IBM Data Analyst Capstone Project

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IBM **Developer**

SKILLS NETWORK

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
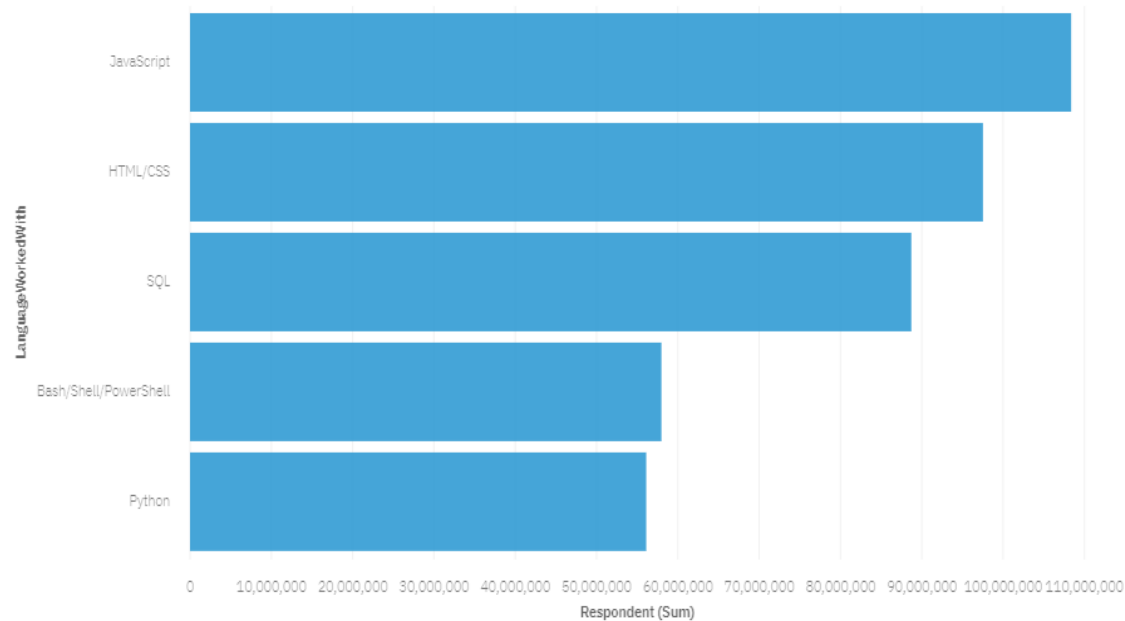
METHODOLOGY

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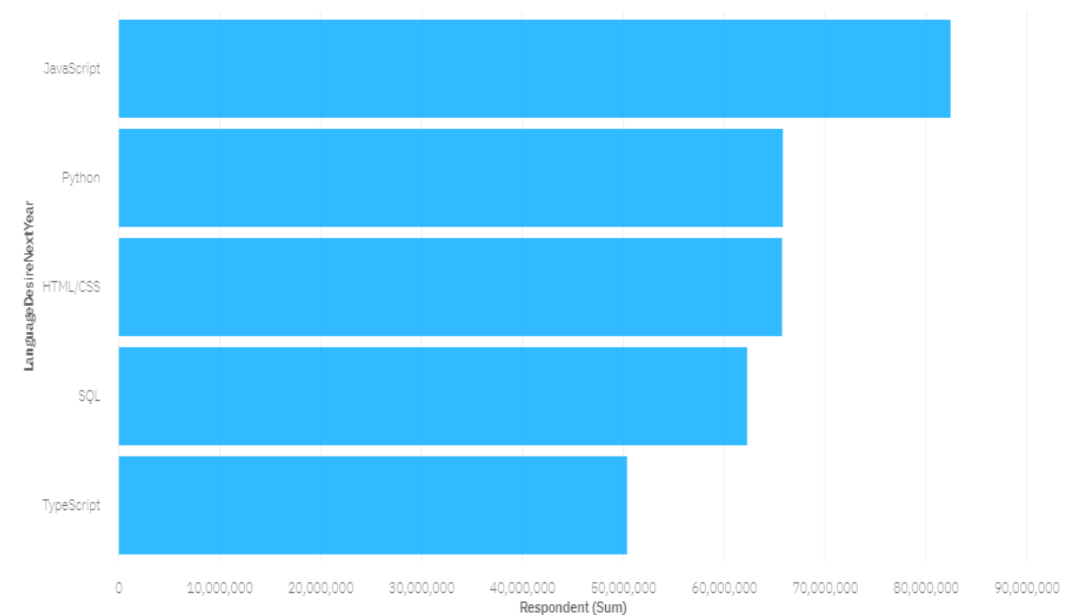 - IBM Cognos Analytics
- Presentation

