



# IBM Data Analyst Capstone Project

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# OUTLINE

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- Executive Summary
- Introduction
- Methodology
- Results
  - Visualization – Charts
  - Dashboard
- Discussion
  - Findings & Implications
- Conclusion
- Appendix

# EXECUTIVE SUMMARY

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- Current trends of programming language and databases
- Future trends in programming languages and databases
- Demographics of the developers
- GitHub Job Postings
- Best paying languages

# INTRODUCTION

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- Stack Overflow's 2019 survey is about technology trends and the participants are developers from all over the world
- With this survey we analyze the data to keep up with the trends in programming language and databases
  - Skill requirements for the future
  - Top programming languages
  - Top database skills
  - Demographics

# METHODOLOGY

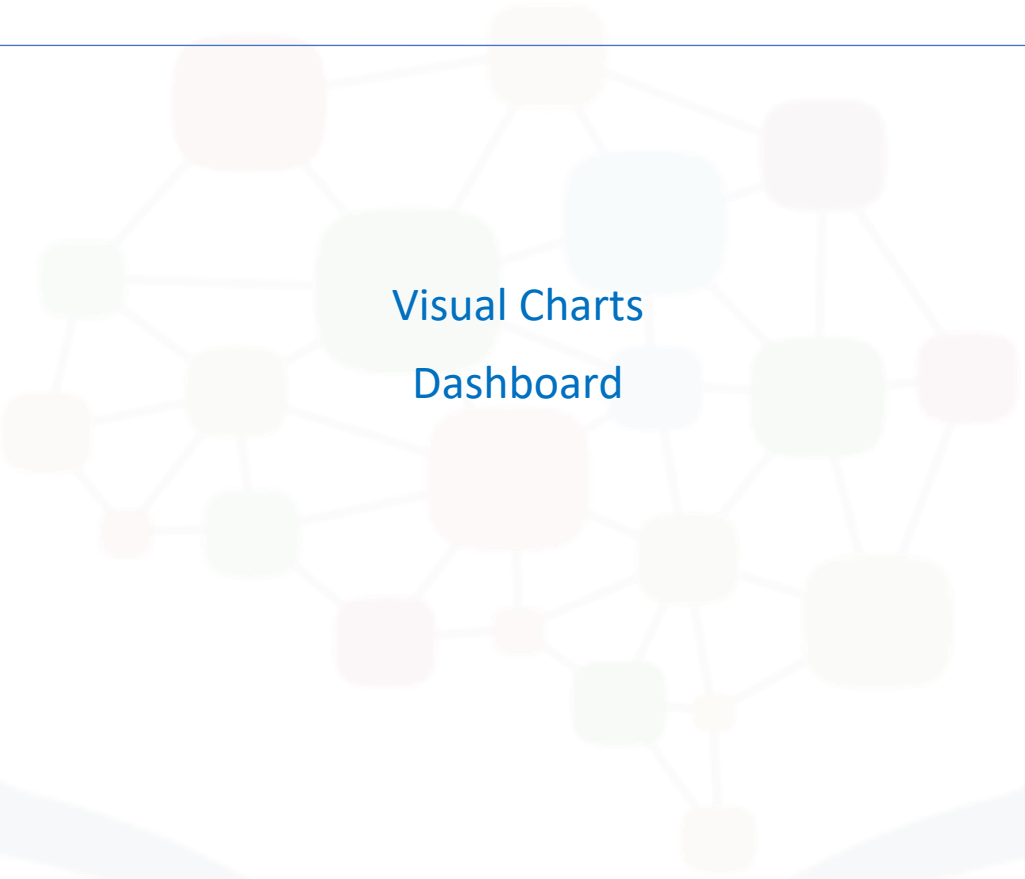
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- Data Sources:
  - Stack Overflow Developers Survey 2019
  - GitHub Job Postings
  - Programming Language Annual Salary
- Data Exploration and Cleaning
- Data Visualization
  - IBM Watson Studio
  - Cognos Dashboard
  - Excel
- Presentation

