



IBM Data Analyst Capstone Project

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OUTLINE



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EXECUTIVE SUMMARY



- JavaScript, Python, HTML/CSS, SQL, and TypeScript are the most desirable programming languages for next year.
- PostgreSQL, MongoDB, Redis, MySQL, and ElasticSearch are the most desirable databases for next year.
- Gender gap in the IT industry.
 - Male = 93.7%
 - Female = 6.3%

INTRODUCTION



- Stack Overflow, a popular website for developers, conducted a survey amongst developers from around the world about technology trends in 2019.
 - Programming Languages
 - Databases
 - Demographics
- Target audience:
 - IT professionals
 - Anyone interested in the IT field

METHODOLOGY

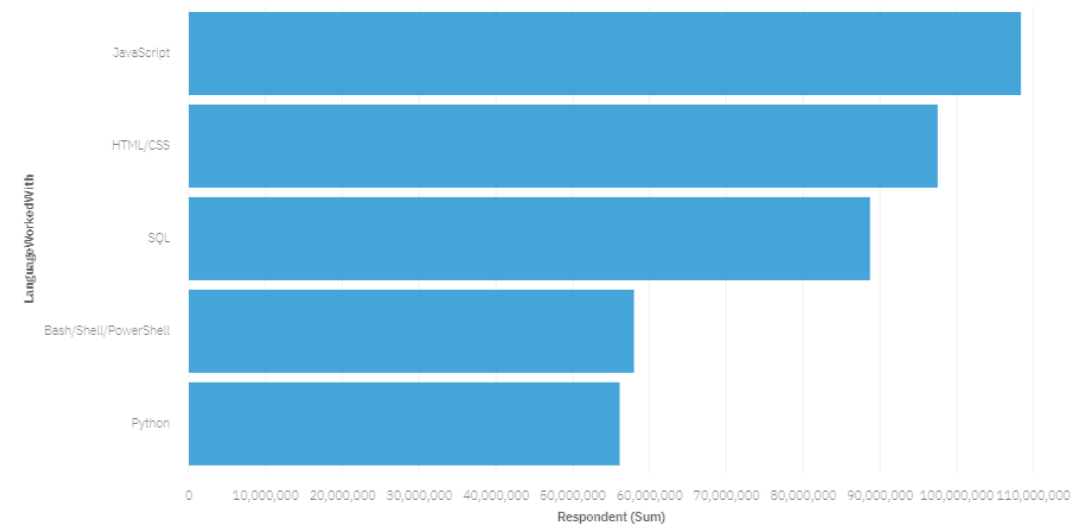


- Data Sources:
 - Stack Overflow Developers Survey 2019
 - Github Job Posting
 - Programming Language Annual Salary
- Data Exploration and Cleaning
 - Python
- Data Visualization
 - IBM Cognos Analytics
- Presentation