RESULTS

PROGRAMMING LANGUAGE TRENDS

Top 5 Programming Languages Worked With

Top 5 Programming Languages Desired for Next Year

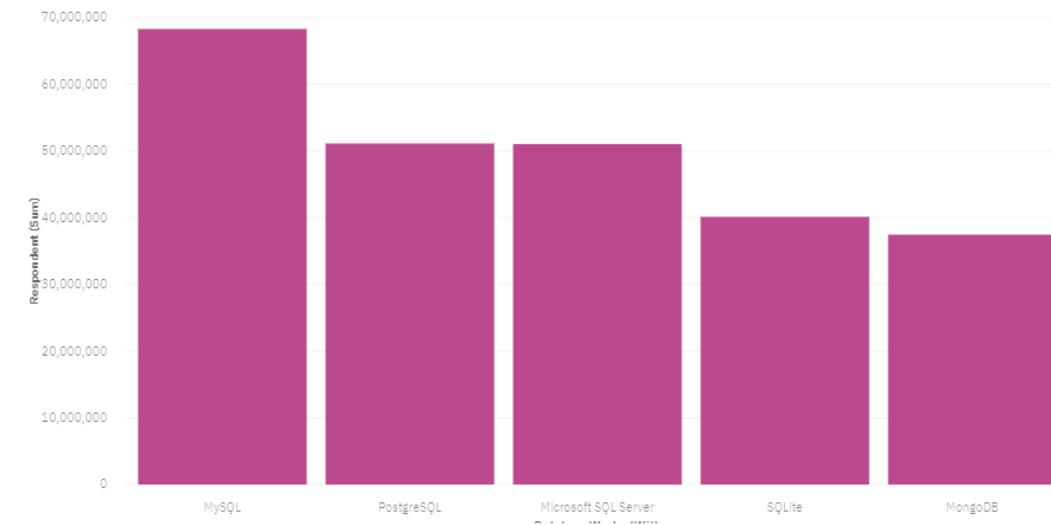# PROGRAMMING LANGUAGE TRENDS – FINDINGS & IMPLICATIONS

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.
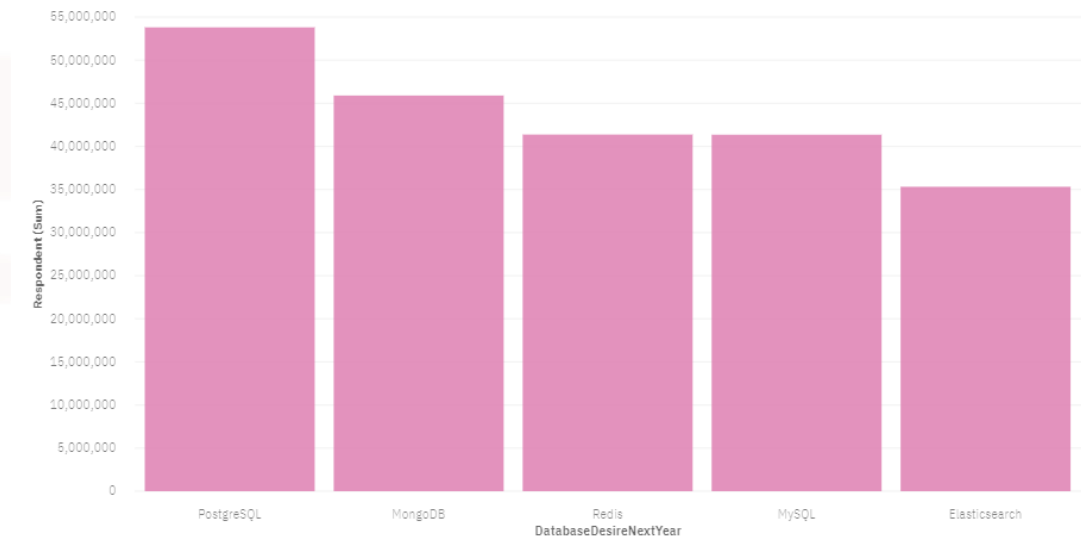
Implications

- 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.