# RESULTS

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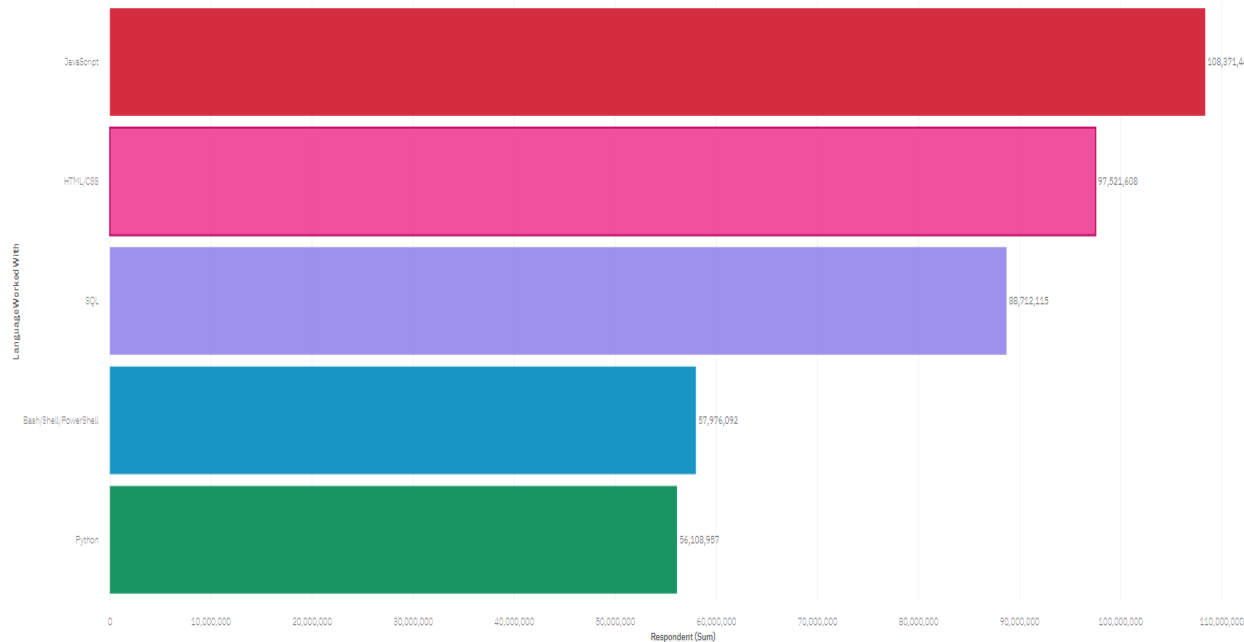
Visual Charts  
Dashboard

