



DATA ANALYST CAPSTONE PROJECT

Presented by:

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7/21/2023

OUTLINE



Executive Summary

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

EXECUTIVE SUMMARY



- Programming Languages trends
 - Current
 - Next year
- Database trends
 - Current
 - Next year
- Data Demographics

INTRODUCTION



About:

Analyzing the trends in software development

Purpose:

- Identify skill requirements for future
- What are the top programming languages in demand?
- What are the top database skills in demand?
- What are the popular IDEs

Audience: Human Resource and IT Head

METHODOLOGY



Data sources used for the project analysis:

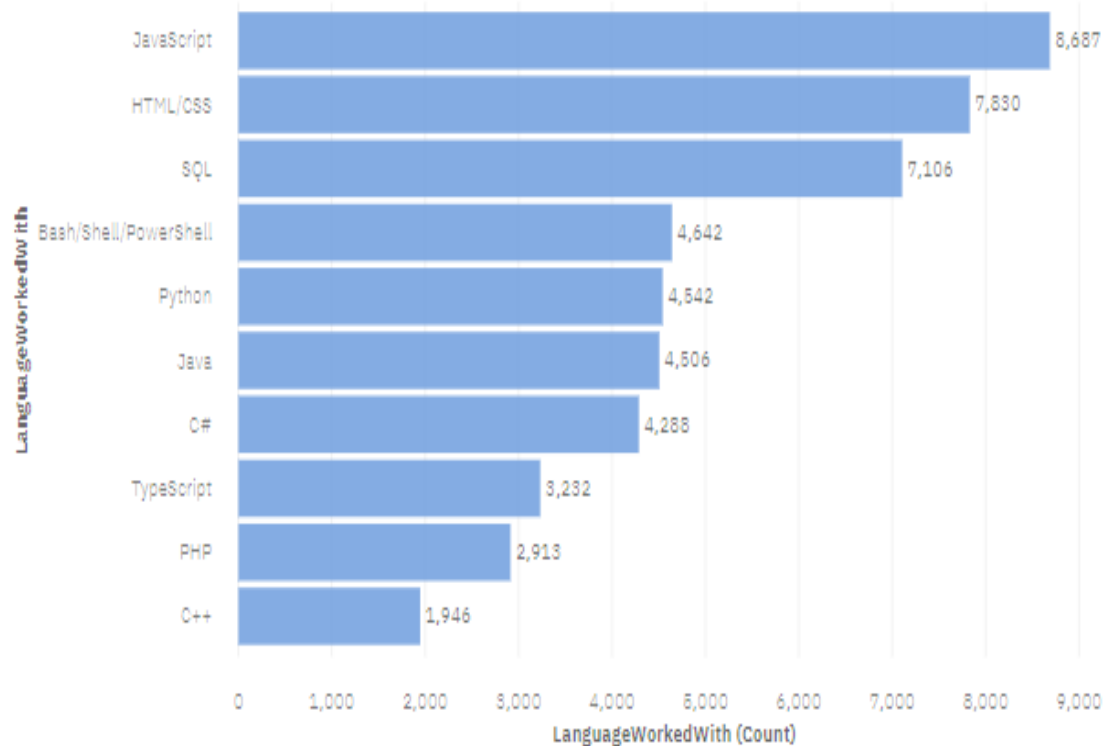
During the analysis, we worked with the Stack Overflow Developer Survey 2019 data which includes two data sources :