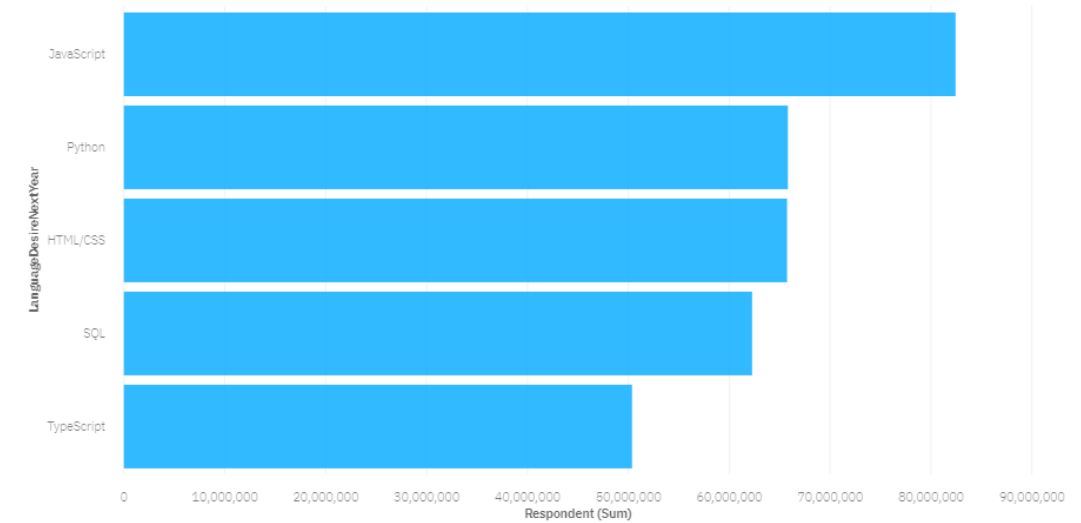
RESULTS

PROGRAMMING LANGUAGE TRENDS

Top 5 Programming Languages Worked With



Top 5 Programming Languages Desired for Next Year



PROGRAMMING LANGUAGE TRENDS – FINDINGS & IMPLICATIONS

Findings

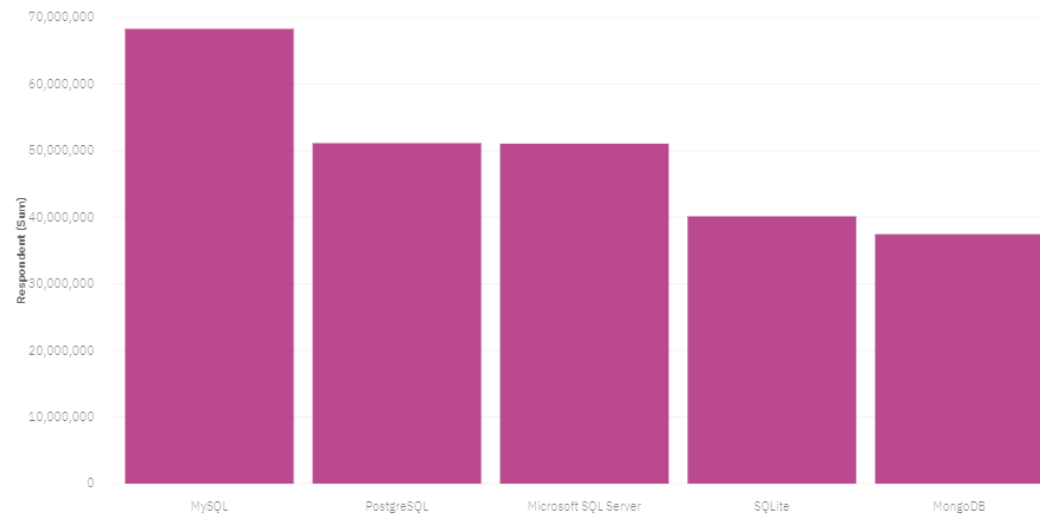
- JavaScript is the most in demand programming language.
- Python, HTML/CSS, and SQL are other in demand programming languages.
- Skills in TypeScript is more desirable than Bash/Shell/PowerShell for next year.

Implications

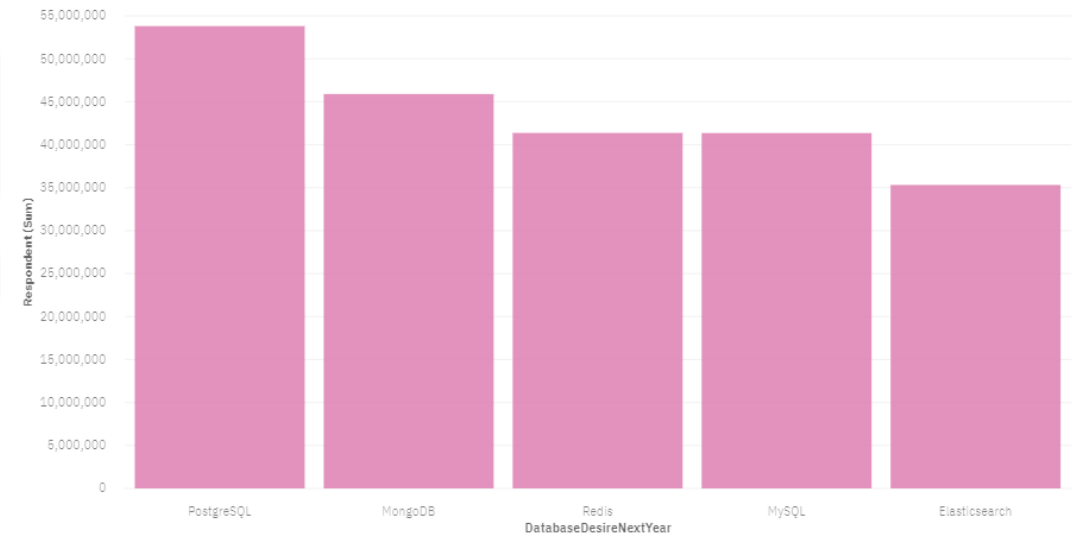
- Python's increase in demand may overtake JavaScript in the future.
- JavaScript, Python, HTML/CSS, and SQL are consistently in demand.
- Web development remains in high demand.

