲ 49%

Jobs
5,046
▲ 14.8% above national average*

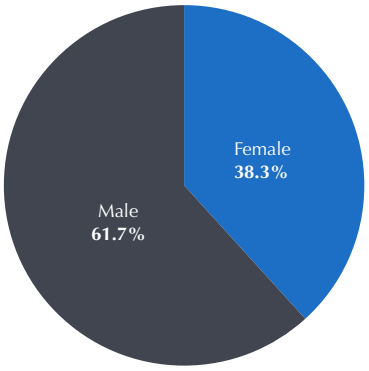
Average New Monthly Job Postings
1,028
▲ 35.6% above national average*

Projected Growth
(2020-2025)
▲ 8%

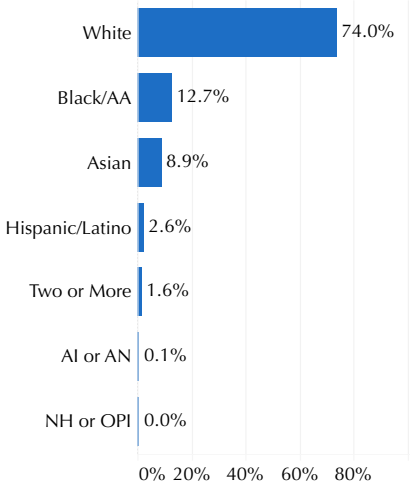
Age



Gender



Race/Ethnicity



Top 10 Job Titles
by Job Posting Volume (Jul 20 - Jun 21)

Data Scientists	153
Managers/Data Scientists	41
Clinical Data Scientists	15
Data Analytics Scientists	14
Machine Learning Data Scientists	9
Data Science Engineers	8
Artificial Intelligence/Machine Learning Engineers	8
Research Scientists	7
Postdoctoral Research Associates	5
Machine Learning Scientists	5

Top 10 Hard Skills
by Job Posting Volume (Jul 20 - Jun 21)

Data Science	292
Python (Programming Language)	233
Machine Learning	233
SQL (Programming Language)	171
R (Programming Language)	163
Statistics	135
Computer Science	128
Algorithms	111
Artificial Intelligence	106
Data Analysis	99

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

Information Security Analysts (15-1212)

Median Salary

$79,551

▼ -23.2% below national median

Past Growth
(2015-2020)

▲ 169%

Jobs

1,048

▼ -.5% below national average*

Average New Monthly Job Postings

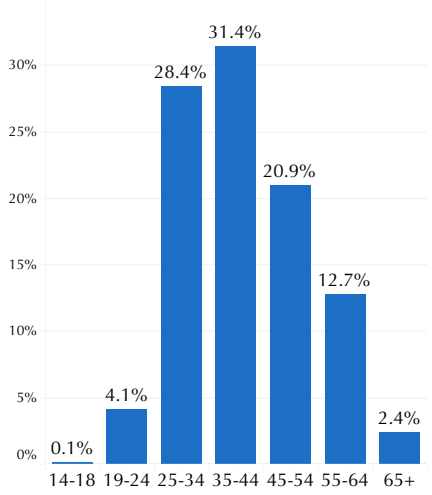
473

▼ -9.7% below national average*

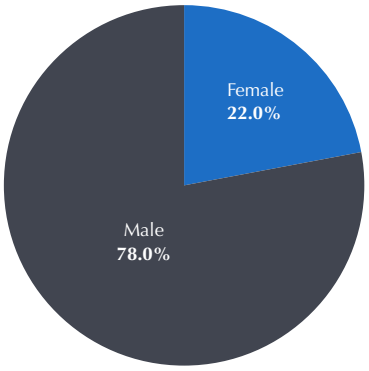
Projected Growth
(2020-2025)

▲ 21%

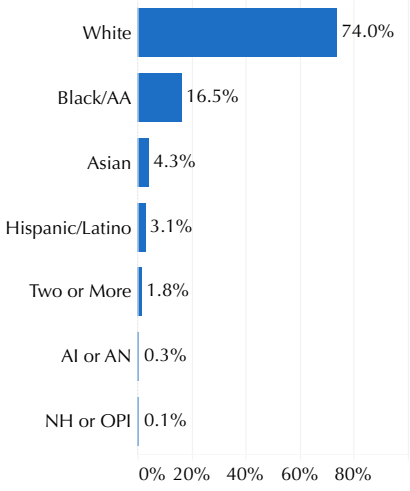
Age



Gender



Race/Ethnicity



Top 10 Job Titles

by Job Posting Volume (Jul 20 - Jun 21)

Information Security Analysts	98
Security Engineers	80
Information Security Engineers	80
Cloud Security Engineers	47
Cloud Security Architects	45
Security Analysts	43
Cybersecurity Analysts	40
Network Security Engineers	38
Cybersecurity Engineers	31
Cybersecurity Consultants	28

Top 10 Hard Skills

by Job Posting Volume (Jul 20 - Jun 21)

Cyber Security	691
Vulnerability	575
Auditing	491
Computer Science	461
Firewall	436
Incident Response	413
Microsoft Azure	360
Identity And Access Management	355
Scripting	349
Cyber Threat Intelligence	333

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Computer and Information Research Scientists (15-1221)

Median Salary

$105,732

▼ -16.6% below national median

Past Growth
(2015-2020)

▼ -19%

Jobs

37

▼ -84.5% below national average*

Projected Growth
(2020-2025)

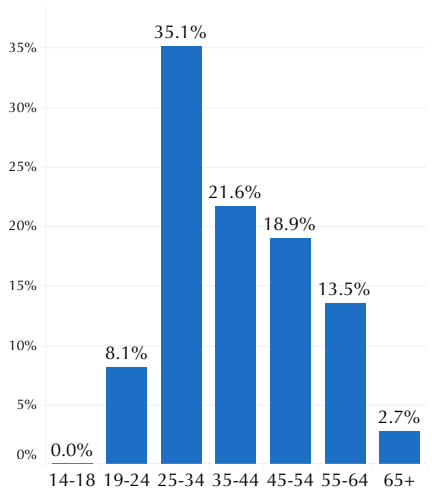
▲ 37%

Average New Monthly Job Postings

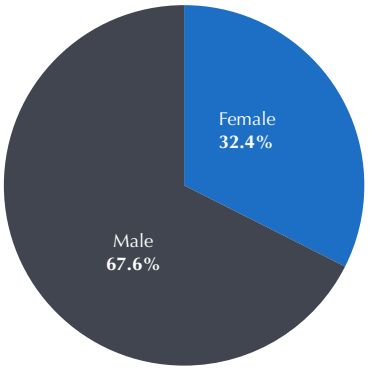
115

▼ -36.5% below national average*

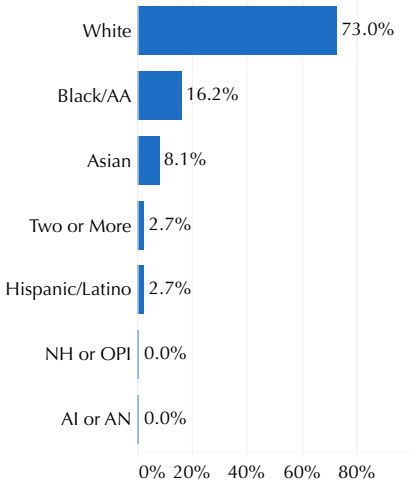
Age



Gender



Race/Ethnicity



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Algorithms	111
Artificial Intelligence	106
Data Analysis	99

