

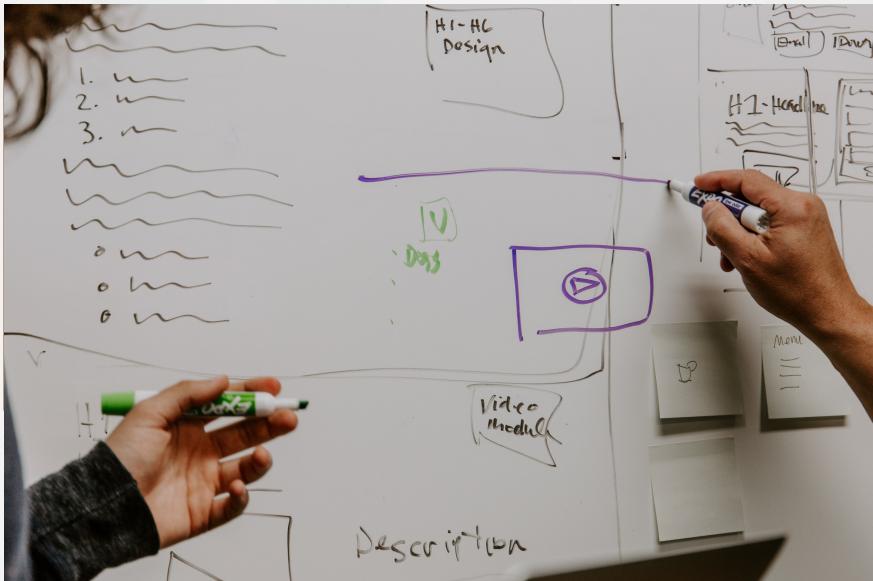


TECHNOLOGY TREND ANALYSIS

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OUTLINE



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

EXECUTIVE SUMMARY



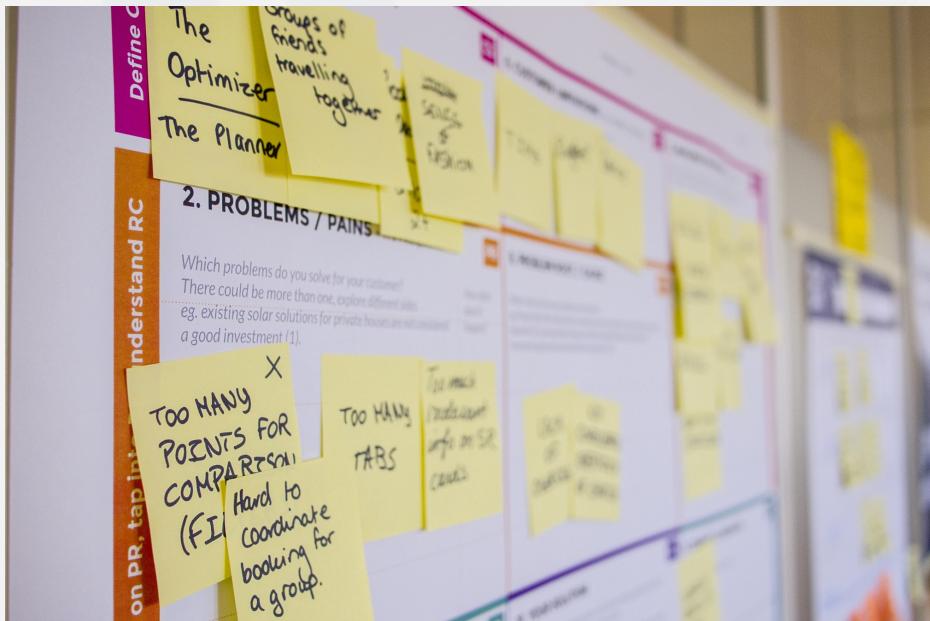
- Current Technology Usage Trend
 - Language
 - Database
 - Platform
 - Web frame
- Future Technology Trend
 - Language
 - Database
 - Platform
 - Web frame
- Demographics Survey
- Country & Gender Difference