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DATABASE TRENDS

Top 5 Databases Worked With

Top 5 Databases Desired for Next Year
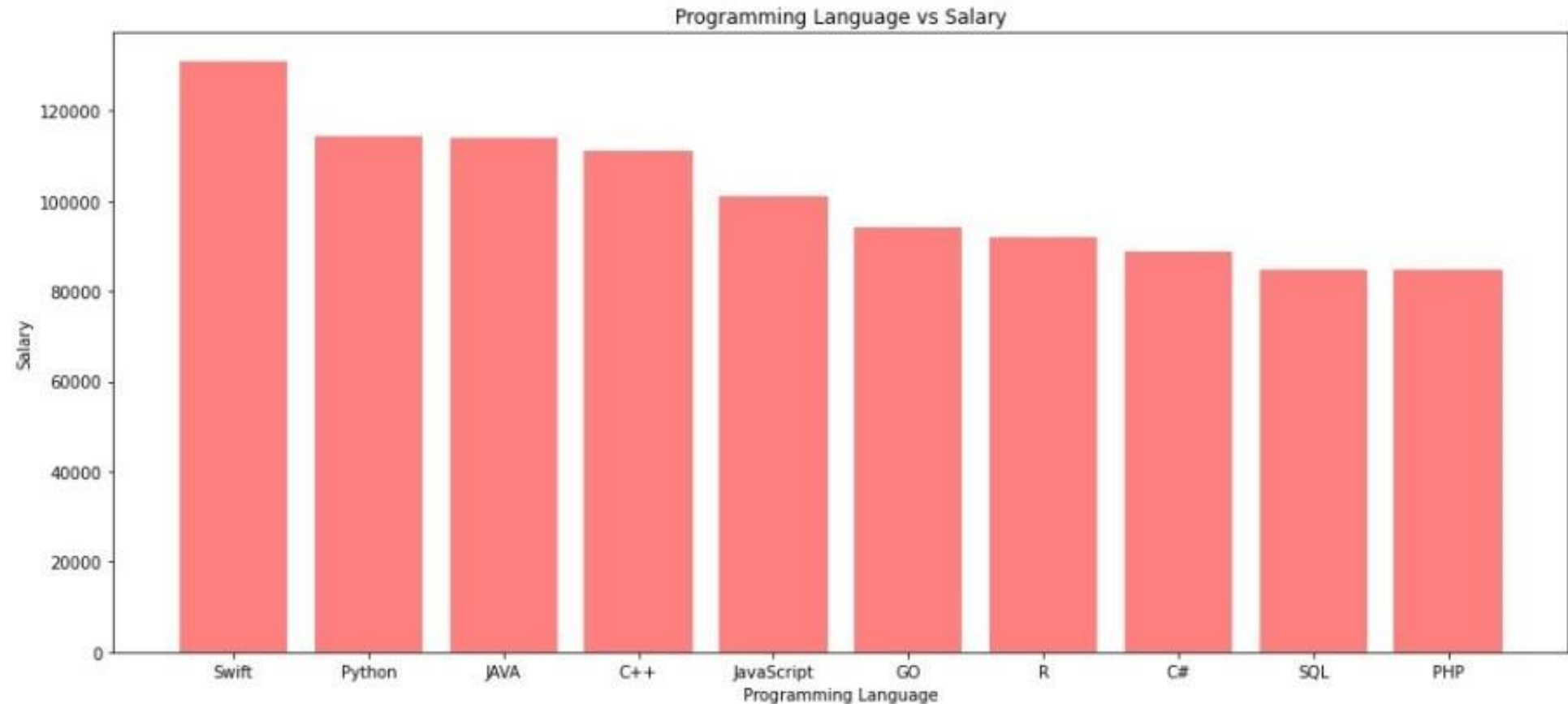
DATABASE TRENDS – FINDINGS & IMPLICATIONS