- Data technologies normalized
- Data demographics

PROGRAMMING LANGUAGE TRENDS

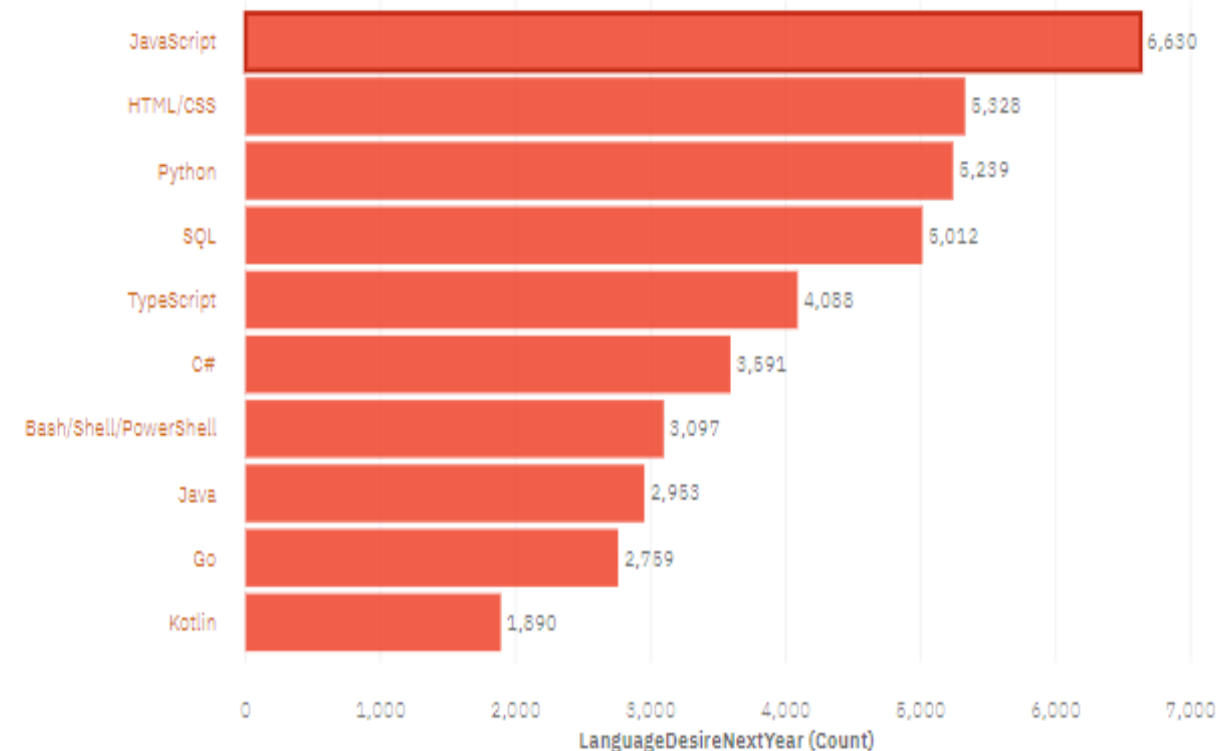
Current Year

Top 10 Language Worked With



Next Year

Top 10 Language Desired Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS

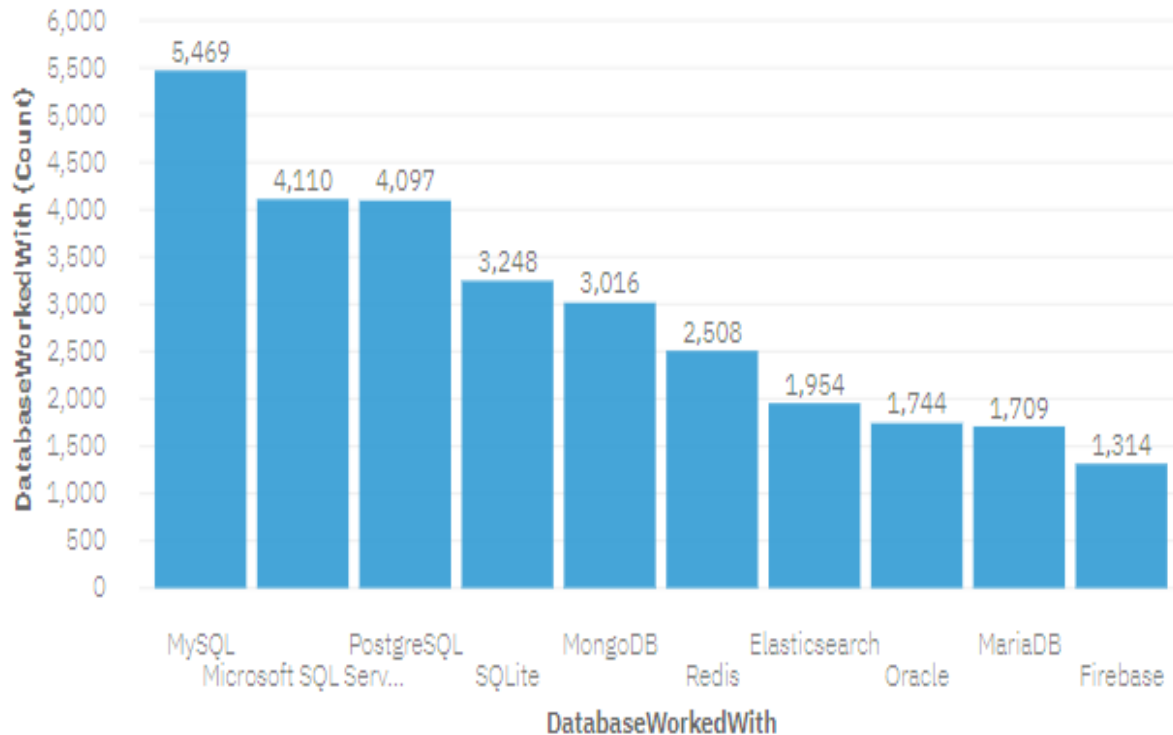
Findings:

- JavaScript, HTML and CSS are the most used programming languages, even in the future
- Web development is the most field worked with in computer science
- Python is becoming more popular than any other language
- C# and TypeScript are two of the most desired languages in the future

DATABASE TRENDS

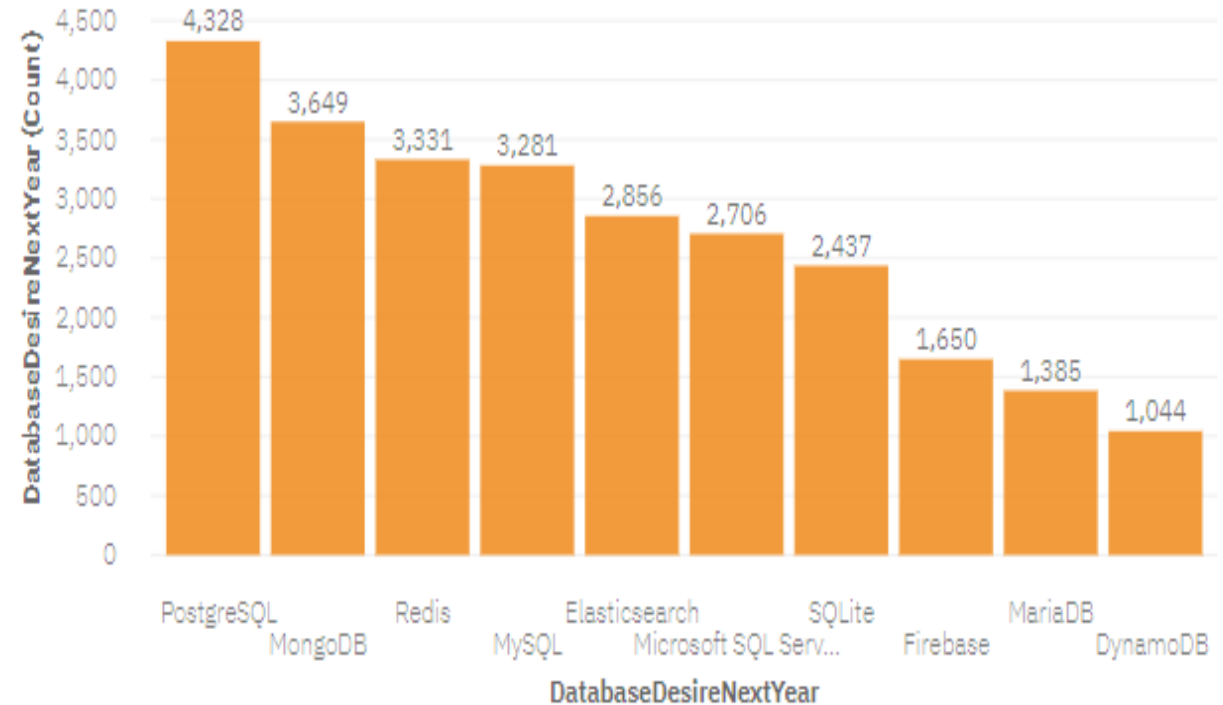
Current Year

Top 10 Database Worked With



Next Year

Top 10 Database Desired Next Year



DATABASE TRENDS - FINDINGS

Findings:

- MySQL and SQL Server are the most used database systems today
- PostgreSQL, MongoDB and Redis are the most desired database systems in the next year
- SQLite is becoming less familiar than before

DASHBOARD

The link to the Cognos Analytics dashboard :

<https://dataplatform.cloud.ibm.com/dashboards/79fad39a-bf8c-46b1-b9d5-a207baa7dbe3/view/631fc936679016c553e8c8e4079a78527c342408bbbb805086847b495a652097f03a1295c8791a5bdc455035fabe160ac1>

DASHBOARD TAB 1

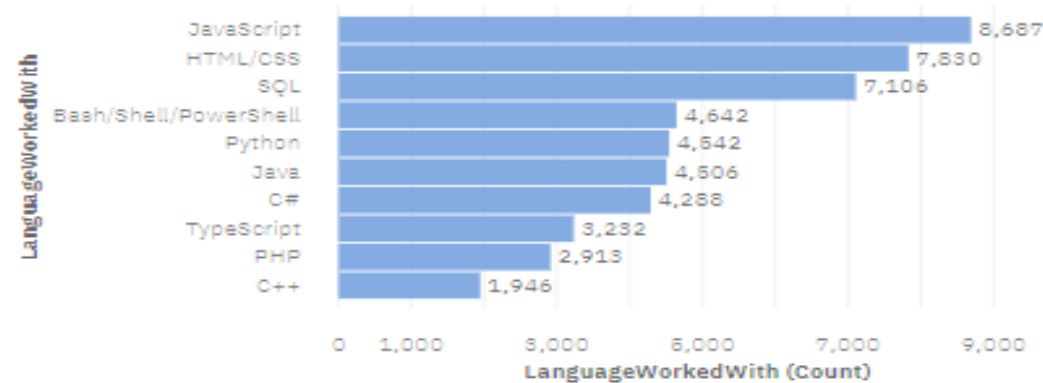
Current Technology Usage

Future Technology Trend

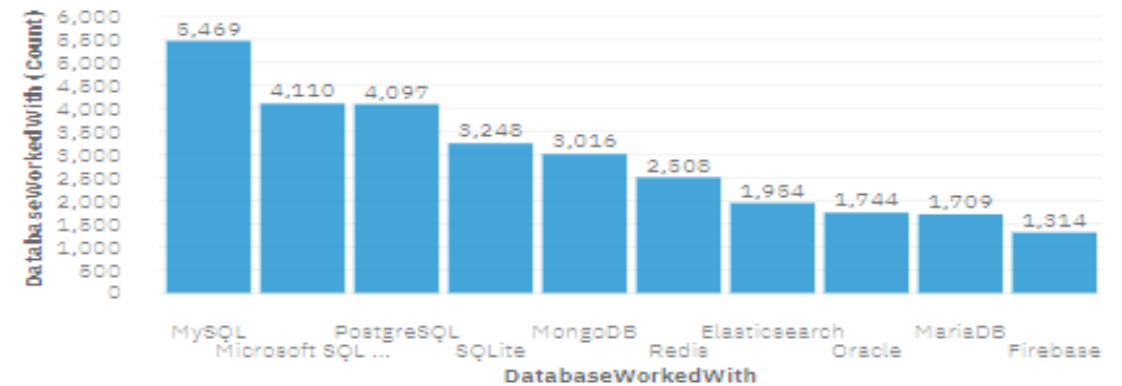
Demographics



Top 10 Language Worked With



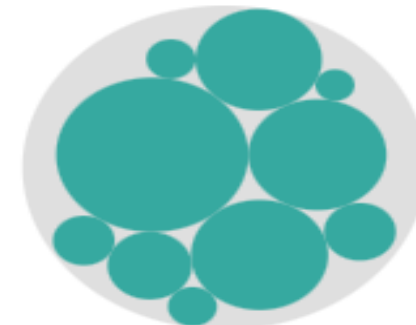
Top 10 Database Worked With



Platforms Worked With

Other(s):
Windows Kubernetes Android
Arduino IBM Cloud or Watson iOS
Linux Google Cloud Platform MacOS
Heroku Microsoft Azure WordPress
AWS Raspberry Pi Docker
Slack (no value)