# PROGRAMMING LANGUAGE TRENDS

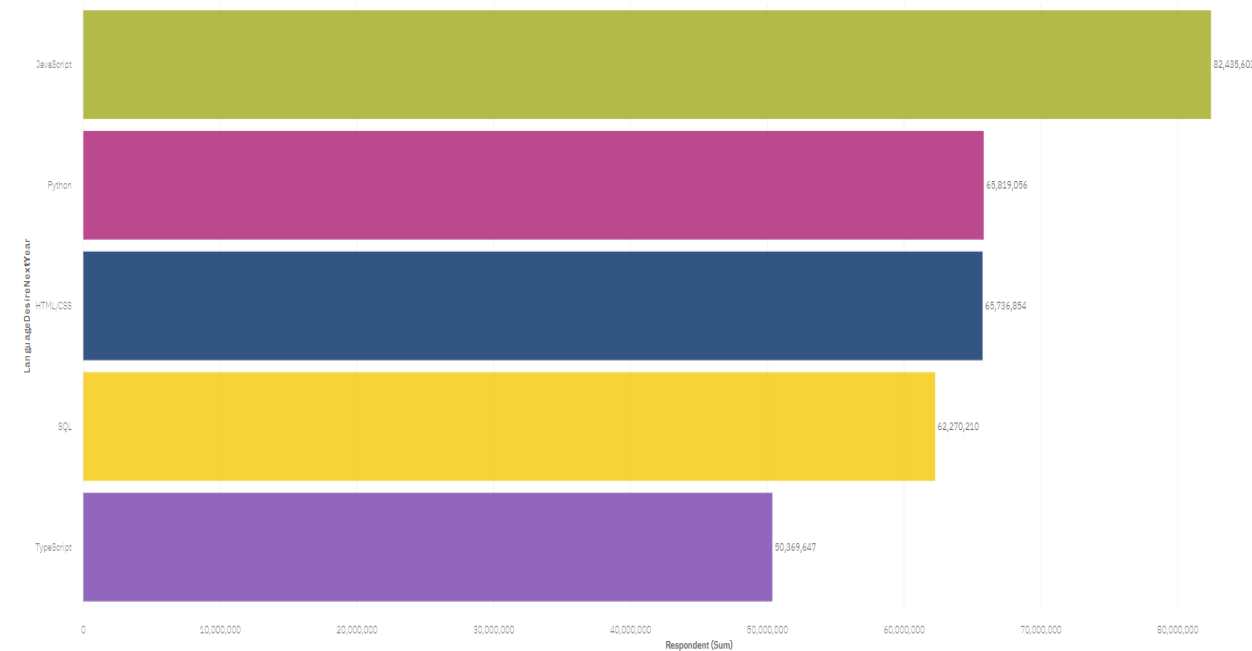
Current Year

Next Year

Top 5 Programming Language Worked With



Top 5 Programming Language Desire Next Year



# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- JavaScript and HTML are the most used programming language
- Bash/Powershell/Shell will decline
- Python and TypeScript are becoming popular

## Implications

- There is a still high demand for JavaScript and HTML
- Python will grow in the next years
- TypeScript might be a new trend

