



Tech Skills Trends

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OUTLINE



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

EXECUTIVE SUMMARY



- Data contextualization and analysis goal
- Methodology description
 - Data gathering
 - Data analysis
 - Data visualizations
- Results presentation supported with graphs and trends
- Discussion of overall findings and implications regarding the results previously exposed
- Final conclusions of the carried-out research

INTRODUCTION



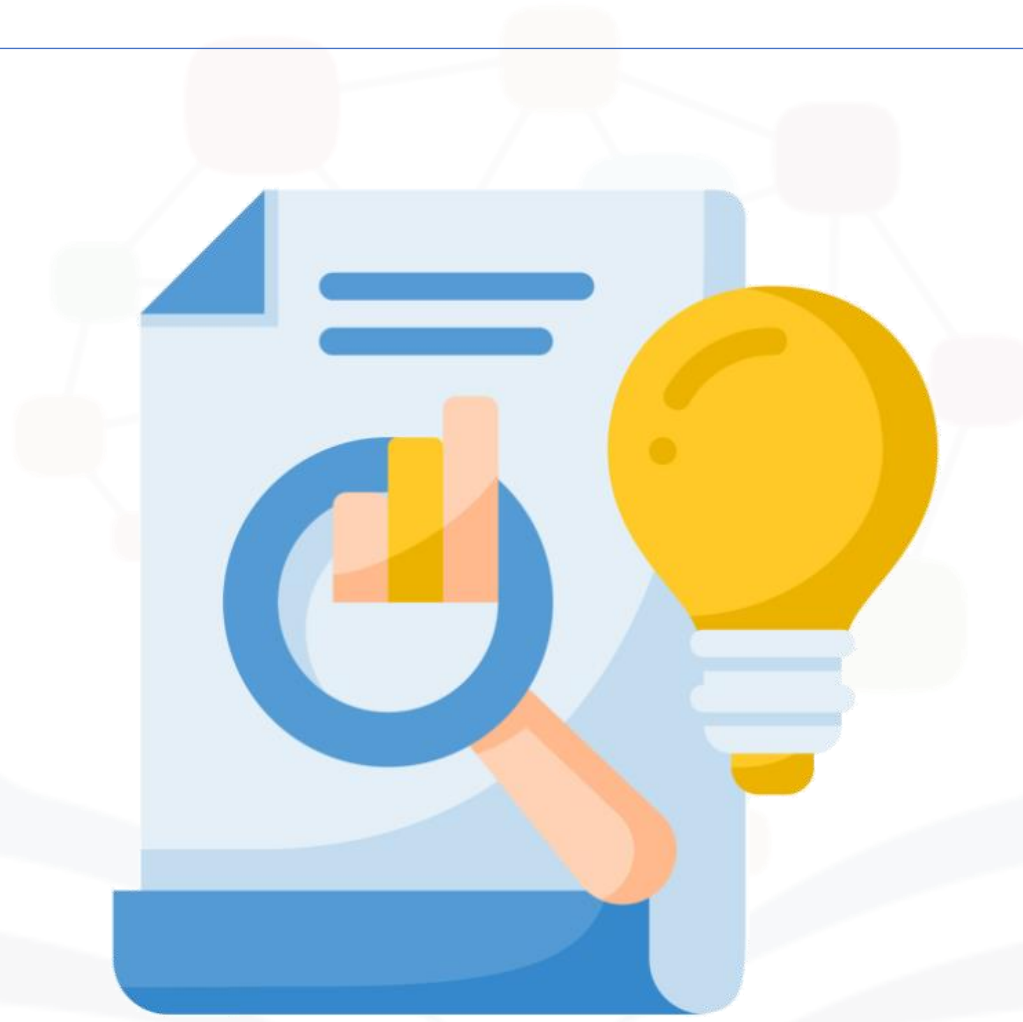
- This presentation is intended to analyze the current in technologies amongst developers. It covers their current technologies, desired technologies, and their demographic analysis.
- The analysis should aid in making data driven decisions on which technologies to invest in with regards to training current developers or in hiring.
- Additionally, it highlights the location of most developers, along with other demographic information to aid in hiring or training.