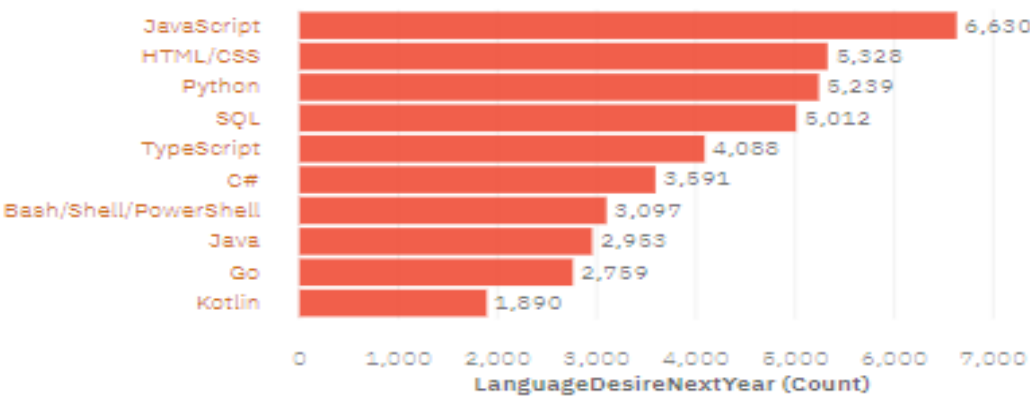
Top 10 Web Frame WorkedWith



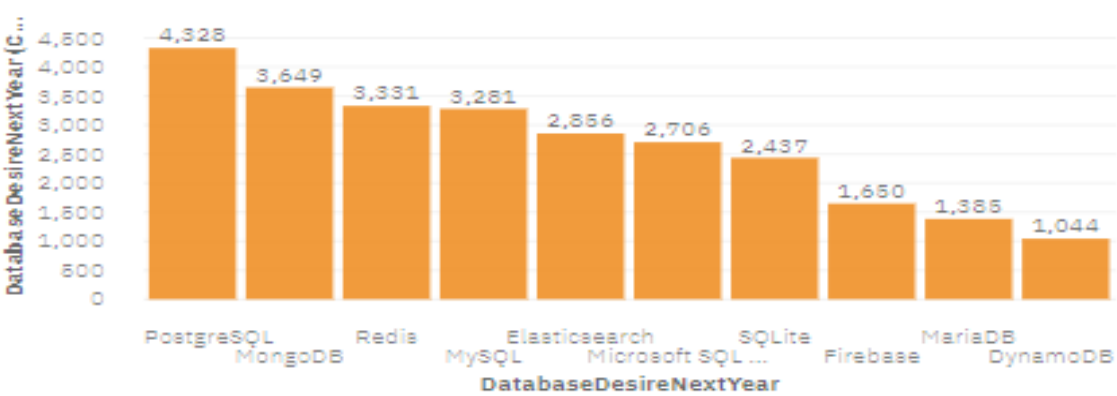
DASHBOARD TAB 2

Current Technology Usage **Future Technology Trend** Demographics +

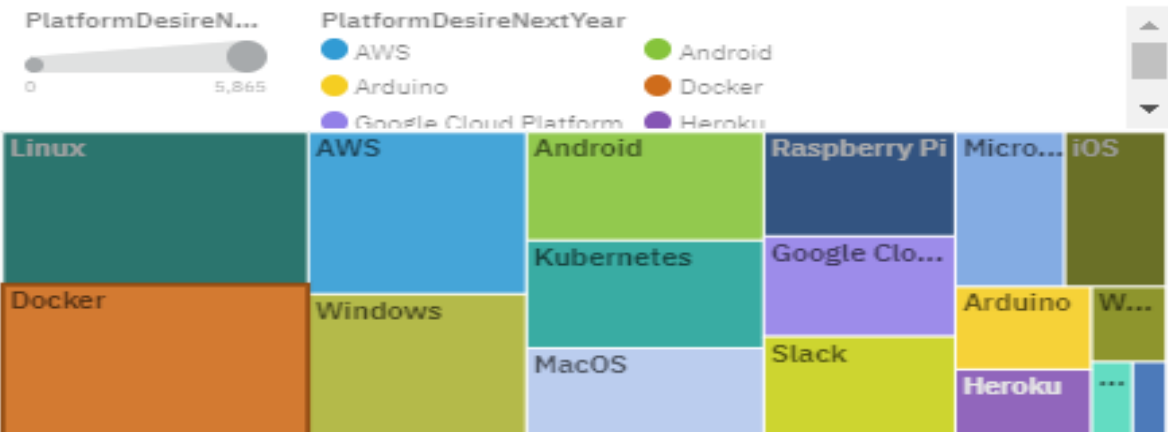
Top 10 Language Desired Next Year



Top 10 Database Desired Next Year



Platforms Desired Next Year



Top 10 WebFrame Desired Next Year



DASHBOARD TAB 3

Current Technology Usage

Future Technology Trend

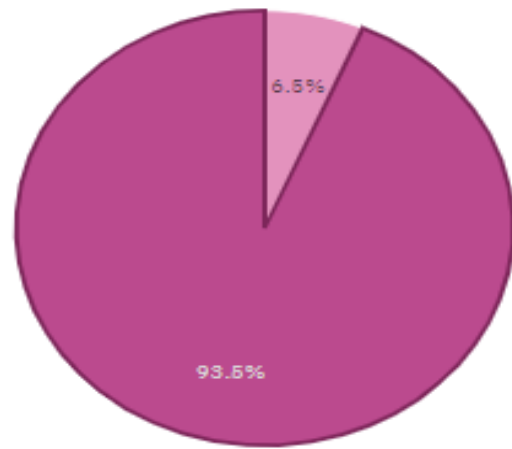
Demographics



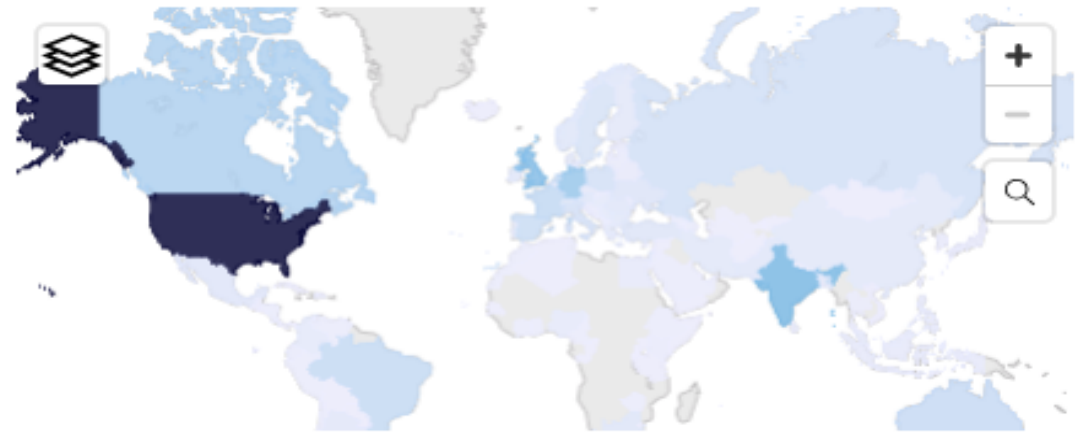
Respondent classified by Gender

Gender

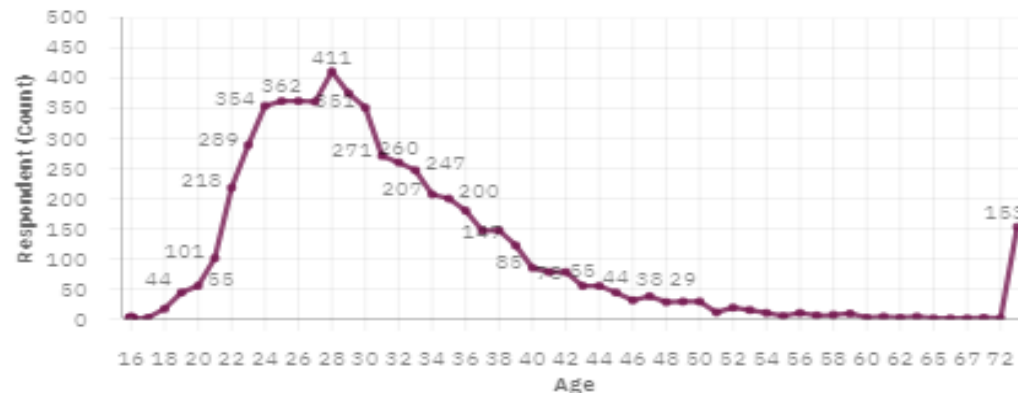
- Wom...
- Man



Respondent Count for Countries



Respondent Count by Age