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Computer Network Support Specialists (15-1231)

Median Salary

$60,753

▼ -7.1% below national median

Past Growth
(2015-2020)

▼ -16%

Jobs

1,357

▼ -3.3% below national average*

Average New Monthly Job Postings

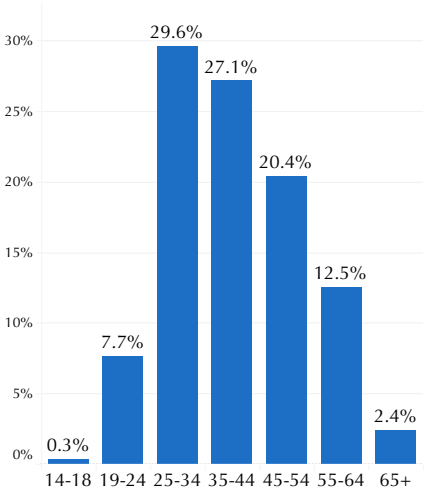
17

▲ .0% below national average*

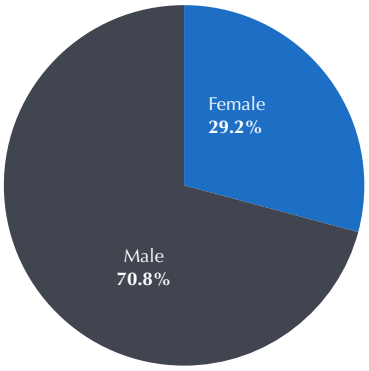
Projected Growth
(2020-2025)

▲ 8%

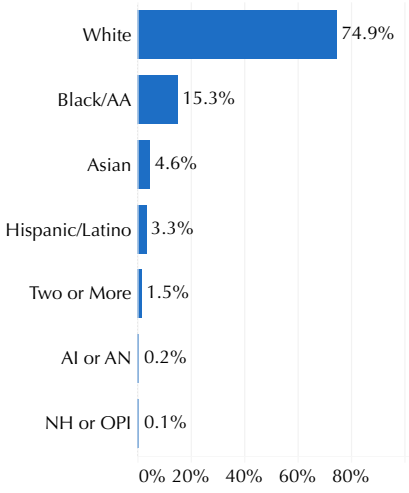
Age



Gender



Race/Ethnicity



Top 10 Job Titles

by Job Posting Volume (Jul 20 - Jun 21)

Web Technology Specialists	11
Fire Support Specialists	5
Network Technicians	4
Support Associates	3
Web Copywriters	2
Site Support Technicians	2
Network Support Analysts	2
Network Specialists	2
Network Maintenance Technicians	2
Field Technology Specialists	2

Top 10 Hard Skills

by Job Posting Volume (Jul 20 - Jun 21)

Customer Experience	7
Restaurant Operation	5
Network Troubleshooting	5
Information Technology Consulting	5
Food Safety	5
Field Artillery	5
Data Processing	5
Cyber Security	5
Artilleries	5
Ammunitions	5

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Computer User Support Specialists (15-1232)

Median Salary

$46,973

▼ -10.8% below national median

Past Growth
(2015-2020)

▲ 25%

Jobs

4,692

▼ -4.8% below national average*

Projected Growth
(2020-2025)

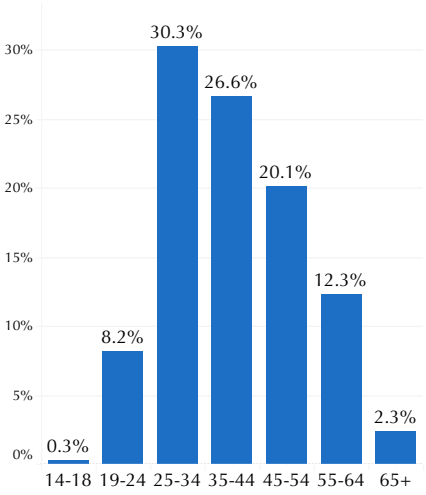
▲ 10%

Average New Monthly Job Postings

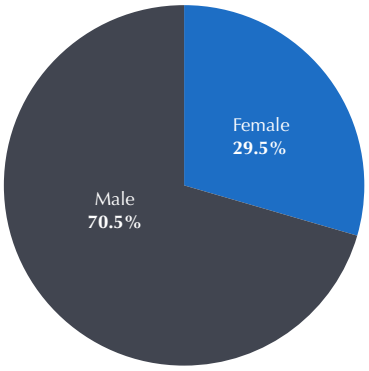
1,177

▲ 22.1% above national average*

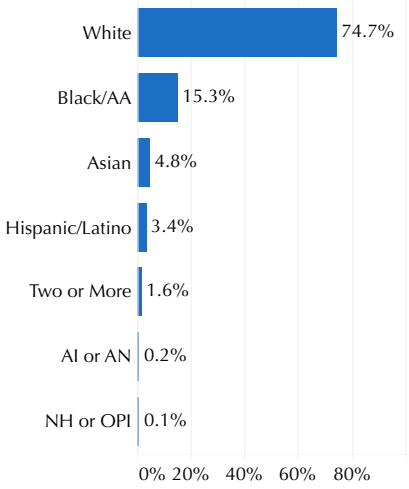
Age



Gender



Race/Ethnicity



Top 10 Job Titles

by Job Posting Volume (Jul 20 - Jun 21)

Help Desk Analysts	117
IT Specialists	97
Help Desk Technicians	84
Technical Support Representatives	83
Service Desk Analysts	80
Installation Technicians	80
Technical Support Specialists	64
Desktop Support Analysts	60
IT Support Specialists	57
Desktop Support Technicians	57

Top 10 Hard Skills

by Job Posting Volume (Jul 20 - Jun 21)

Technical Support	1,092
Help Desk Support	912
Operating Systems	544
Service Desk	471
Active Directory	458
Customer Support	430
Computer Hardware	404
Desktop Support	376
Call Centers	367
Customer Satisfaction	350

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Computer Network Architects (15-1241)