DATABASE TRENDS

Top 5 Databases Worked With



Top 5 Databases Desired for Next Year



DATABASE TRENDS – FINDINGS & IMPLICATIONS

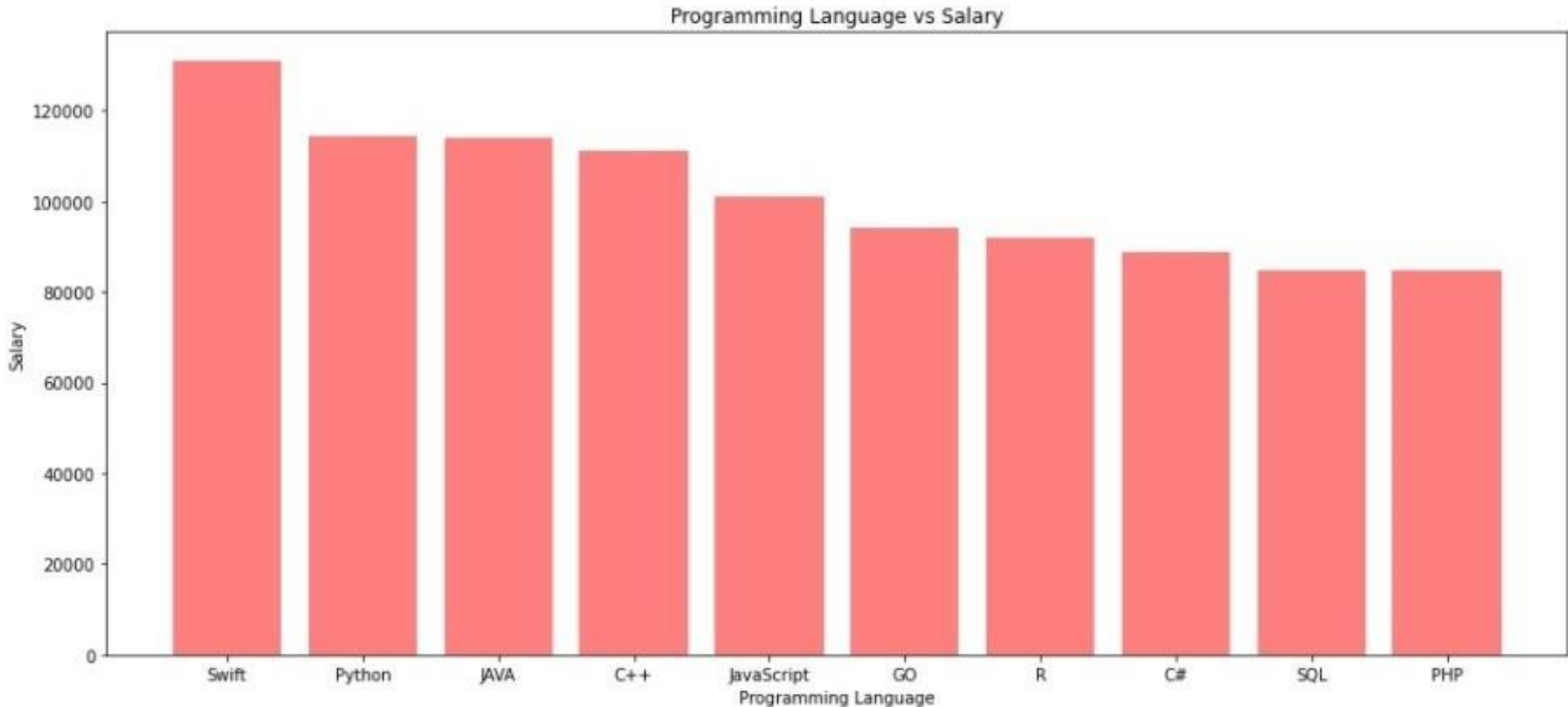
Findings

- PostgreSQL and MongoDB have an increase in demand.
- MySQL has a decrease in demand for next year.
- Skills in Redis and ElasticSearch are more desirable than Microsoft SQL Server and SQLite for next year.