INTRODUCTION



- Analyze technology trend in software and web development among developers around the world
- Purpose of this Analysis
 - Identify the top programming languages, database, platform and web frame skills in demand
 - Identify skill requirements for future
 - Identify human resource gap in the industry
- Audience for this Presentation
 - Programmers
 - IT industry leaders
 - Computer science students

METHODOLOGY



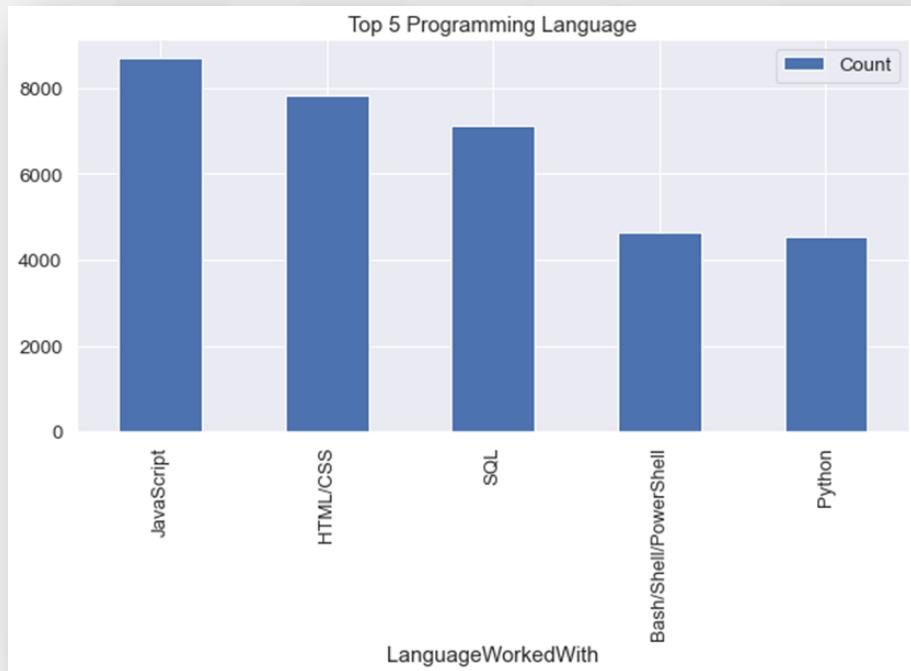
- Data Collection (Sources)
 - Stack overflow developer 2019 survey
 - GitHub job postings
 - Programming languages annual salary
- Data Wrangling
- Data Exploration
- Data Cleaning
- Data Visualization
 - Python matplotlib & seaborn
 - IBM Cognos
- Presentation