Median Salary
$92,534
▼ -20.5% below national median

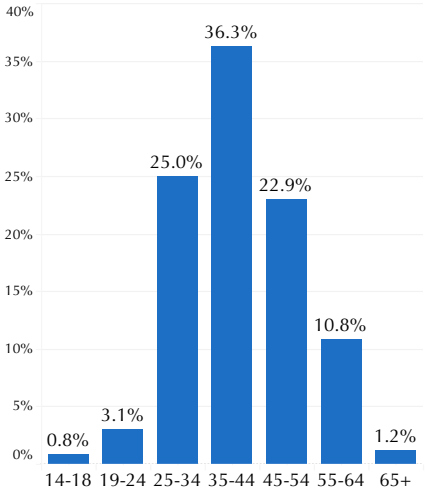
Past Growth
(2015-2020)
▲ 44%

Jobs
1,273
▲ 6.9% above national average*

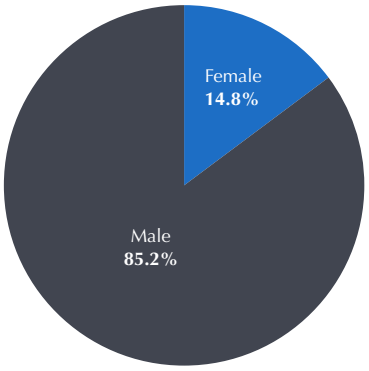
Average New Monthly Job Postings
53
▼ -13.1% below national average*

Projected Growth
(2020-2025)
▲ 6%

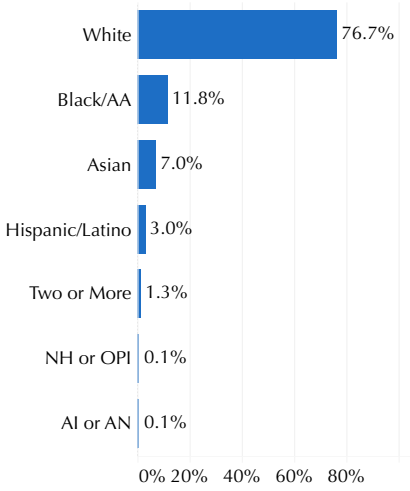
Age



Gender



Race/Ethnicity



Top 10 Job Titles
by Job Posting Volume (Jul 20 - Jun 21)

Network Architects	33
Wireless Network Engineers	10
Avaya Voice Engineers	8
Network Development Engineers	7
Network Analysts	7
IT Communications Specialists	5
Communications Analysts	5
Telecommunications Analysts	4
Engineering Supervisors	4
Cisco Network Engineers	4

Top 10 Hard Skills
by Job Posting Volume (Jul 20 - Jun 21)

Network Routing	63
Wide Area Networks	52
Network Architecture	48
Local Area Networks	48
Telecommunications	45
Network Planning And Design	45
Open Shortest Path First (OSPF)	44
Border Gateway Protocol	43
Automation	43
Network Engineering	37

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Network and Computer Systems Administrators (15-1244)

Median Salary

$74,956

▼ -11.4% below national median

Past Growth

(2015-2020)

▲ 1%

Jobs

2,094

▼ -18.1% below national average*

Average New Monthly Job Postings

822

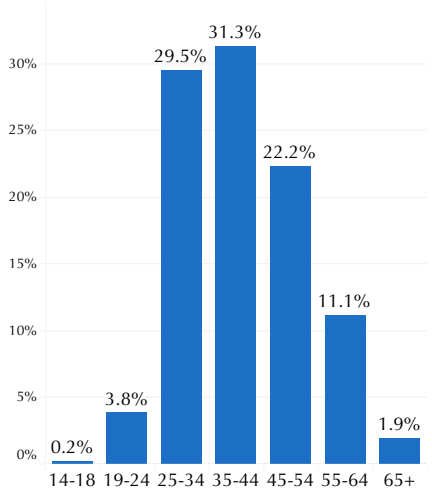
▲ 4.4% above national average*

Projected Growth

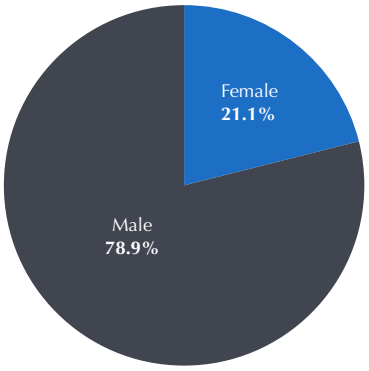
(2020-2025)

▲ 9%

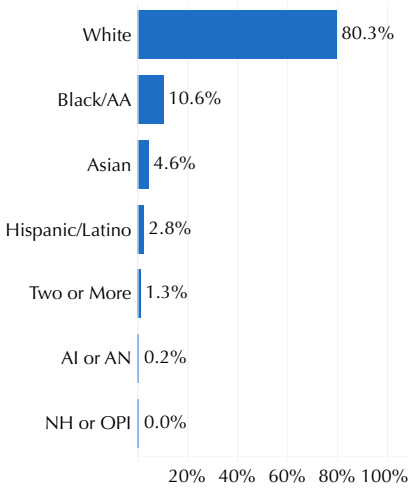
Age



Gender



Race/Ethnicity



Top 10 Job Titles

by Job Posting Volume (Jul 20 - Jun 21)

Network Engineers	287
Systems Administrators	197
Systems Engineers	100
Salesforce Administrators	67
Linux Administrators	67
IT Support Engineers	61
Network Administrators	58
NT Systems Administrators	42
Wireless Network Engineers	35
IT Administrators	34

Top 10 Hard Skills

by Job Posting Volume (Jul 20 - Jun 21)

Linux	662
Operating Systems	637
Automation	634
Scripting	609
Network Engineering	459
Firewall	458
Amazon Web Services	458
Active Directory	458
System Administration	445
Windows Servers	414

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Database Administrators and Architects (15-1245)

Median Salary

$96,568

▼ -2.2% below national median

Past Growth
(2015-2020)

▲ 69%

Jobs

1,183

▲ 18.7% above national average*

Average New Monthly Job Postings

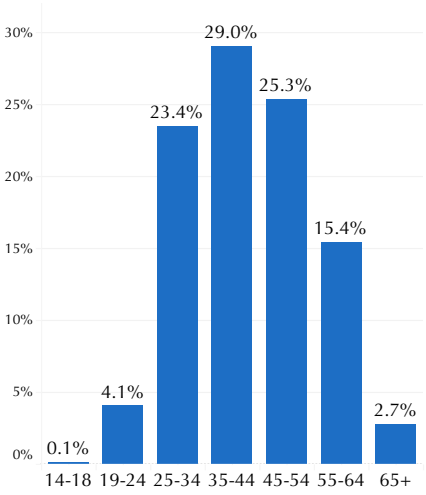
188

▲ 37.2% above national average*

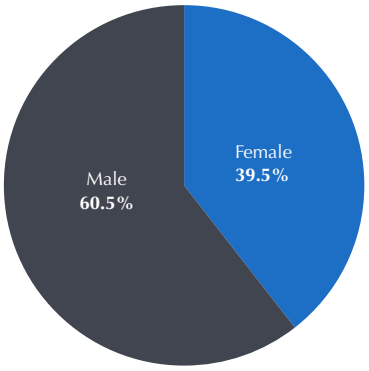
Projected Growth
(2020-2025)