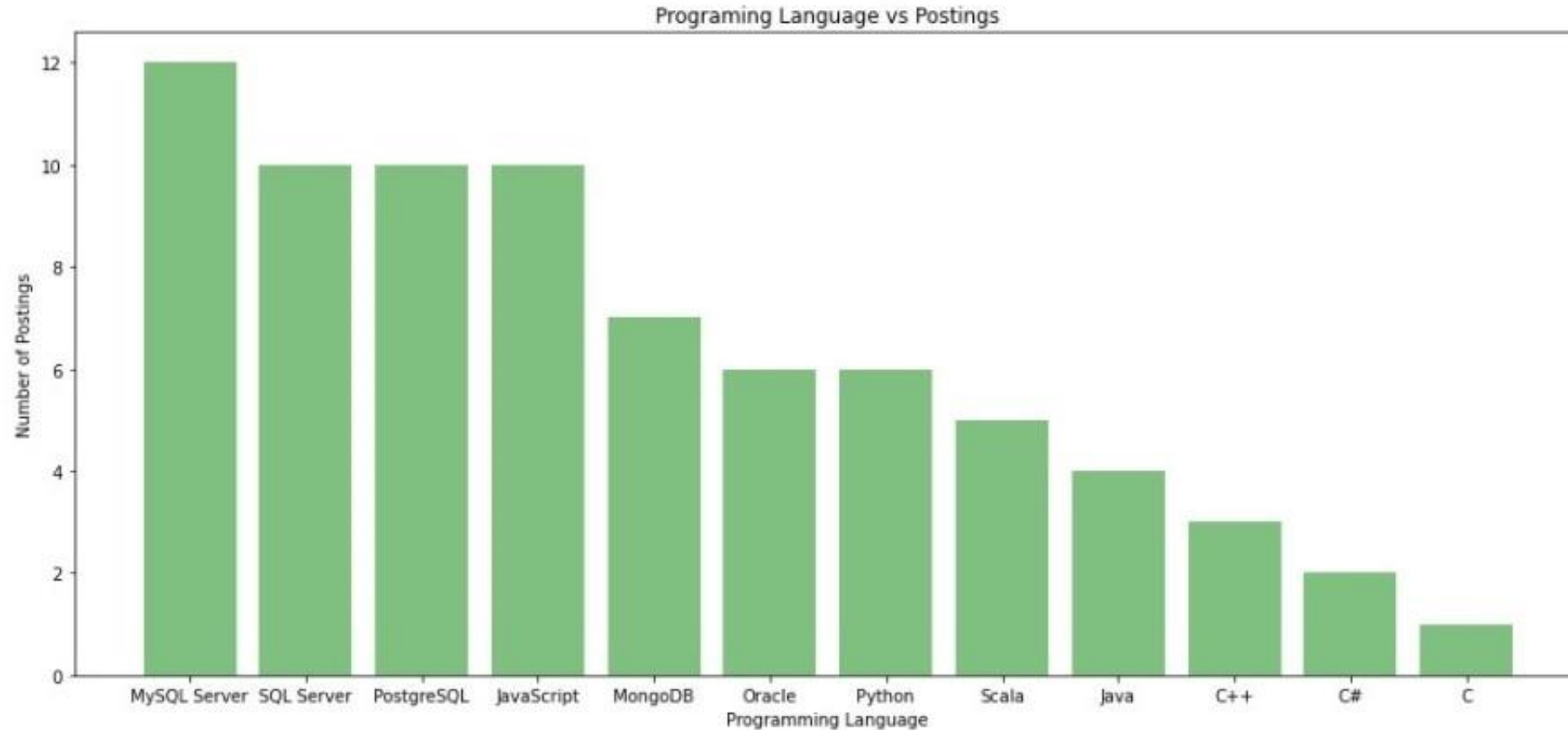
Implications

- PostgreSQL and MongoDB are the most consistent in demand databases.
- Open source databases are preferred.
- Demand is volatile.