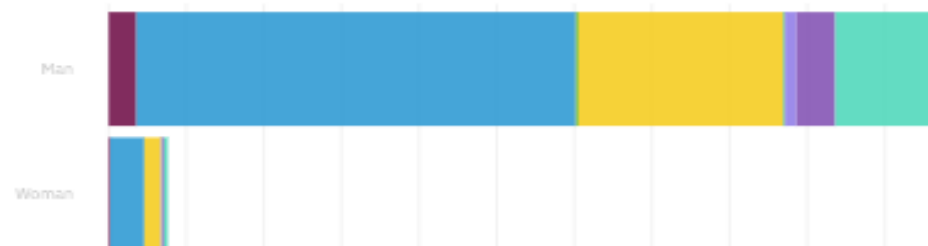


Respondent Count by Gender, classified by Formal Education

Level

EdLevel

- Associate degree
- Bachelor's degree (BA, BS, B.E...)
- I never completed any formal ...
- Master's degree (MA, MS, M.E...



DISCUSSION



- Technology Trends now and future
- Training and Reskilling workers
- Female participation in Technology field
- Bridge divide of technology gaps in developing countries
- Eliminate age and education discrimination in employment

OVERALL FINDINGS & IMPLICATIONS

Findings

- Fast changing technology every year
- Concentration on several countries like USA and India
- Gender gap in technology jobs
- Platforms like Docker and AWS are growing