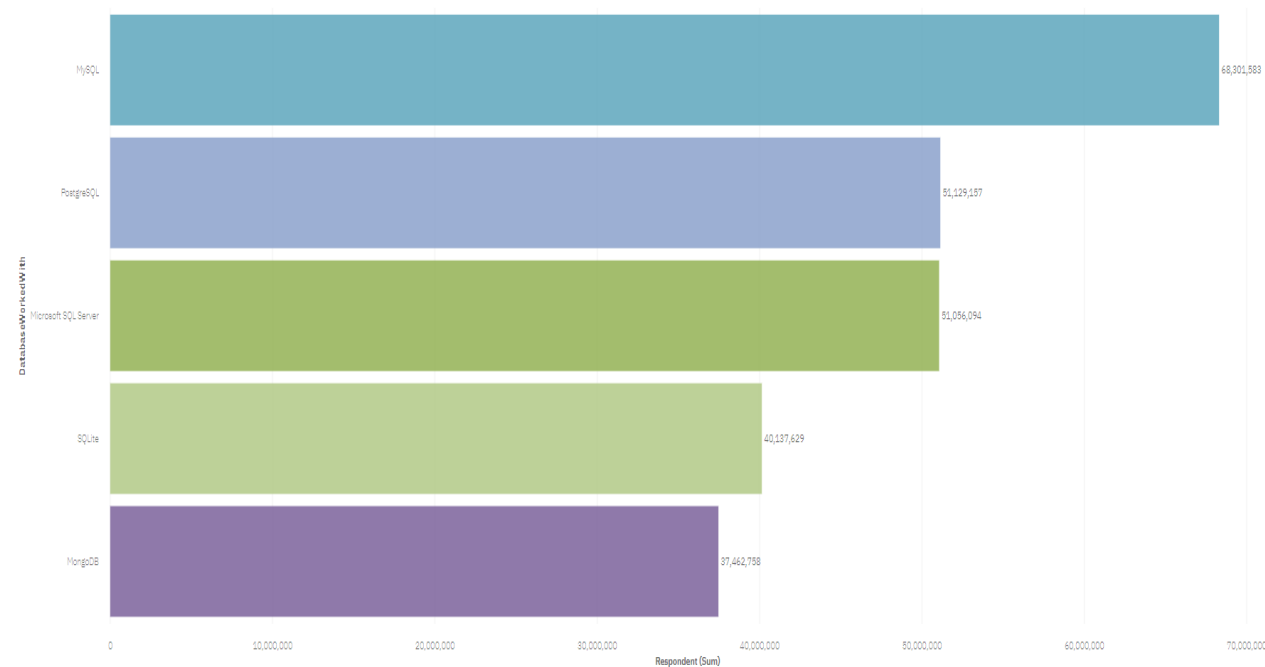


# DATABASE TRENDS

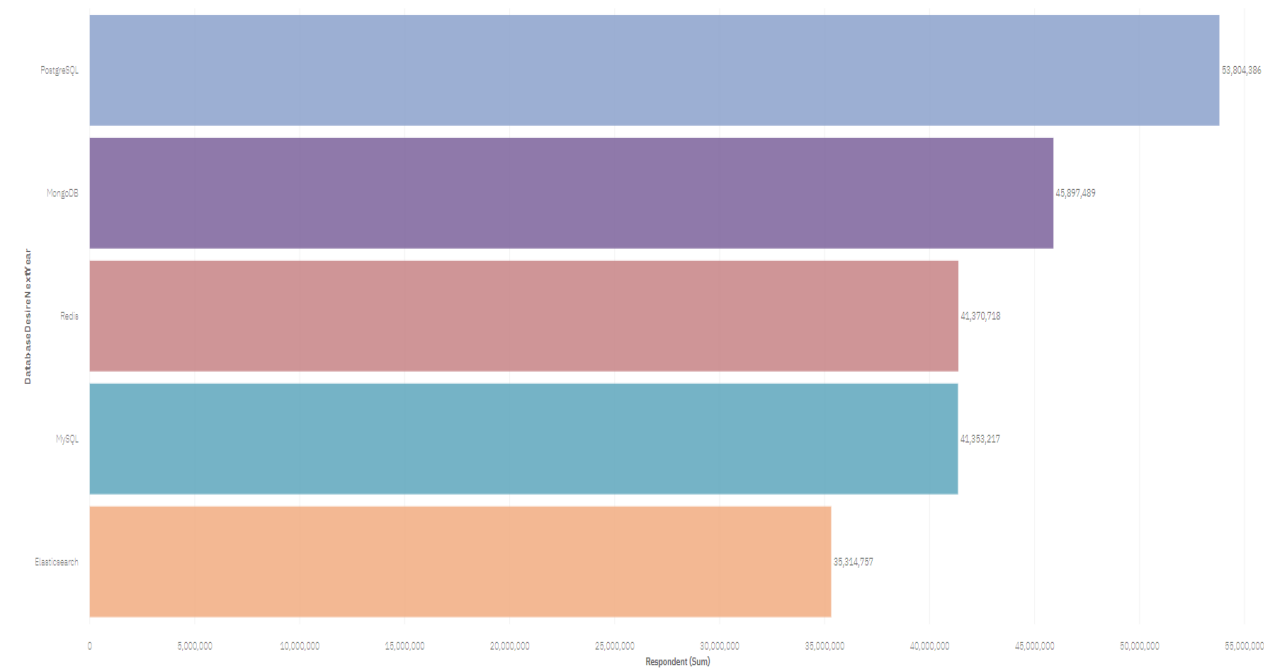
Current Year

Next Year

Top 5 Databases Worked With



Top 5 Databases Desire Next Year



# DATABASE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- MySQL is the most used Database
- PostgreSQL will grow rapidly
- MongoDB and Redis are getting popular

## Implications

- Knowing PostgreSQL and MongoDB might be a must
- Microsoft SQL Server and SQLite usage might decline
- We might see new trends in next years