▲ 9%

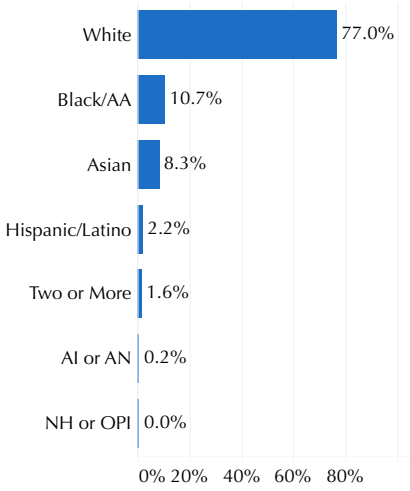
Age



Gender



Race/Ethnicity



Top 10 Job Titles

by Job Posting Volume (Jul 20 - Jun 21)

Database Administrators	111
Oracle Database Administrators	101
SQL Database Administrators	90
SQL Server Database Administrators	40
Salesforce Administrators	19
PostgreSQL Database Administrators	16
Database Administrator Advisors	13
Informatica Administrators	11
Postgres Database Administrators	8
Database Consultants	8

Top 10 Hard Skills

by Job Posting Volume (Jul 20 - Jun 21)

Database Administration	469
SQL (Programming Language)	345
Microsoft SQL Servers	179
Performance Tuning	155
Disaster Recovery	128
Data Warehousing	125
Oracle Databases	115
Automation	112
Database Design	104
Extract Transform Load (ETL)	95

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Computer Programmers (15-1251)

Median Salary

$88,760

▲ .7% above national median

Past Growth
(2015-2020)

▼ -27%

Jobs

1,087

▼ -23.0% below national average*

Average New Monthly Job Postings

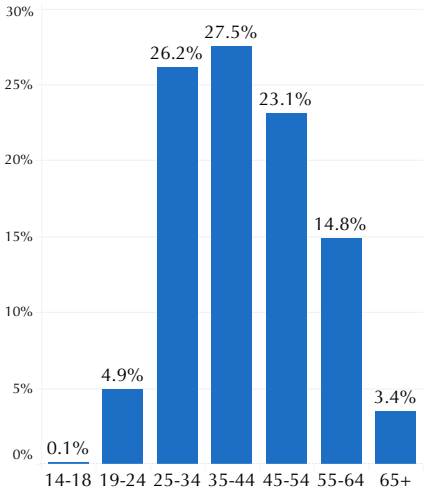
281

▲ 31.9% above national average*

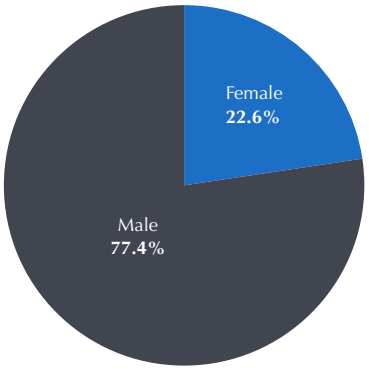
Projected Growth
(2020-2025)

▲ 2%

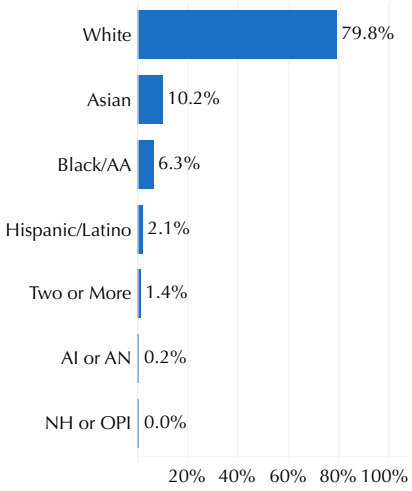
Age



Gender



Race/Ethnicity



Top 10 Job Titles

by Job Posting Volume (Jul 20 - Jun 21)

.NET Developers	164
Statistical Programmers	50
Software Developers	35
Oracle PL/SQL Developers	28
Programmers/Developers	21
Programmers	19
EDI Developers	19
Mainframe Developers	15
Front End Developers	14
Report Developers	13

Top 10 Hard Skills

by Job Posting Volume (Jul 20 - Jun 21)

SQL (Programming Language)	297
.NET Framework	283
C# (Programming Language)	241
JavaScript (Programming Language)	169
Application Programming Interface (API)	156
Agile Methodology	149
Python (Programming Language)	112
Computer Science	111
Angular (Web Framework)	105
Java (Programming Language)	102

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Software Developers and Software Quality Assurance Analysts and Testers (15-1256)

Median Salary

$93,826

▼ -14.6% below national median

Past Growth
(2015-2020)

▲ 65%

Jobs

7,517

▼ -32.4% below national average*

Average New Monthly Job Postings

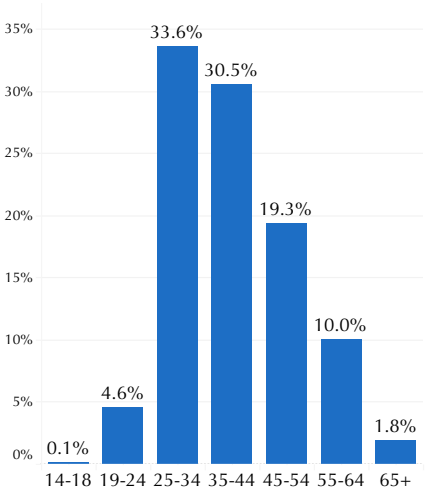
2,645

▼ -7.2% below national average*

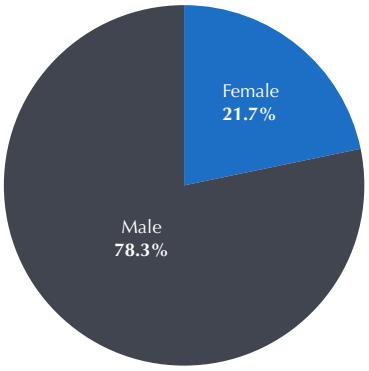
Projected Growth
(2020-2025)