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.
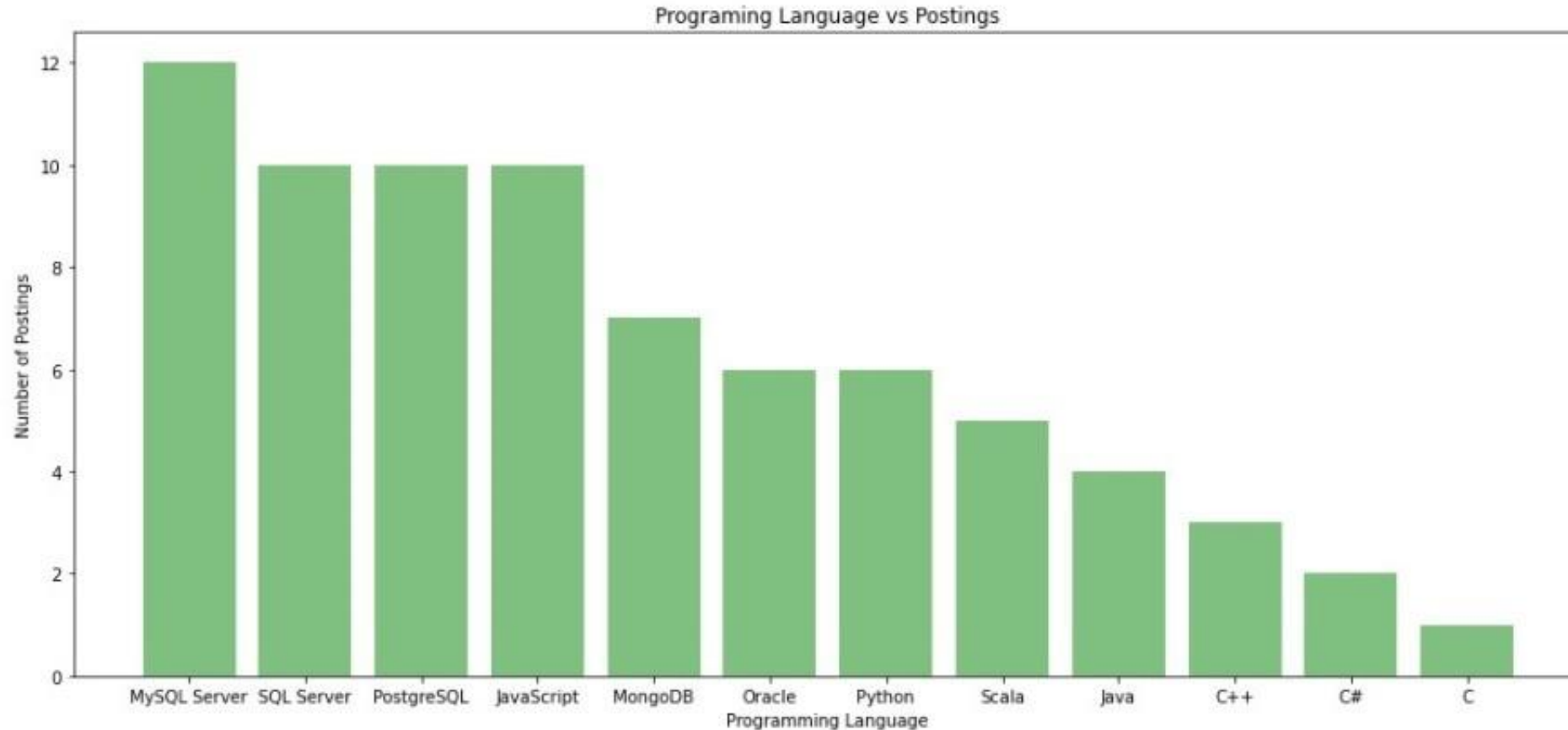
Implications