METHODOLOGY



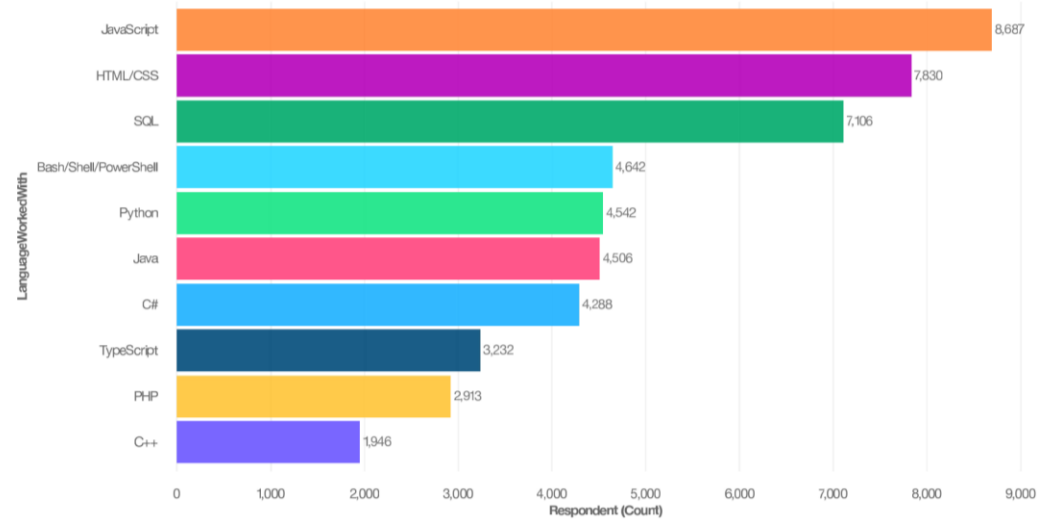
- Datasets
 - GitHub Jobs API
 - Programming Languages and Annual Salary
 - Stack Overflow Developer Survey
- Data Collection Methods
 - APIs and Web scraping
- Data Cleaning
 - Removing duplicated
 - Imputing missing values
 - Normalizing the data
- Data Exploration and Visualization
 - Python
- Dashboard Creation
 - IBM Cognos Dashboard Embedded (CDE)

RESULTS

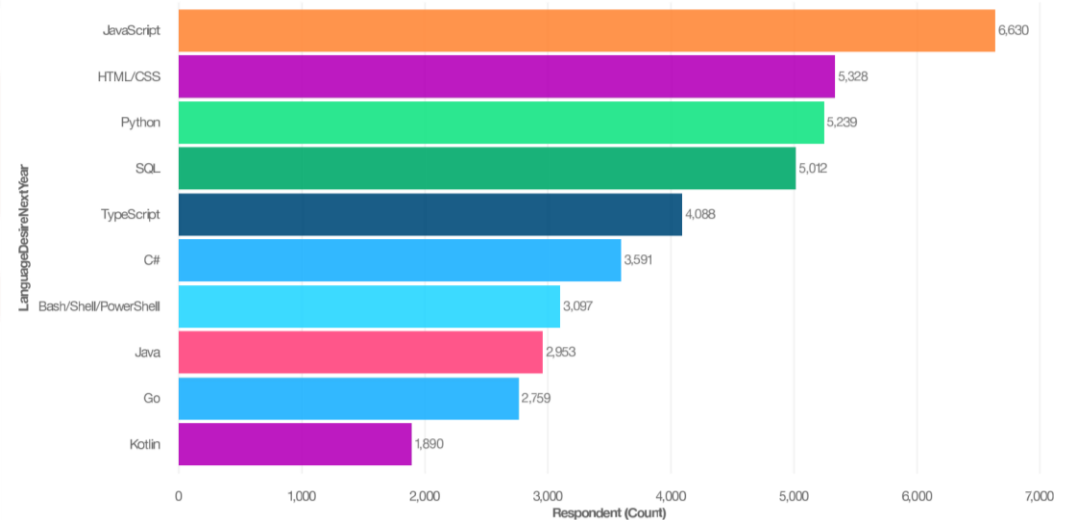


PROGRAMMING LANGUAGE TRENDS (PLT)