▲ 21%

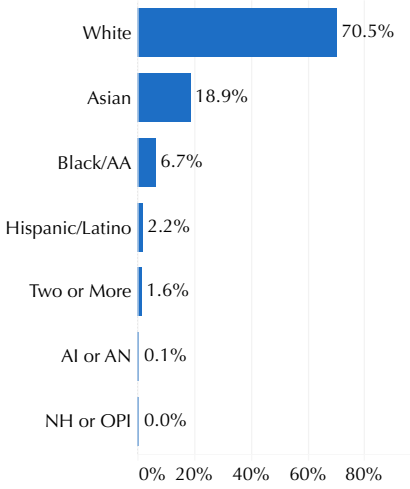
Age



Gender



Race/Ethnicity



Top 10 Job Titles

by Job Posting Volume (Jul 20 - Jun 21)

Software Engineers	770
Software Developers	237
DevOps Engineers	216
Data Engineers	211
.NET Developers	193
Software Development Engineers	176
Full Stack Developers	153
Business Intelligence Engineers	102
Front End Software Engineers	100
Full Stack Engineers	97

Top 10 Hard Skills

by Job Posting Volume (Jul 20 - Jun 21)

Agile Methodology	3,036
SQL (Programming Language)	3,033
Software Engineering	2,861
Java (Programming Language)	2,643
Software Development	2,580
Amazon Web Services	2,561
JavaScript (Programming Language)	2,504
Python (Programming Language)	2,440
Application Programming Interface (API)	2,101
C# (Programming Language)	2,007

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Web Developers and Digital Interface Designers (15-1257)

Median Salary

$53,172

▼ -26.8% below national median

Past Growth
(2015-2020)

▲ 36%

Jobs

1,319

▼ -5.5% below national average*

Projected Growth
(2020-2025)

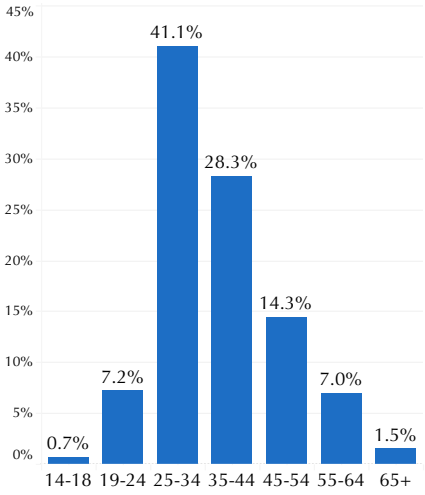
▲ 13%

Average New Monthly Job Postings

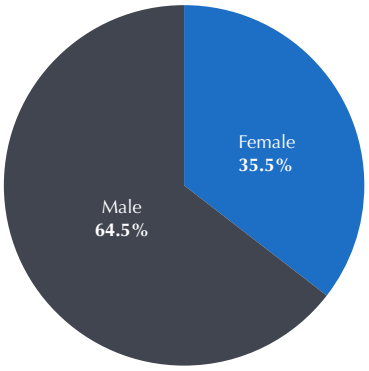
664

▲ 9.9% above national average*

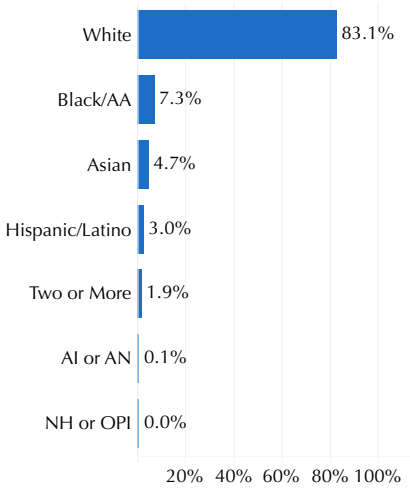
Age



Gender



Race/Ethnicity



Top 10 Job Titles

by Job Posting Volume (Jul 20 - Jun 21)

Java Developers	240
Web Developers	132
Front End Developers	116
Ruby on Rails Developers	77
PHP Developers	67
Web Technology Specialists	51
Full Stack Java Developers	37
Web Designers	35
.NET Developers	35
MVC Developers	31

Top 10 Hard Skills

by Job Posting Volume (Jul 20 - Jun 21)

JavaScript (Programming Language)	920
Cascading Style Sheets (CSS)	788
Java (Programming Language)	711
HyperText Markup Language (HTML)	711
Front End (Software Engineering)	528
SQL (Programming Language)	483
Agile Methodology	465
Angular (Web Framework)	397
React.js	390
PHP (Scripting Language)	387

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Computer Occupations, All Other (15-1299)

Median Salary

$63,428

▼ -30.9% below national median

Past Growth

(2015-2020)

▲ 45%

Jobs

3,402

▲ 14.2% above national average*

Average New Monthly Job Postings

1,712

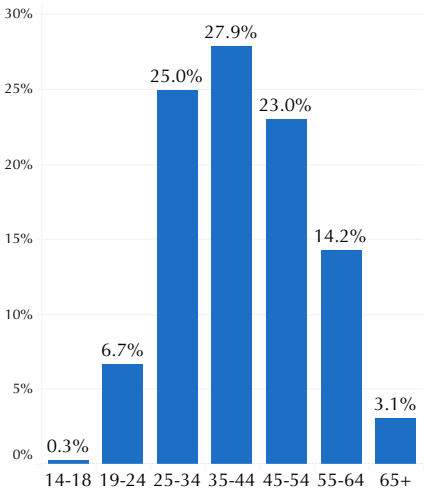
▲ 9.3% above national average*

Projected Growth

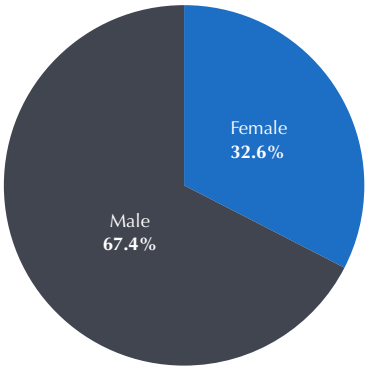
(2020-2025)

▲ 7%

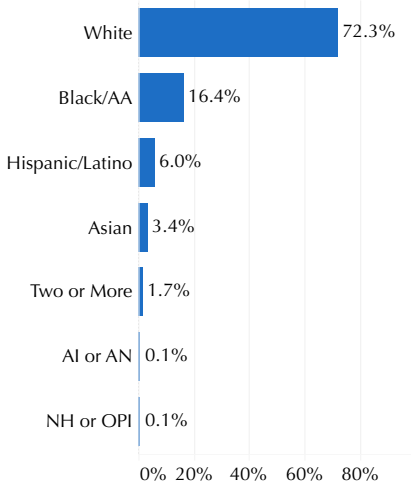
Age



Gender



Race/Ethnicity



Top 10 Job Titles

by Job Posting Volume (Jul 20 - Jun 21)