RESULTS

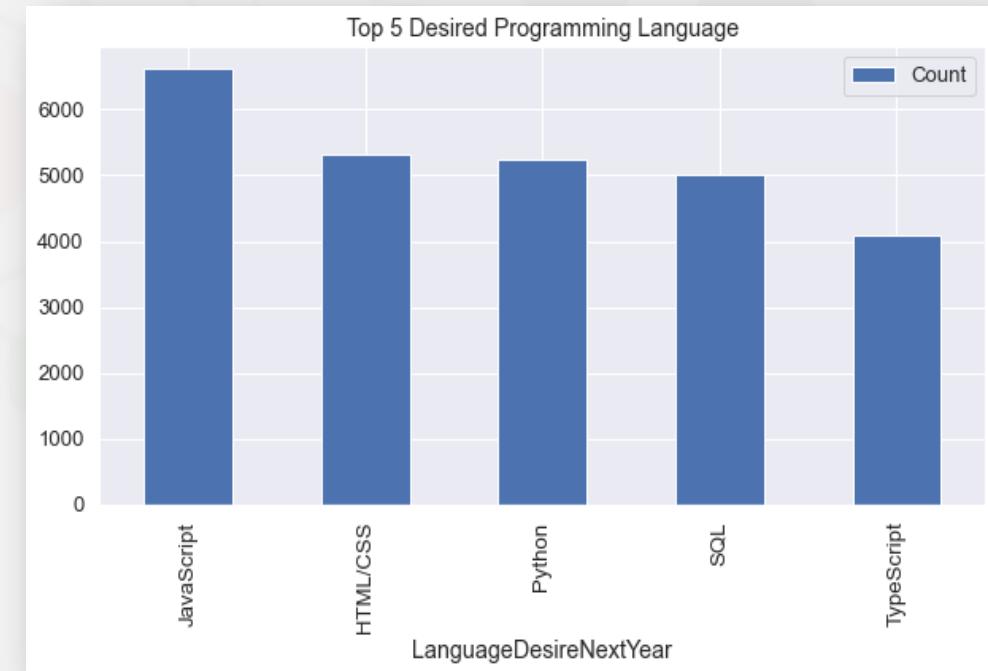
Respondent	LanguageWorkedWith	LanguageDesireNextYear	DatabaseWorkedWith	DatabaseDesireNextYear	PlatformWorkedWith
0	4	C	C	MySQL	MySQL
1	4	C++	C#	SQLite	SQLite
2	4	C#	JavaScript	NaN	NaN
3	4	Python	SQL	NaN	NaN
4	4	SQL	NaN	NaN	NaN
...
74584	25142	Go	Python	NaN	NaN
74585	25142	HTML/CSS	R	NaN	NaN
74586	25142	PHP	NaN	NaN	NaN
74587	25142	Python	NaN	NaN	NaN
74588	25142	R	NaN	NaN	NaN

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

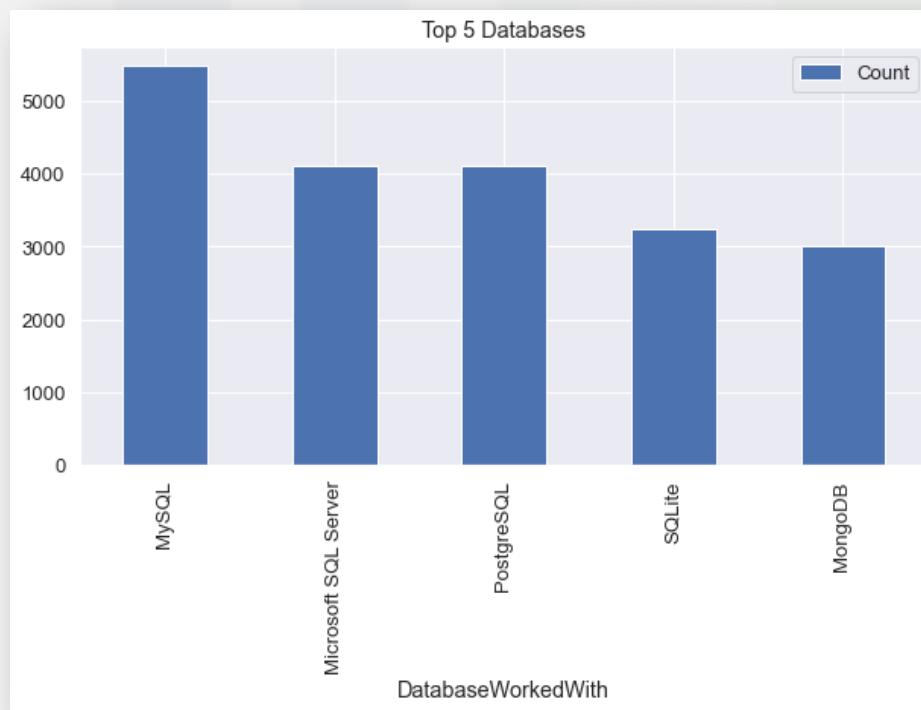
- JavaScript is top trending language in the world
- Python and TypeScript are becoming more and more popular
- HTML/CSS and SQL still has great portion in language usage trend