Current Year



Next Year



PLT - FINDINGS & IMPLICATIONS

Findings

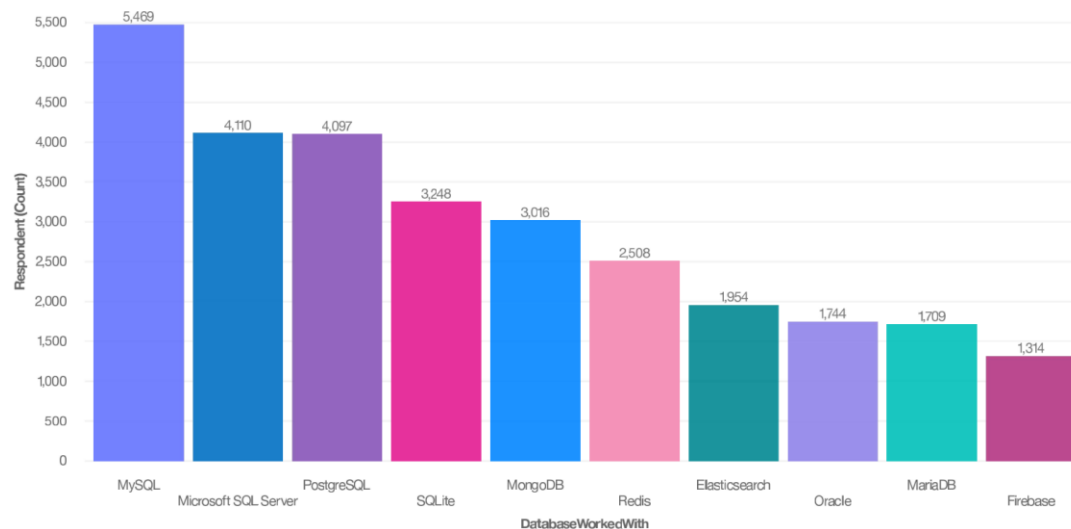
- Web development languages continue to be popular (HTML, CSS and JavaScript)
- Increased popularity in Python indicates a move towards Data Science, AI and ML
- Increased interest in mobile development languages (Kotlin)

Implications

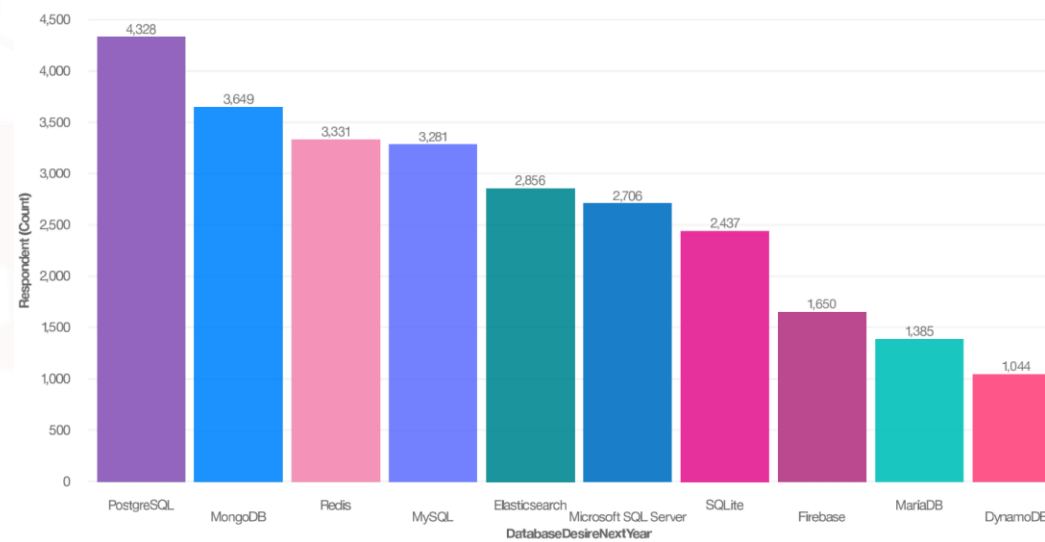
- Continue to employ or train current developers in JavaScript and HTML and CSS
- Invest in Data Science, AI, ML, and mobile development

DATABASE TRENDS (DT)

Current Year



Next Year



DT - FINDINGS & IMPLICATIONS

Findings

- There is significant decrease in interest in MySQL and Microsoft SQL Server
- While there is increased interest in modern databases such as PostgreSQL and MongoDB
- There is no longer any significant interest in Oracle