Project Managers	272
Solutions Architects	208
IT Project Managers	138
Scrum Masters	119
Quality Assurance Analysts	110
Data Architects	84
Business Intelligence Analysts	75
Program Managers	60
Project Coordinators	59
Technical Project Managers	54

Top 10 Hard Skills

by Job Posting Volume (Jul 20 - Jun 21)

Agile Methodology	1,763
Automation	1,196
Project Management	1,160
SQL (Programming Language)	990
Computer Science	934
Scrum (Software Development)	894
Solution Architecture	840
Safety Assurance	821
Amazon Web Services	786
Microsoft Azure	778

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Operations Research Analysts (15-2031)

Median Salary

$56,271

▼ -34.7% below national median

Past Growth
(2015-2020)

▼ -1%

Jobs

657

▼ -7.9% below national average*

Average New Monthly Job Postings

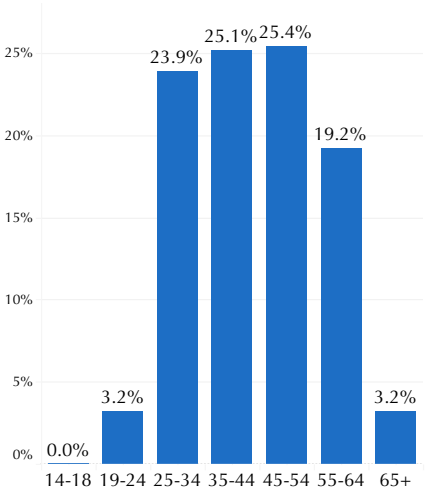
182

▲ 33.8% above national average*

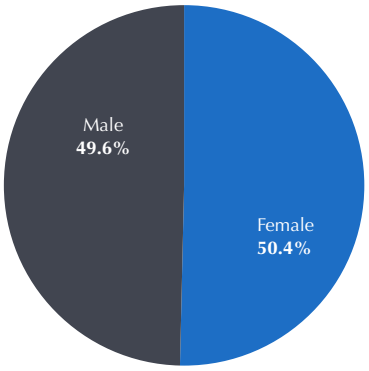
Projected Growth
(2020-2025)

▲ 18%

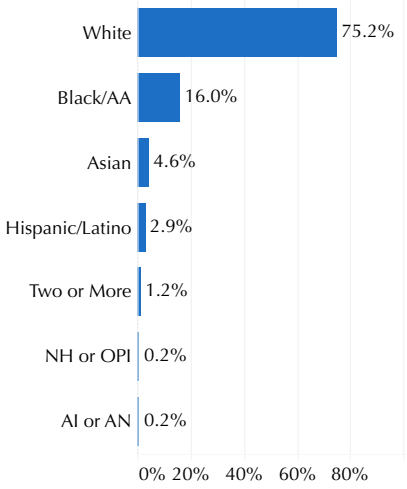
Age



Gender



Race/Ethnicity



Top 10 Job Titles

by Job Posting Volume (Jul 20 - Jun 21)

Supply Chain Analysts	71
Operations Analysts	34
Inventory Analysts	24
Research Analysts	17
Supply Chain Business Managers	10
Military Operations Analysts	9
Supply Chain Operations Managers	8
Master Data Analysts	8
Inventory Control Analysts	8
Grievance/Appeals Analysts	8

Top 10 Hard Skills

by Job Posting Volume (Jul 20 - Jun 21)

Supply Chain	255
Data Analysis	144
Process Improvement	121
Finance	107
Business Process	99
SQL (Programming Language)	91
Key Performance Indicators (KPIs)	68
Microsoft Access	66
Supply Chain Management	64
Forecasting	63

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Statisticians (15-2041)

Median Salary

$74,028

▼ -19.5% below national median

Past Growth
(2015-2020)

▲ 94%

Jobs

511

▲ 69.2% above national average*

Average New Monthly Job Postings

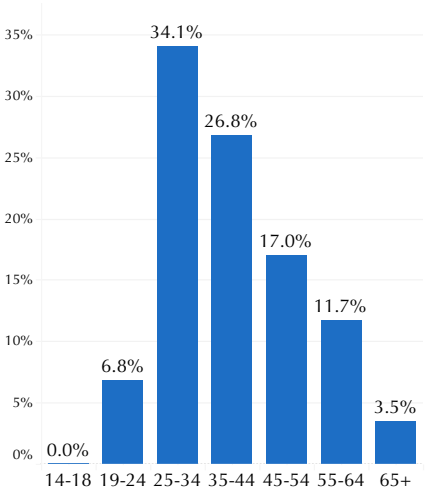
75

▲ 21.0% above national average*

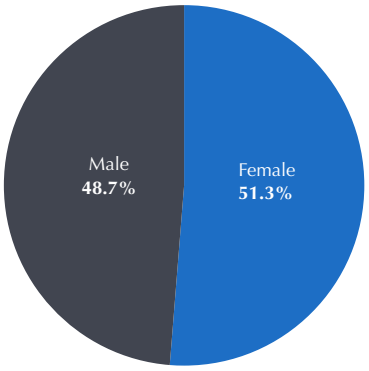
Projected Growth
(2020-2025)

▲ 18%

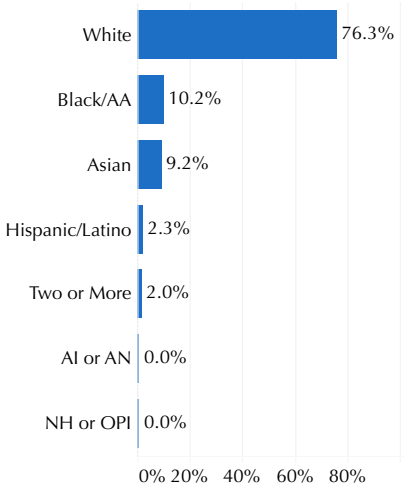
Age



Gender



Race/Ethnicity



Top 10 Job Titles

by Job Posting Volume (Jul 20 - Jun 21)

Biostatisticians	72
Biostatistics Managers	58
Clinical Data Managers	23
Technical Data Analysts	17
Principals	14
Data Coordinators	9
Clinical Data Management Managers	8
Practice Leaders	6
Statisticians	5
Lead Biostatisticians	5

Top 10 Hard Skills

by Job Posting Volume (Jul 20 - Jun 21)

Clinical Trials	200
SAS (Software)	167
Biostatistics	152
Data Analysis	149
Quality Control	106
Data Management	106
R (Programming Language)	88
Statistics	79
Oncology	70
Pharmaceuticals	67

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Data Scientists and Mathematical Science Occupations, All Other (15-2098)