Implications

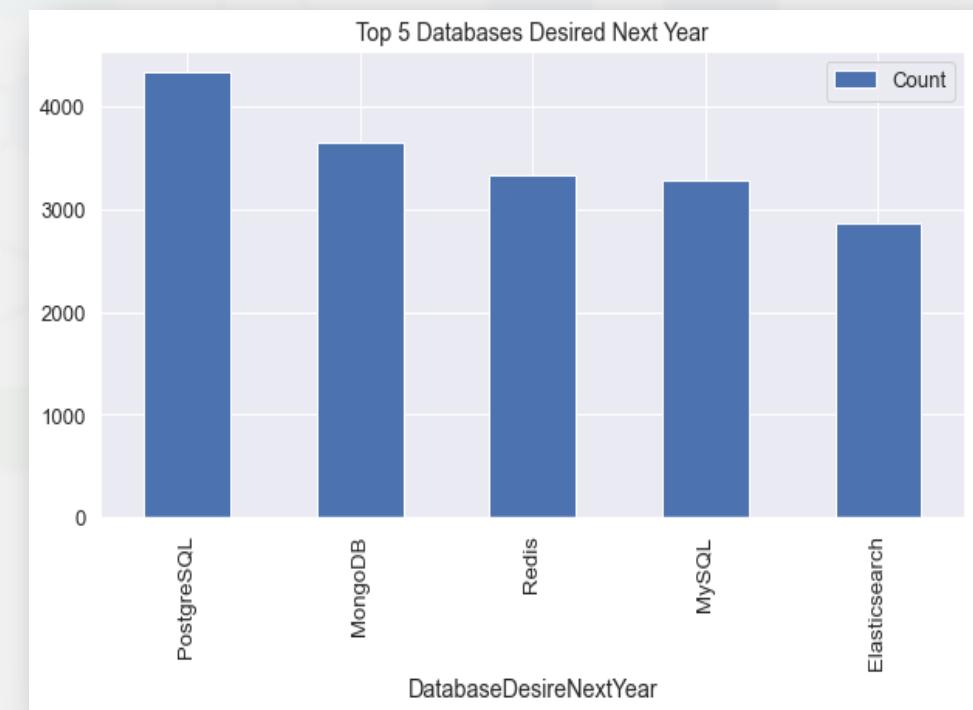
- Web developments and Web developers are still in high demands
- JavaScript and TypeScript are crucial to learn for developers
- Python is the new trending language, especially popular in AI fields

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL is the most popular database
- There are still a lot of companies using Microsoft SQL Server
- MongoDB and Redis are the most favorable NoSQL database

Implications

- Open-source databases like MySQL are still preferable
- Software development and Big Data technology still requires SQL
- NoSQL databases will make an impact for relational databases