Implications

- Shift investment from MySQL and Microsoft SQL Server to modern databases such as PostgreSQL, MongoDB and Redis
- It is not necessary to train nor hire developers experienced with Oracle

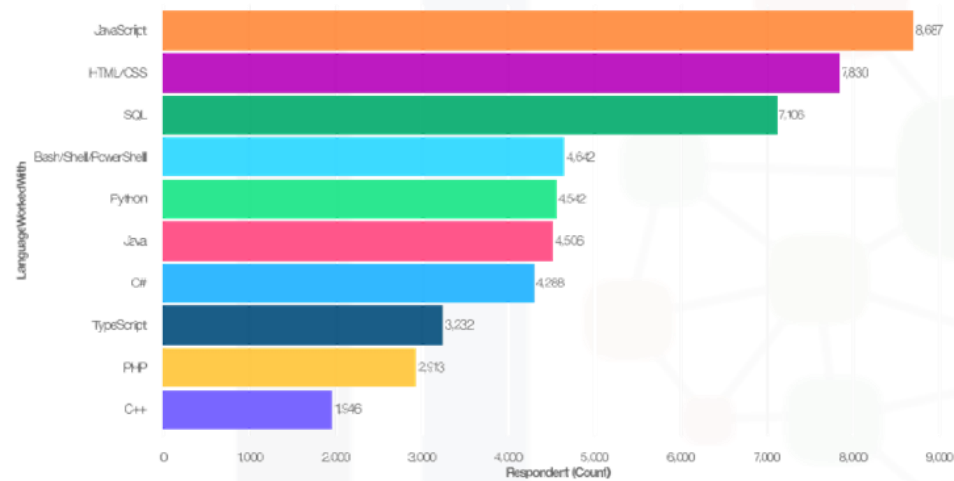
DASHBOARD



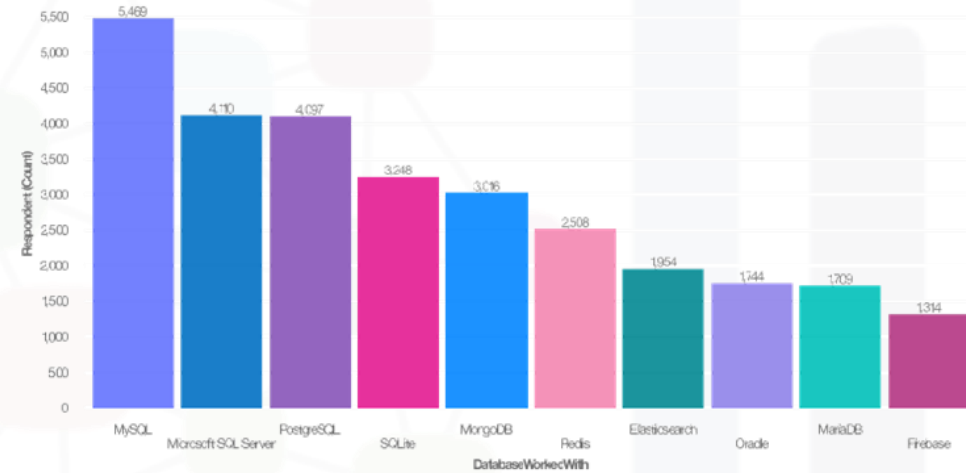
[Click here](#)