Median Salary

$76,394

▼ -22.0% below national median

Jobs

948

▲ 112.6% above national average*

Average New Monthly Job Postings

Insufficient Data

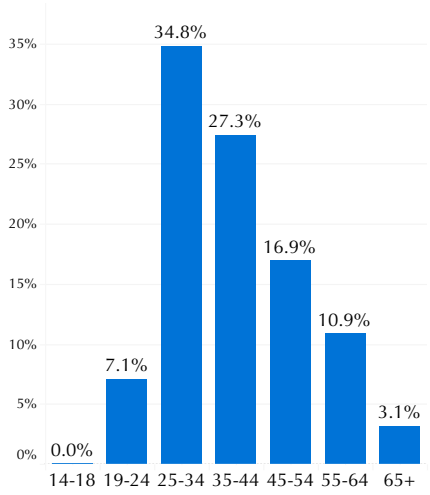
Past Growth
(2015-2020)

▲ 92%

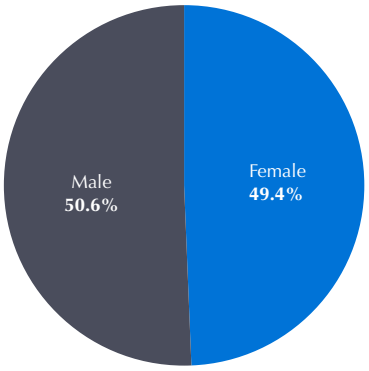
Projected Growth
(2020-2025)

▲ 18%

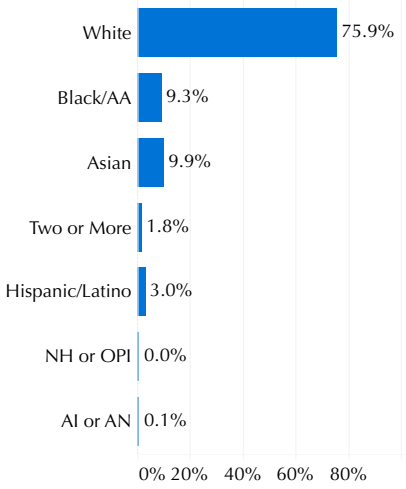
Age



Gender



Race/Ethnicity



Top 10 Job Titles

by Job Posting Volume (Jul 20 - Jun 21)

Insufficient Data

Top 10 Hard Skills

by Job Posting Volume (Jul 20 - Jun 21)

Insufficient Data

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Computer Hardware Engineers (17-2061)

Median Salary

$88,114

▼ -26.1% below national median

Past Growth
(2015-2020)

▼ -73%

Jobs

118

▼ -75.7% below national average*

Projected Growth
(2020-2025)

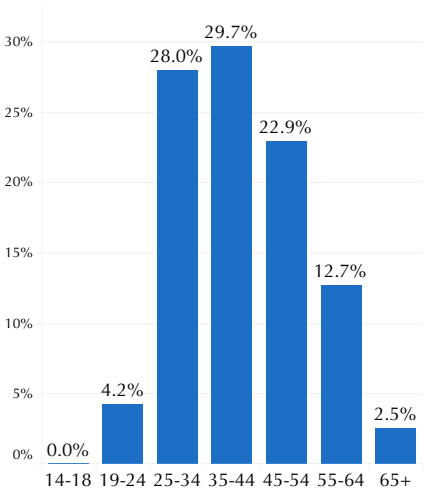
▲ 19%

Average New Monthly Job Postings

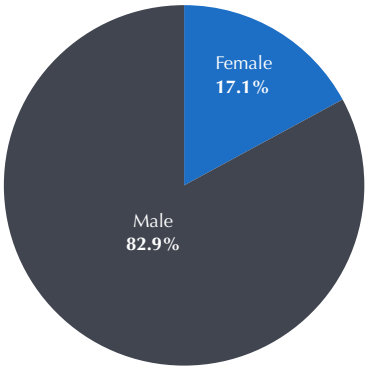
28

▼ -66.7% below national average*

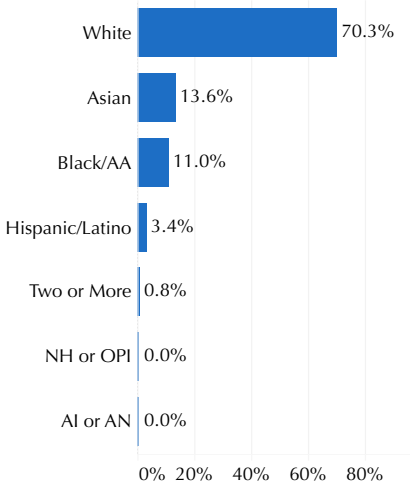
Age



Gender



Race/Ethnicity



Top 10 Job Titles

by Job Posting Volume (Jul 20 - Jun 21)

Layout Engineers	6
Electrical and Computer Engineers	5
Production Support Engineers	3
Network Development Engineers	3
Hardware Technicians	3
Staff Engineers	2
Mac Engineers	2
Hardware Development Engineers	2
Hardware Design Engineers	2
Gastroenterology Nurse Practitioners	2

Top 10 Hard Skills

by Job Posting Volume (Jul 20 - Jun 21)

Electrical Engineering	14
Computer Science	11
Computer Engineering	11
Firmware	10
Python (Programming Language)	8
Augmented Reality	8
Machine Learning	7
Debugging	7
Computer Vision	7
Algorithms	7

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Special Effects Artists and Animators (27-1014)

Median Salary

$48,821

▼ -16.8% below national median

Past Growth
(2015-2020)

▼ -6%

Jobs

366

▲ 8.9% above national average*

Average New Monthly Job Postings

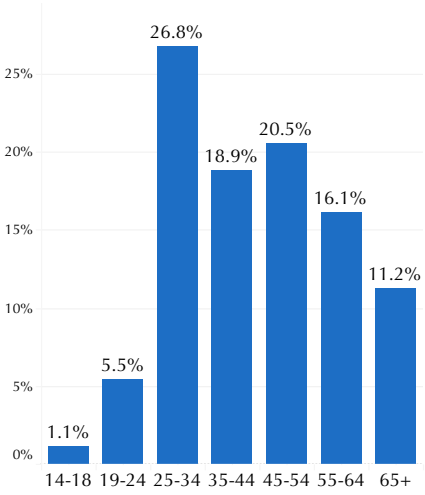
13

▼ -23.5% below national average*

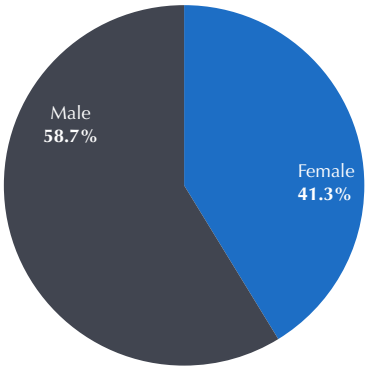
Projected Growth
(2020-2025)