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

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GITHUB JOB POSTINGS

Programming Language vs Salary

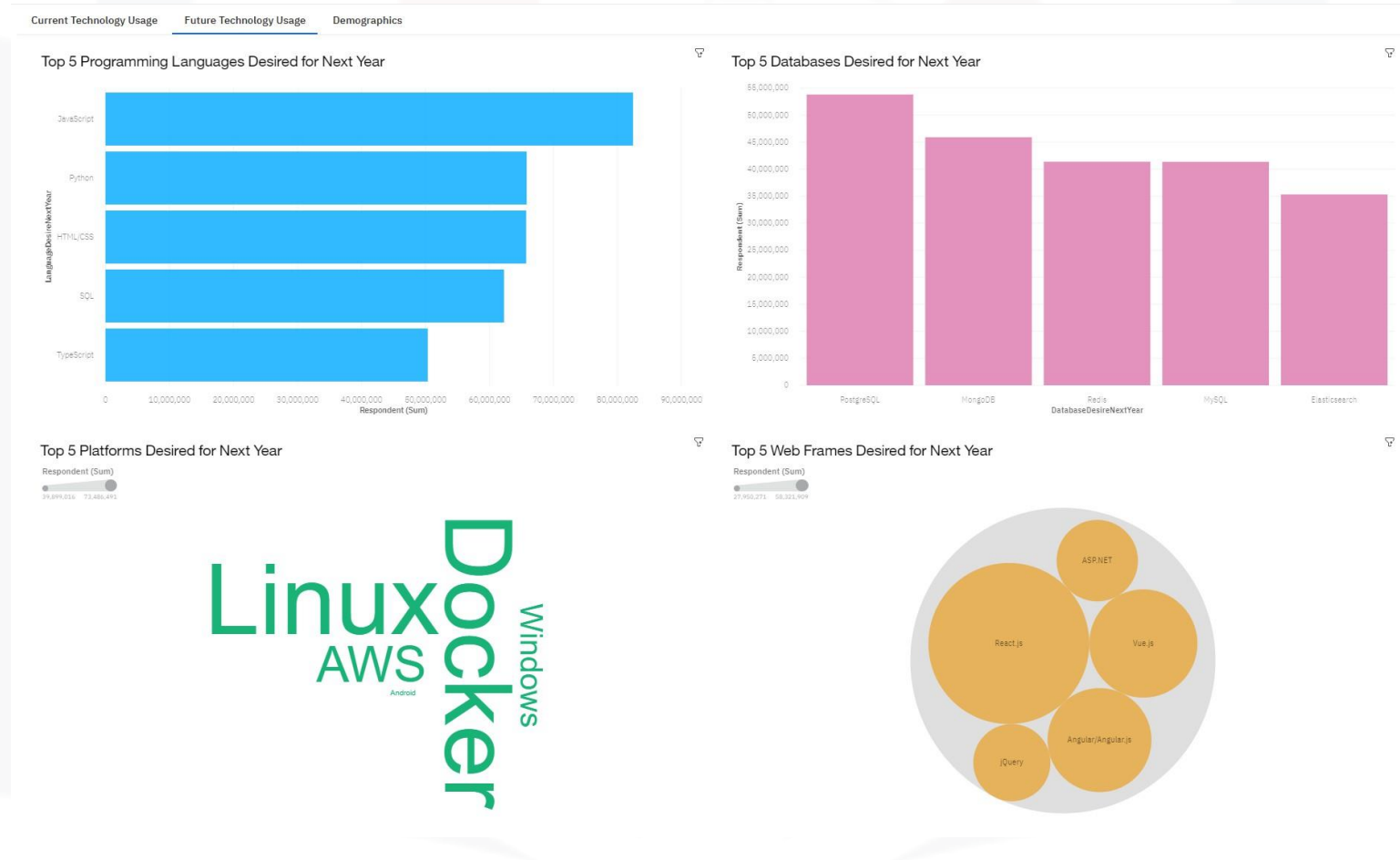# POPULAR LANGUAGES

Programing Language vs Postings

DASHBOARD