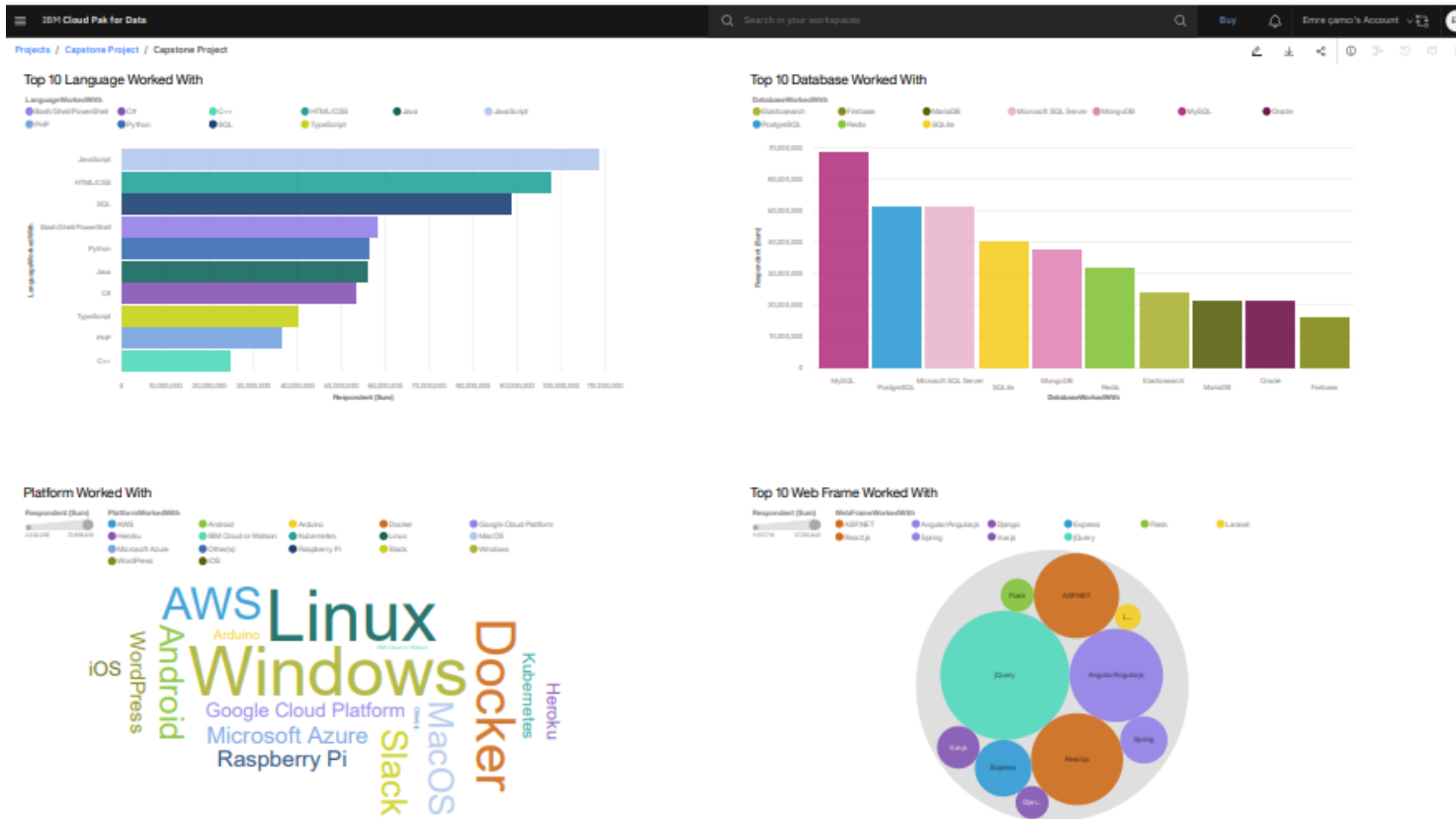
# DASHBOARD

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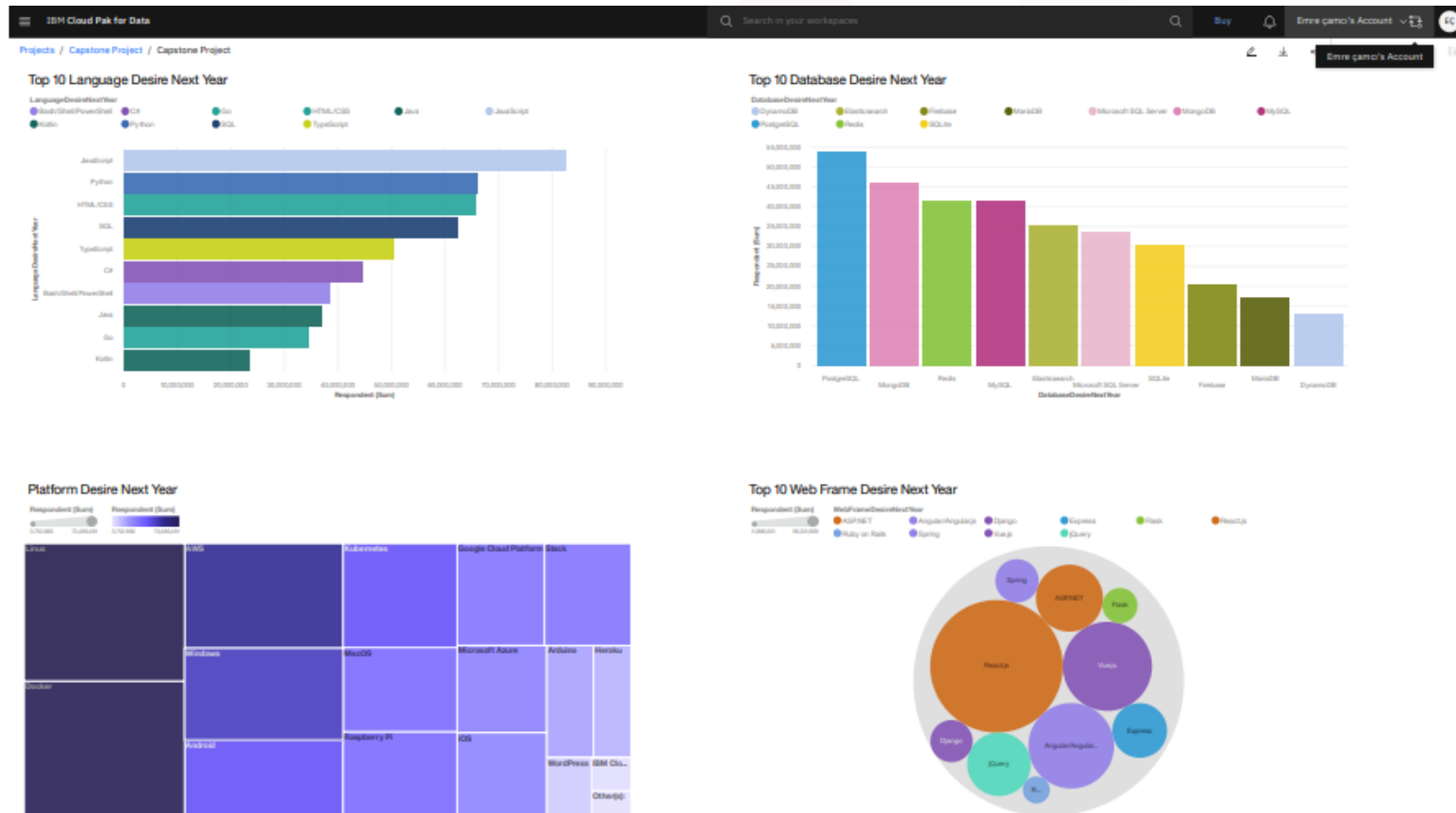


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# DASHBOARD TAB 1



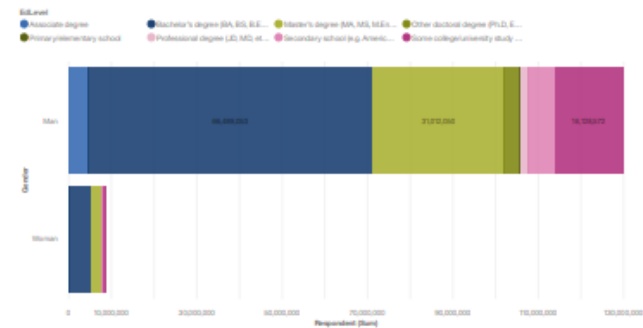
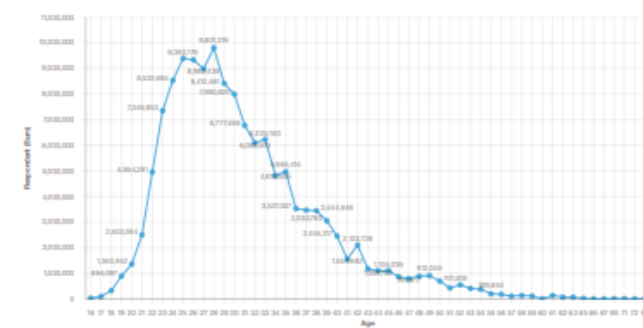
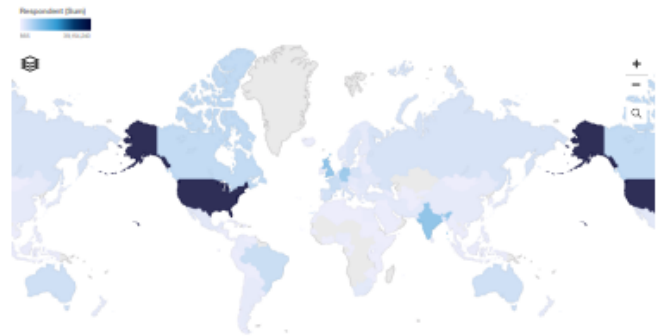
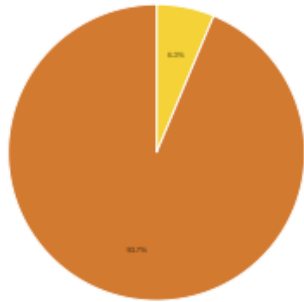
# DASHBOARD TAB 2



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# DISCUSSION

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- How can we adapt to technology trends?
- How can we increase women developer numbers ?
- How does the salary correlate with the demand?