▲ 11%

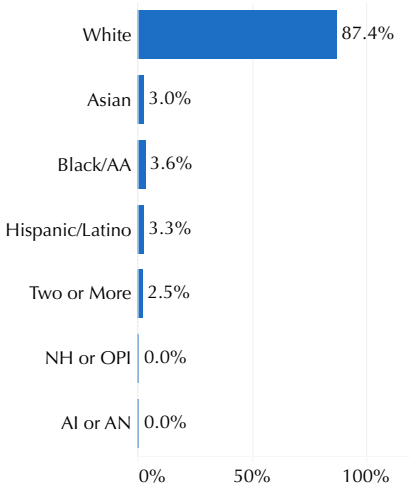
Age



Gender



Race/Ethnicity



Top 10 Job Titles

by Job Posting Volume (Jul 20 - Jun 21)

Cinematic Animators	8
Animators	5
Game Artists	3
FX Artists	3
Character Artists	3
3D Artists	3
3D Animators	3
Video Content Creators	2
Multimedia Illustrators	2
Motion Designers	2

Top 10 Hard Skills

by Job Posting Volume (Jul 20 - Jun 21)

Animations	49
Adobe After Effects	31
Adobe Photoshop	22
Motion Graphics	17
Adobe Illustrator	16
Graphic Design	15
3D Animation	15
Typography	14
Autodesk Maya	14
Cinema 4D	13

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Graphic Designers (27-1024)

Median Salary

$48,676

▼ -6.0% below national median

Past Growth
(2015-2020)

▼ -7%

Jobs

1,633

▼ -11.8% below national average*

Average New Monthly Job Postings

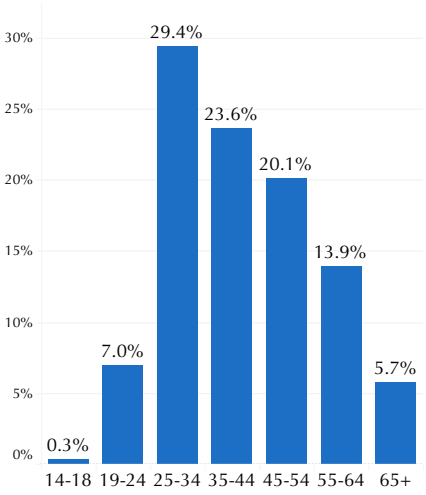
182

▲ 9.6% above national average*

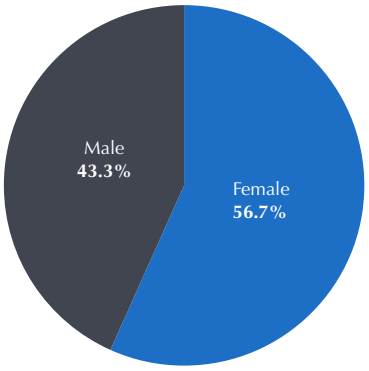
Projected Growth
(2020-2025)

▲ 7%

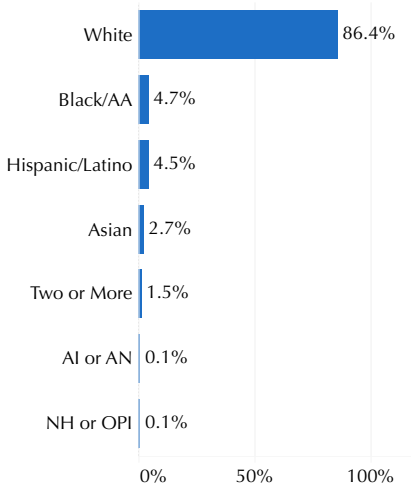
Age



Gender



Race/Ethnicity



Top 10 Job Titles

by Job Posting Volume (Jul 20 - Jun 21)

Graphic Designers	190
Partner Graphic Designers	47
Interior Designers	26
Production Artists	22
Digital Designers	17
Visual Designers	11
Motion Graphics Designers	11
Multimedia Illustrators	10
Mac Artists	10
Designers	9

Top 10 Hard Skills

by Job Posting Volume (Jul 20 - Jun 21)

Graphic Design	427
Adobe Illustrator	392
Adobe Photoshop	374
Adobe InDesign	269
Adobe Creative Suite	164
Typography	139
Illustration	118
Branding	107
Photography	104
Logos	97

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

Median Salary

$41,621

▲ 3.1% above national median

Past Growth
(2015-2020)

▲ 4%

Jobs

718

▼ -10.0% below national average*

Average New Monthly Job Postings

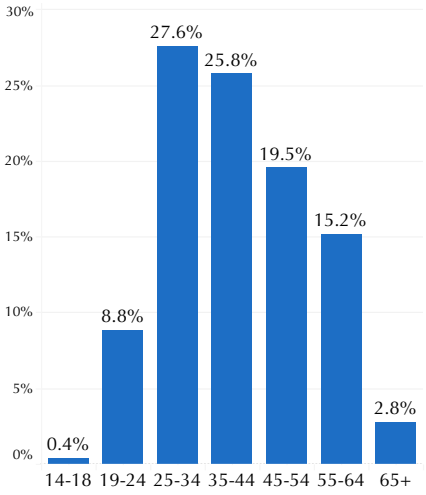
6

▲ 100.0% above national average*

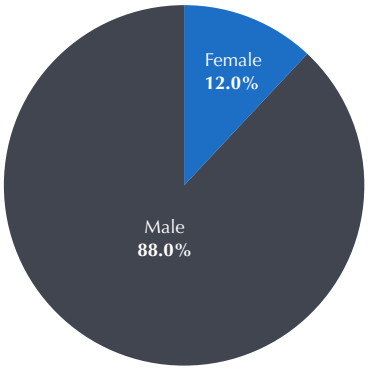
Projected Growth
(2020-2025)

▲ 13%

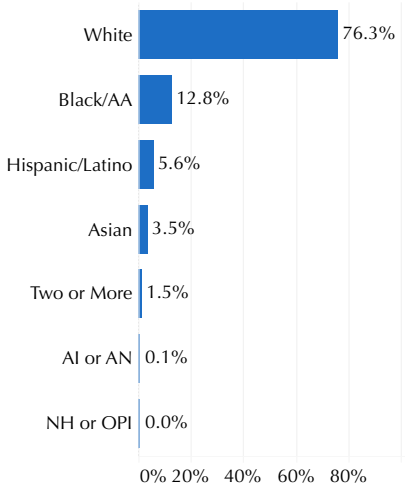
Age



Gender



Race/Ethnicity



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