DASHBOARD TAB 1

Top 10 Languages Worked With



Top 10 Databases Worked With



Platforms Worked With

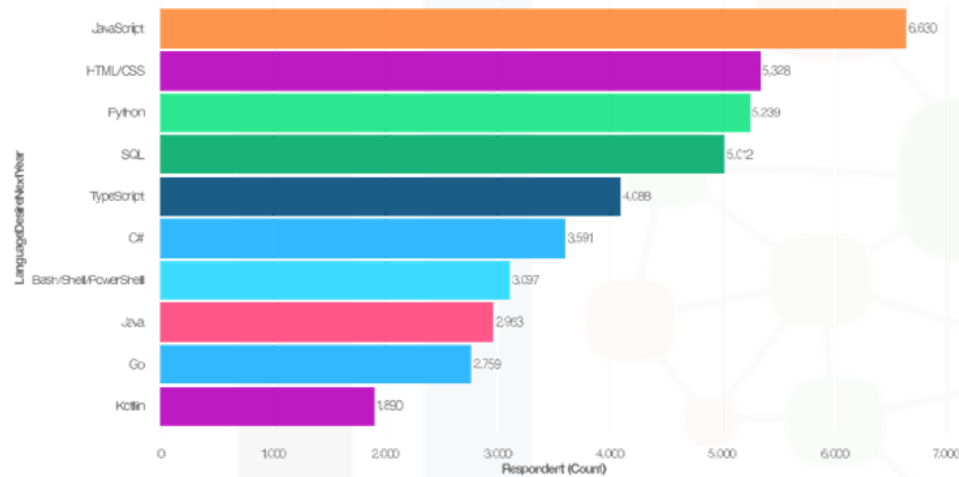


Top 10 Webframes Worked With

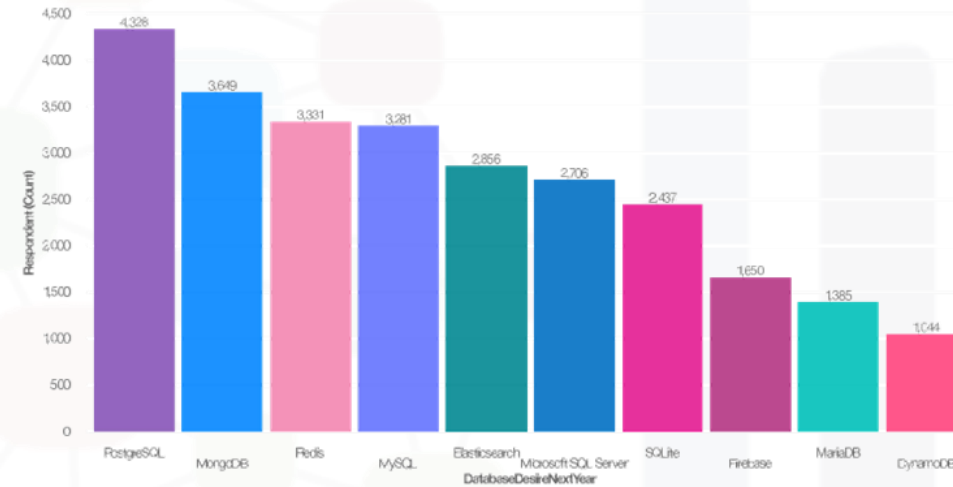


DASHBOARD TAB 2

Top 10 Languages Desired to Work With Next Year



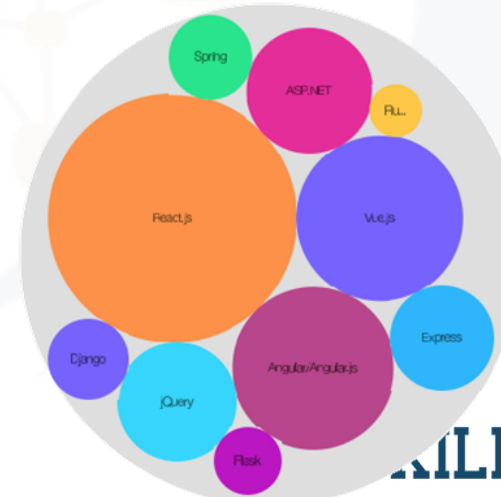
Top 10 Databases Desired to Work With Next Year



Platforms Desired to Work With Next Year



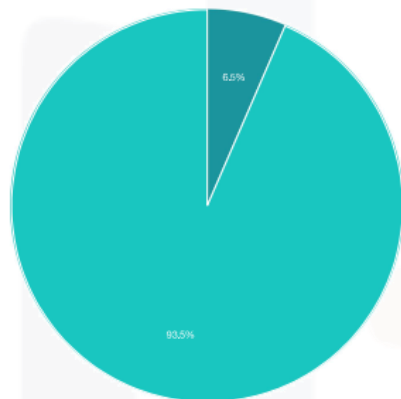
Top 10 Webframes Desired to Work With Next Year



