# DIVERSITY AND THE TECH WORKER LANDSCAPE IN ALLEGHENY COUNTY

Representing approximately 4% of the entire workforce, or 25,906 jobs in Allegheny County, tech occupations span across industries and have higher median earnings compared to Allegheny County's workforce overall. However, not all populations in Allegheny County have been able to access job opportunities in tech. Most notably, an underrepresentation of women and Black workers in tech has remained a chronic issue. This report provides a snapshot of Allegheny County's tech workforce, the diversity challenges that exist, and accessibility and outlook for tech occupations.

## Tech Occupations[1]

Composed of 21 different occupations in Allegheny County, 70% of tech related jobs cluster into five different occupation types within Computer and Mathematical occupations. Software Developers, Computer User Support Specialists, Computer Systems Analysts, Computer Occupations-All Other, and Network and Computer Systems Administrators, amounted to approximately 18,000 jobs in 2023, with just over 6,500 of those jobs categorized as Software Developers. At 4% of the overall workforce, Allegheny County has a slightly higher concentration of tech workers compared to Pennsylvania as a whole (3%). Fourteen percent of all tech jobs in Pennsylvania are located in Allegheny County.

### Top 5 Tech Occupations by Occupational Job Concentration

| Tech Occupations | 2023 Jobs | % of All Tech Occupations | Median Earnings |
|---|---|---|---|
| Software Developers | 6,518 | 25% | $106,485 |
| Computer User Support Specialists | 3,908 | 15% | $55,553 |
| Computer Systems Analysts | 3,524 | 14% | $85,5076 |
| Computer Occupations, All Other | 2,699 | 10% | $95,866 |
| Network & Computer Systems Admin | 1,438 | 6% | $76,334 |

Compensation for tech occupations are among the highest for all occupations in Allegheny County. At a median annual earnings of $86,813, tech workers make approximately $41,000 more a year than the median earnings for all occupations ($46,064).[2] Additionally, the benefits of this high paying occupation are typically realized beginning at the entry level, where entry-level earnings amount to $51,097 a year.[3]

[1] While many jobs require tech skills, for the purposes of this report, tech jobs were defined as Computer and Mathematical occupations as per the definitions of the U.S. Bureau of Labor Statistics. In addition, the Occupational Information Network Standard Occupational Classification (O*NET-SOC), the U.S. Census Bureau, and the RAND Corporation's methodology for science- and technology-focused (STF) workers were consulted in the construction of tech related occupations.

[2] Median annual earnings for Allegheny County's tech workers were similar for Pennsylvania's tech median annual earnings of $86,755.

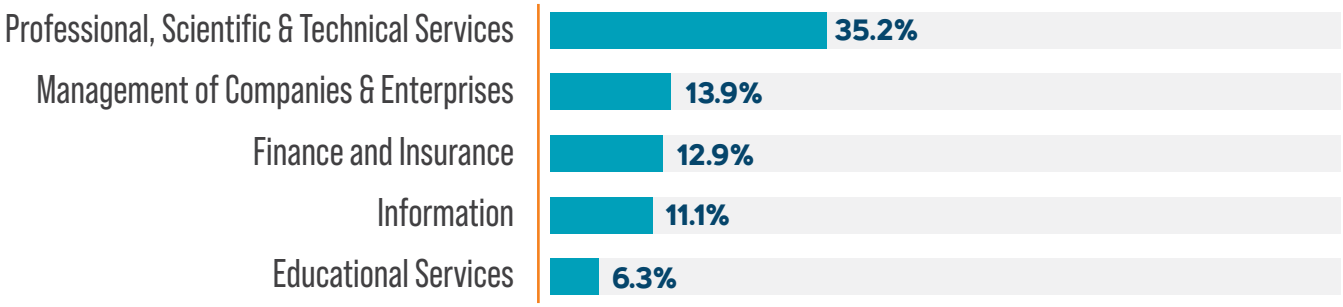
[3] Earnings in the 10th percentile for Computer and Mathematical occupations were used as the entry level annual earnings.