GITHUB JOB POSTINGS



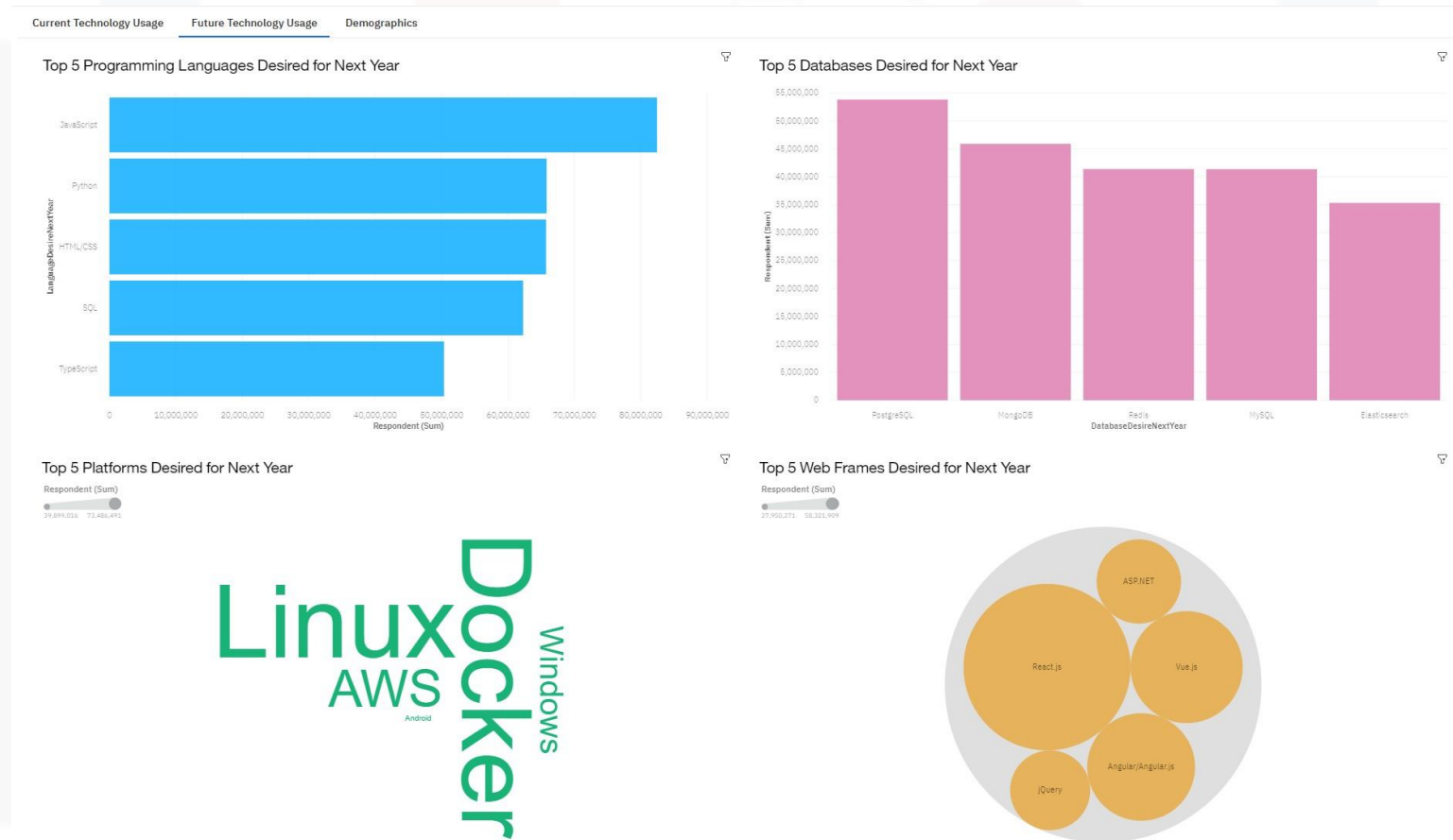
POPULAR LANGUAGES



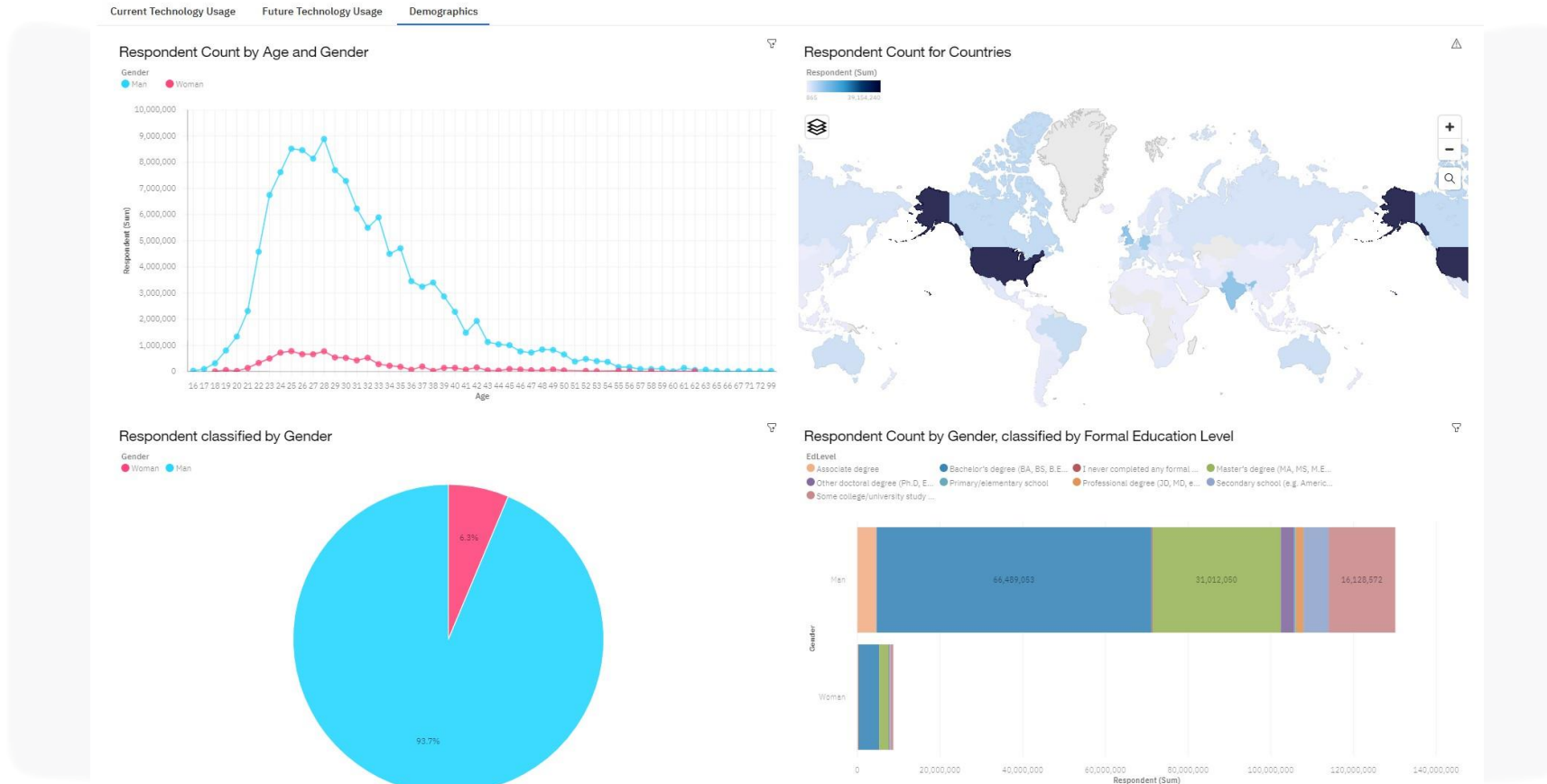
DASHBOARD TAB 1



DASHBOARD TAB 2



DASHBOARD TAB 3



DISCUSSION



- New technology constantly emerges leading to changes in demand.
- The IT industry needs to diversify in order to eliminate gender gap.

OVERALL FINDINGS & IMPLICATIONS

Findings

- Trends and demands fluctuate based on new technologies.
- JavaScript and Python are the most popular programming languages.
- PostgreSQL is the most popular database.
- Gender gap in the IT field.

Implications

- IT professionals and companies have to learn and adapt to new demands.
- Having skills that are high in demand leads to more job opportunities.
- Gender gap will affect job hiring trend.

CONCLUSION



- New technology leads to different trends and demands.
- JavaScript and Python are the most popular programming languages.
- PostgreSQL is the most popular database.
- The IT industry needs to diversify.