DASHBOARD TAB 3

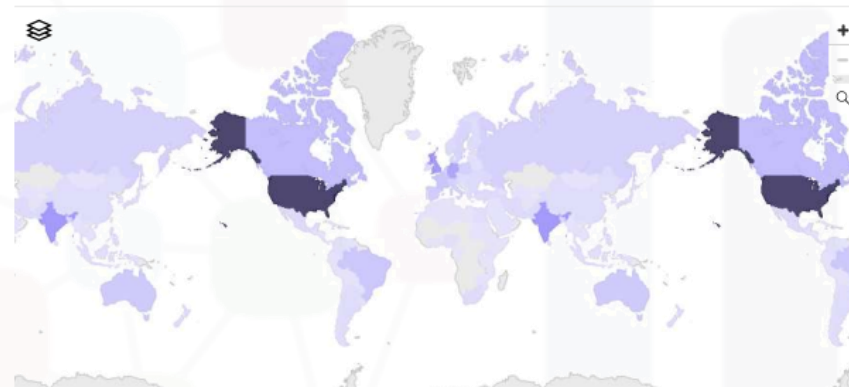
Percentage of Respondents based on Gender

Gender
● Woman ● Man

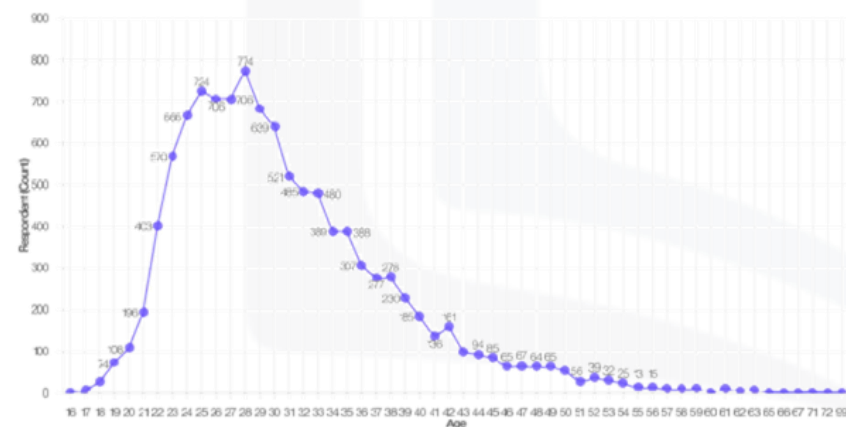


Respondents based on Location

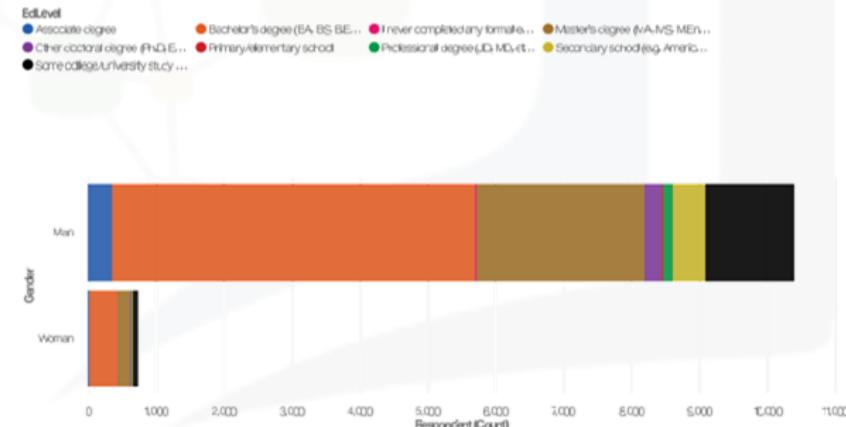
Respondent (Count)
1 3208



Respondents based on Age



Respondents by Gender and Education Level



DISCUSSION

- Technology trends
- Demographics of developers

OVERALL FINDINGS & IMPLICATIONS

Findings

- There is a huge gender disparity among developers (6.5% women x 93.5% men)
- USA and India concentrate most of developer talents
- Web development languages keep their popularity, along with Data Science, Big Data, AI and ML languages

Implications

- Companies not primarily located in USA and India would have to consider outsourcing dev talent or investing in training local talent
- Intentional investments need to be made to get more women involved in software development
- Investments in web development should be increased to follow the increasing use of data