https://dataplatform.cloud.ibm.com/dashboards/72d4074e-8ee0-457d-bfbd-0c0d90270945/view/5724f92126b702f468b0d0e4079c2b0f7836730eb5bb855184807b4908317797a86842c5c82d4b0fdc180667a5ec1559cd
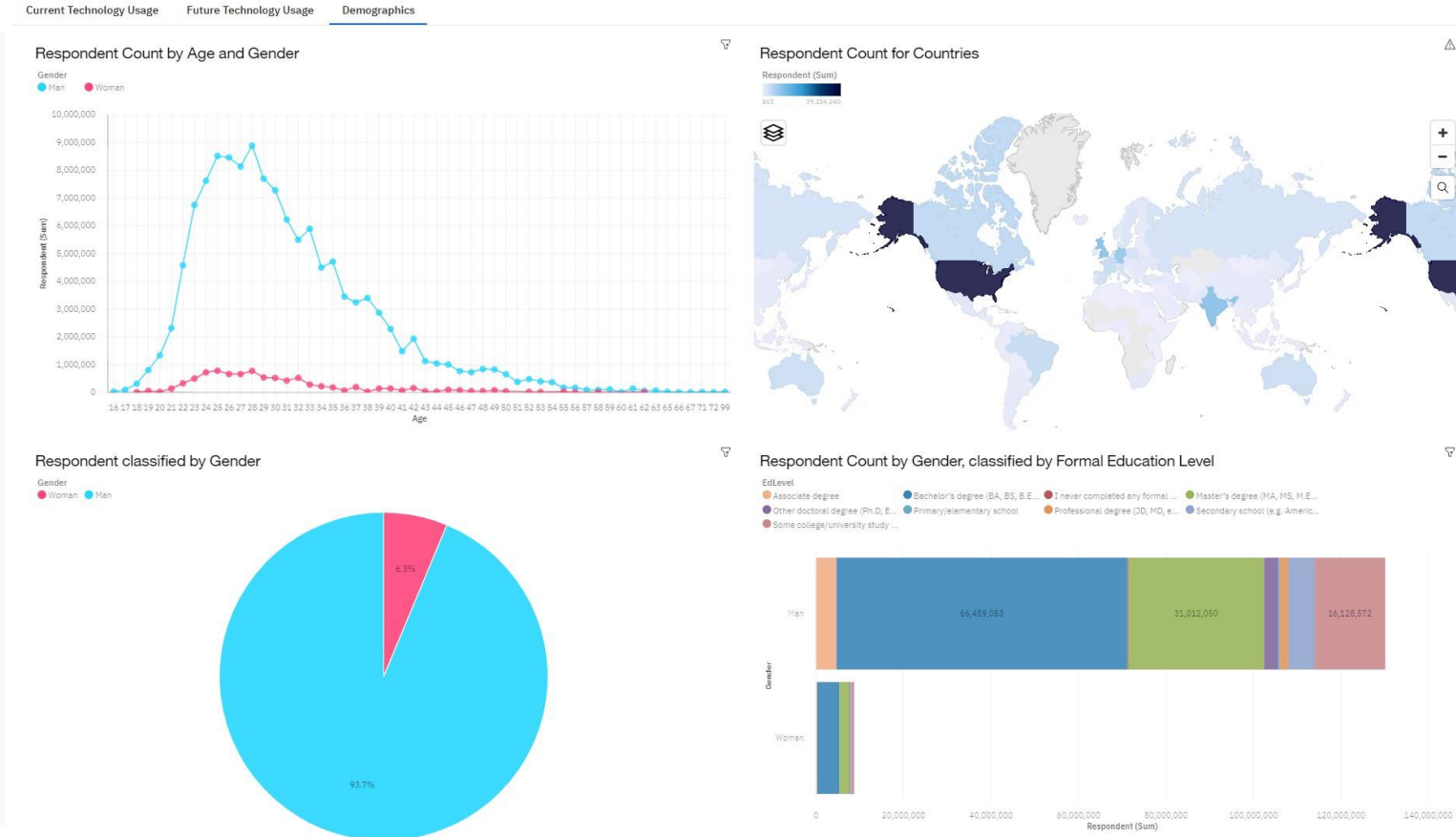
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DASHBOARD TAB 1

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.