Implications

- Companies need to be flexible and adjust to rapid changes
- Need to spread technology out to lagging countries
- Impact of job hiring's
- Shift to faster app deployments and cloud services in future

CONCLUSION

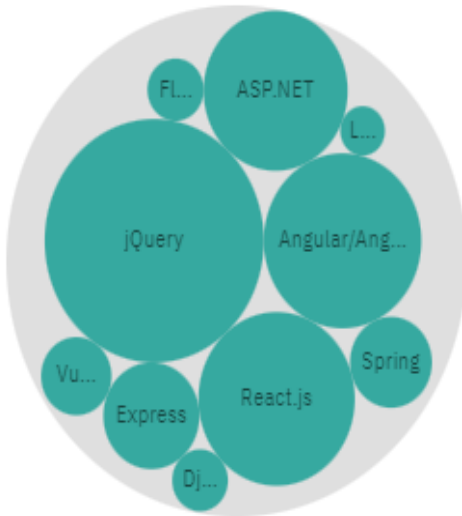


- JavaScript, Python and SQL are the most familiar programming languages for developers
- PostgreSQL and MongoDB are the future database systems for the majority of developers
- Angular, jQuery, React JS and ASP.Net are the most web frames worked with
- React JS, Angular and Vue JS are the most desired web frames next year
- Developers are divided into 93.5% for men and 6.5% for women
- Most of the developers are between 26 and 30 years old