# OVERALL FINDINGS & IMPLICATIONS

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## Findings

- JavaScript remain the most in demand tool
- Python, TypeScript, PostgreSQL and MongoDB are becoming more popular
- Gender gap in the IT field

## Implications

- Developers and companies must adapt to new trends
- There might be a gap between the demand and supply for C language
- Women should be motivated to join the IT field



# CONCLUSION

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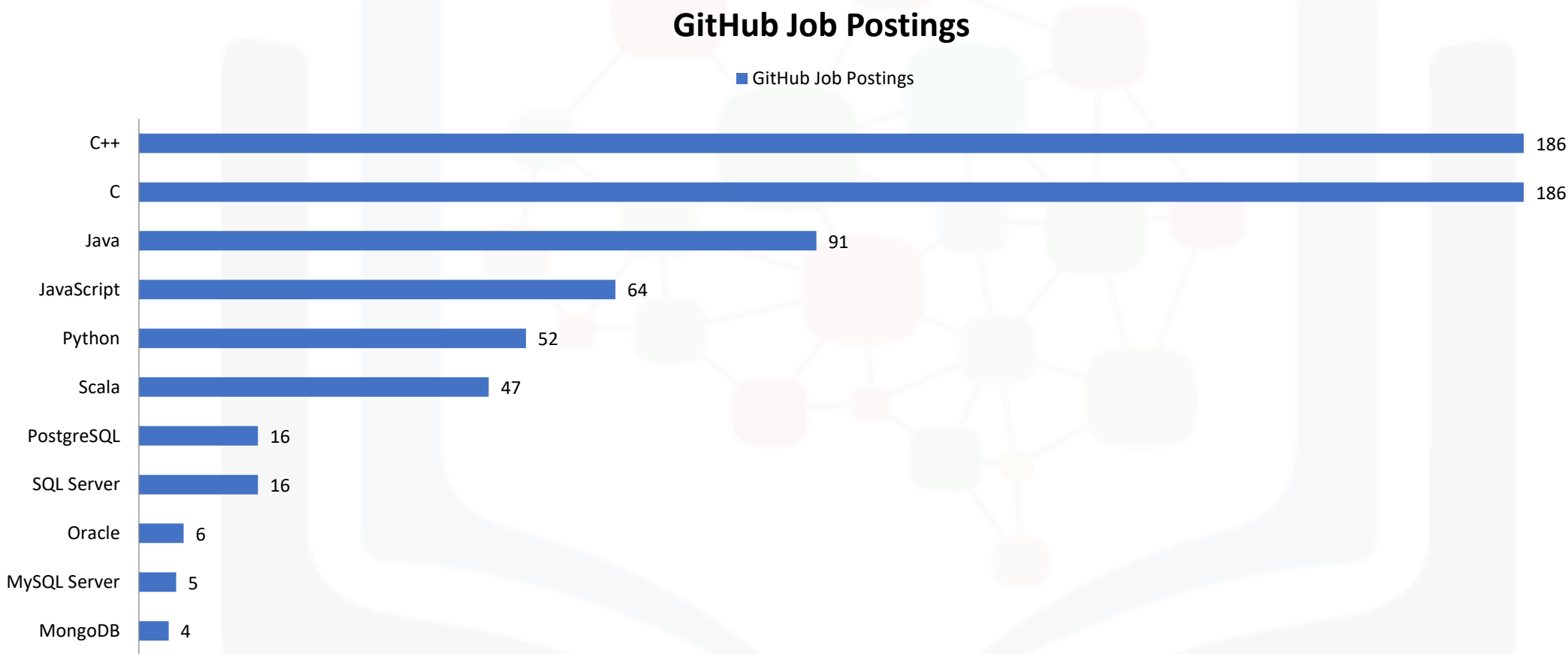
- JavaScript and Python are the trends of programming languages
- PostgreSQL and MongoDB are the trends of databases
- Companies must adapt to trends
- Need to take actions to maintain gender diversity

# APPENDIX

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# GITHUB JOB POSTINGS



# POPULAR LANGUAGES