Tech workers are not only directly involved in tech-related industries, but also needed across sectors of the local economy. Eighty percent of all tech occupations in Allegheny County were found in the following five industry clusters:

- **Professional, Scientific, and Technical Services** - Representing a wide range of industries; example business activities include accounting, computer services, advertising, and marketing services.
- **Management of Companies and Enterprises** - Firms that either (1) hold controlling interest or influence over management decisions, or (2) businesses that directly administer, oversee, and manage establishments of the company or enterprise.
- **Finance and Insurance** - Companies that primarily engage in financial transactions and/or in facilitating financial transactions.
- **Information** - Businesses within this sector engaged in the following processes: producing and distributing information, providing the means to transmit information, and processing data.
- **Educational Services** - Establishments within this sector provide instruction and training; and can be either privately or publicly owned and operated, such as schools, colleges, and training centers.

## Distribution of Tech Occupations by Industry for Allegheny County

**Source: Lightcast**



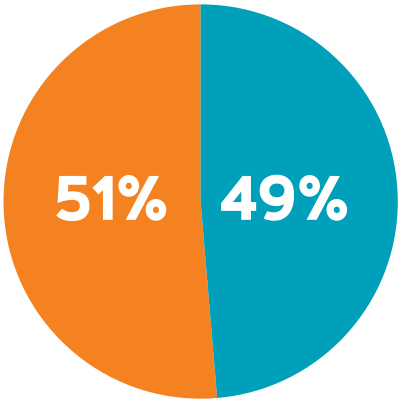

## Diversity in Tech Occupations

Diversity, and specifically, the underrepresentation of women and Black workers, remains a significant challenge in tech. In 2013, women made up approximately 23.6% of the tech workforce and by 2023 the population had increased to 26.4%. Despite this modest increase, women's representation in tech is still well below the 51.6% proportion of Allegheny County's working age population that women comprise.[4]

[4] Due to data limitations, gender is based on those who identify as either male or female, and does not capture other gender identities.

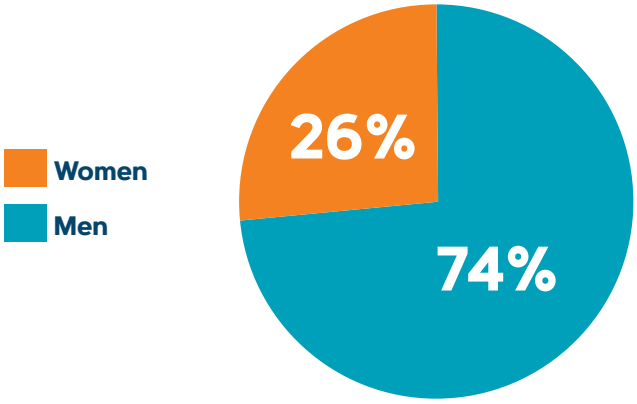
## Gender Distribution for Working Age Allegheny County Residents