APPENDIX

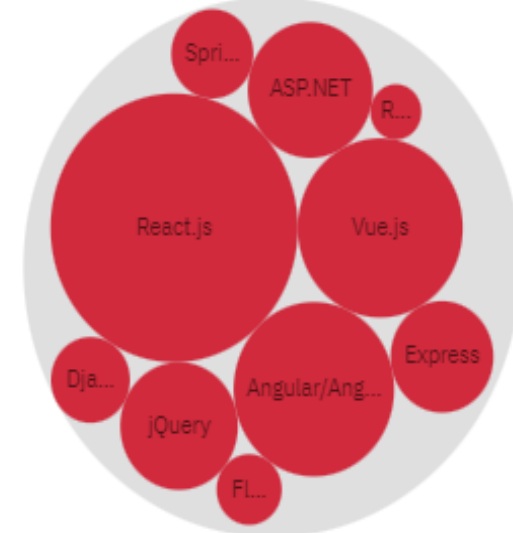
Top 10 Web Frame WorkedWith

WebFrameWorke...
939 4,629

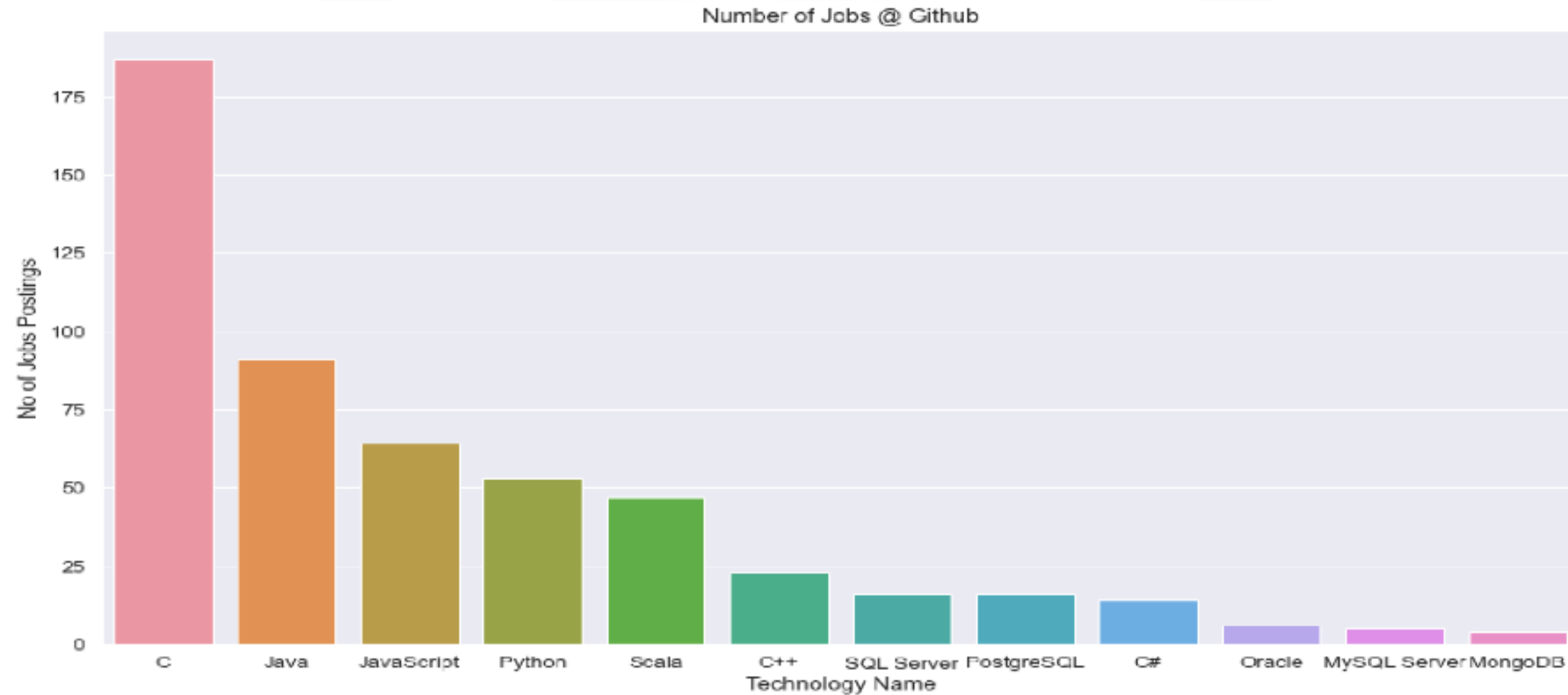


Top 10 WebFrame Desired Next Year

WebFrameDesire...
970 4,714



JOB POSTINGS



POPULAR LANGUAGES