CONCLUSION



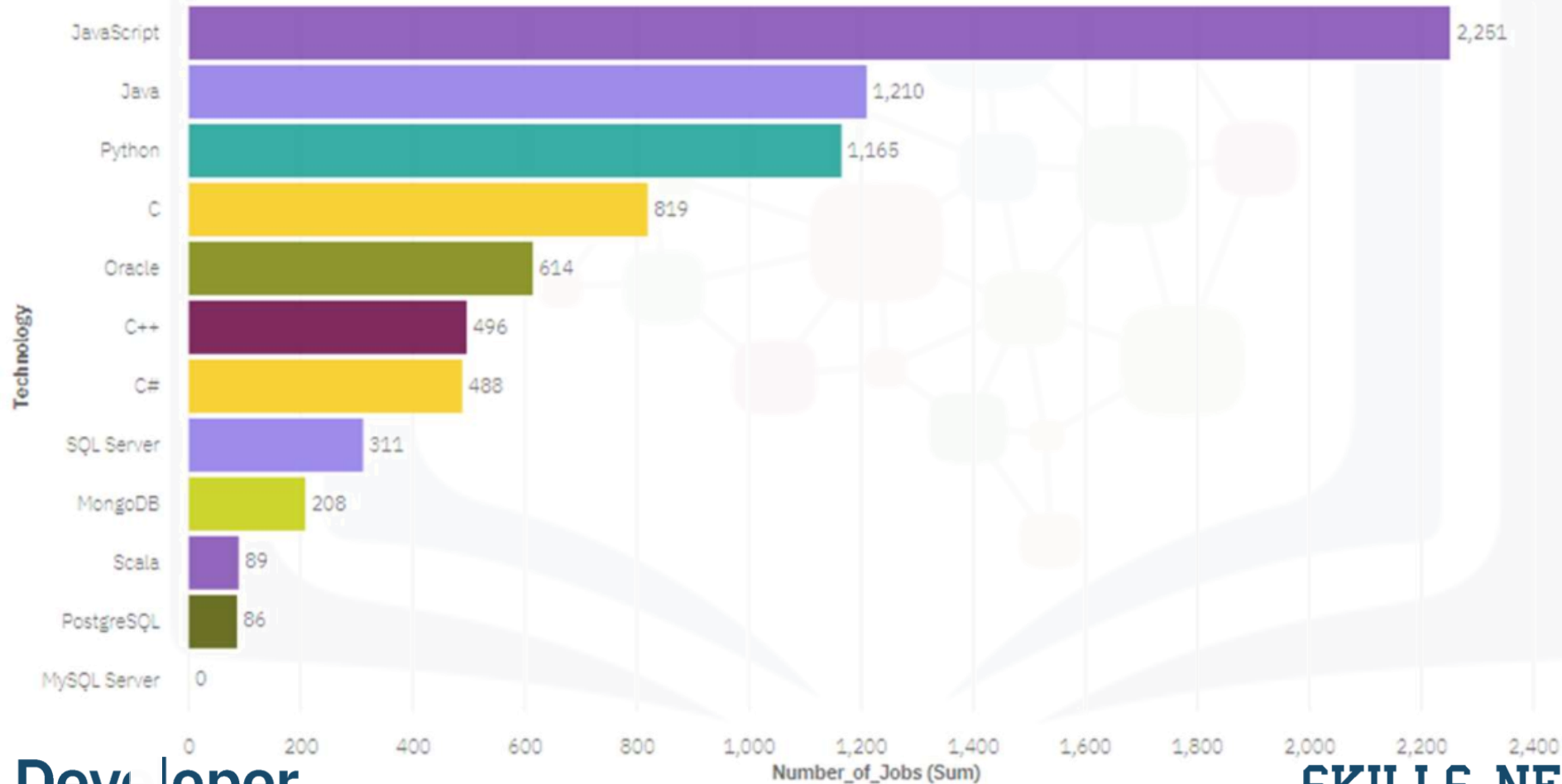
- Invest in local developer talent or outsource developers if located out of the US / India
- Get more women into the tech and software development space
- Data-driven decision making
- Continued focus on web development

APPENDIX



JOB POSTINGS

Number of Job Postings for each Technology



POPULAR LANGUAGES

Average Annual Salary based on Language