**Source: U.S. Census Bureau**




## Gender Distribution for Allegheny County Tech Workers

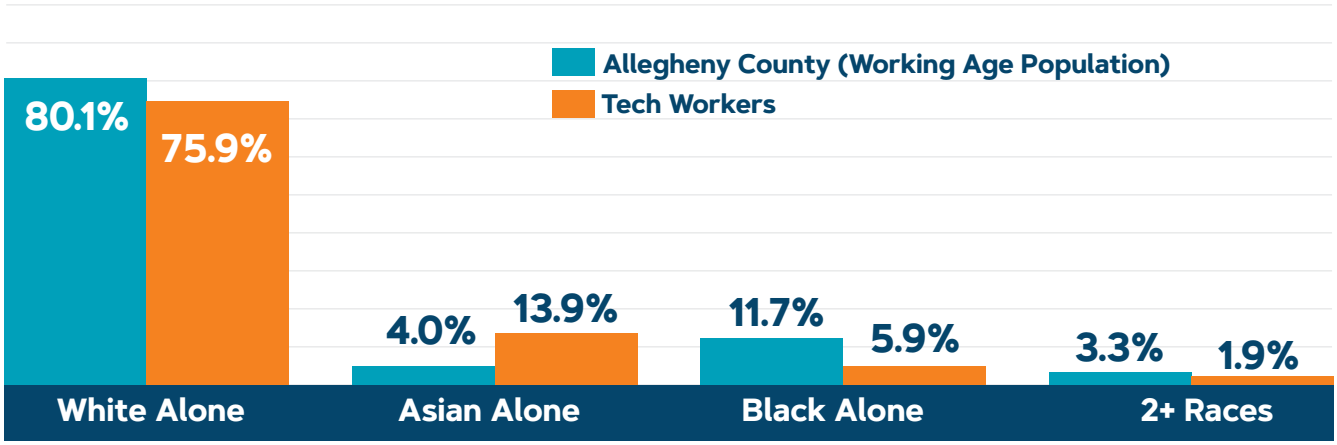
**Source: Lightcast**




People of color makeup 24.1% of the tech workforce in Allegheny County, whereas white workers make up the largest percentage at 75.9%. Asian workers, who represent the largest minority group in tech at 13.9%, are the only race to exceed in representation when compared to the Asian working age population of Allegheny County, which is 4%. In the last ten years, Asian workers have increased their worker population in tech by 3.7 percentage points, or 2,710 workers in 2013 to 3,602 workers in 2023. Black workers, on the other hand, who represent the second largest working age group by race in Allegheny County (11.7%), are underrepresented in the tech field with only 5.9% of the total tech worker population. The underrepresentation of Black workers in tech is a persistent issue. From 2013 to 2023, Black workers increased their worker population in tech by 0.9 percentage points, which amounts to an increase of 200 workers, from 1,333 in 2013 to 1,539 workers in 2023.

## Distribution of Race in Tech Occupations in Allegheny County

**Source: U.S. Census Bureau, Lightcast**



### Diversity in Tech Occupations (cont.)

Due to the lack of diversity in tech occupations, firms who employ tech workers may be limiting themselves both in talent and financial gain. According to a McKinsey & Co. report, firms who had a more gender diverse staff were 25% more likely to have above-average profits compared to less diverse firms. When examining the effects on profits for more culturally and ethnically diverse businesses, McKinsey & Co. found that performance and profits were 36% more likely to be above-average than when compared to less culturally and ethnically diverse firms.[5] In large part to achieve those gains, it takes innovation and creativity which comes from including all types of people. The Harvard Business Review found that organizations with diverse staff often provided new ideas and perspectives which correlates to faster problem solving and better performance.[6] Additionally, inclusive practices generated increased employee engagement, as employees felt more included and comfortable engaging with colleagues.[7]

## Job Market, Outlook, and Accessibility for Tech Occupations

With approximately 16,000 unique job advertisements in 2023, tech occupations represented 8% of the total job ads published for that year. Moreover, tech occupations are expected to grow over the next ten years in Allegheny County, according to Lightcast projections.[8] With an anticipated growth at 2%, the tech field is set to increase by 600 jobs by 2034.

Many tech occupations require a four-year degree to qualify for work, however, employers are starting to realize the benefits of skills based hiring. There are opportunities for those without a Bachelor's degree to enter the tech workforce. Accounting for 18% of all tech related jobs, Computer Network Support Specialists and Computer User Support Specialists paid a median annual salary of $71,732 and $55,552, respectively, and were obtainable without pursuing a four-year degree.


[5] McKinsey & Company's analysis largely focused on diversity among leadership positions, however, they argue the positive spillover effects that diversity and inclusion have on firms as a whole when adopted at the top level of organizations.

[6] Harvard Business Review, Teams Solve Problems Faster When They're More Cognitively Diverse

[7] Washing State University's Carson College of Business 10 Benefits of Diversity in the Workplace

[8] Lightcast projections are calculated using proprietary methodology, while using data from the Bureau of Labor Statistics' Quarterly Census of Employment and Wages, American Community Survey, and the Pennsylvania Department of Labor and Industry Center for Workforce Information and Analysis.

## Conclusion

There is a clear and present need for tech workers in Allegheny County and an opportunity to diversify the pool of tech talent by increasing representation of women and Black workers. While this group in the last 10 years has experienced a percentage increase in population in tech work, underrepresentation remains an issue. Furthermore, in an occupation group that heavily requires a four-year degree, there are opportunities for workers who do not possess a bachelor's degree. For information about sub-bachelor pathways and access to careers in tech, please see Partner4Work's Policy Brief: Promoting Registered Apprenticeship Opportunities in Technology, which addresses steps policymakers can take to support apprenticeship models in tech and other high-demand industries.

## Data and References

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