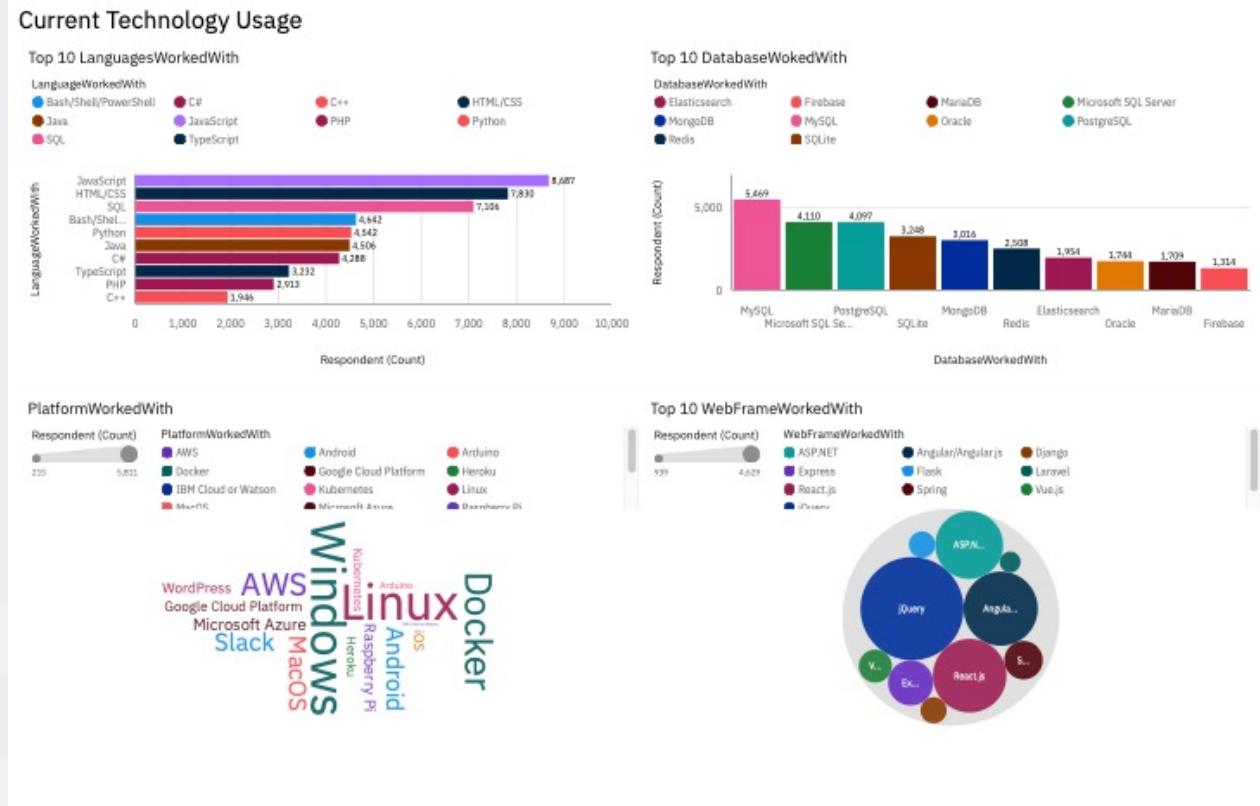
DASHBOARD



The permanent link of the read-only view of the Cognos dashboard:

https://sal.ca.analytics.ibm.com/bi/?perspective=dashboard&pathRef=.my_folders%2FPeer-Graded%2BAssignment%2BDashboard&action=view&mode=dashboard&subView=model0000018c4584b879_00000003

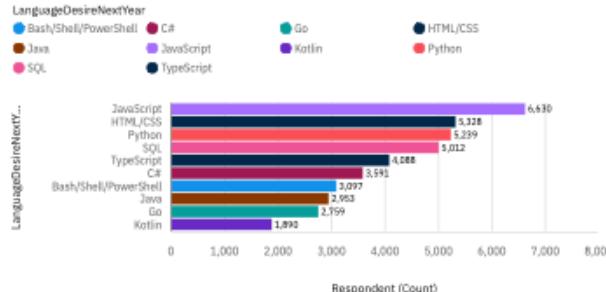
CURRENT TECHNOLOGY USAGE



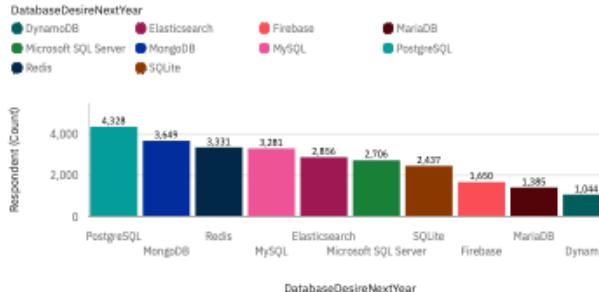
FUTURE TECHNOLOGY TREND

Future Technology Trend

Top 10 LanguageDesireNextYear



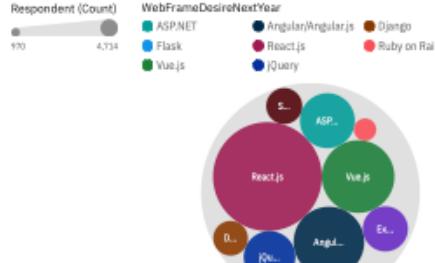
Top 10 DatabaseDesireNextYear



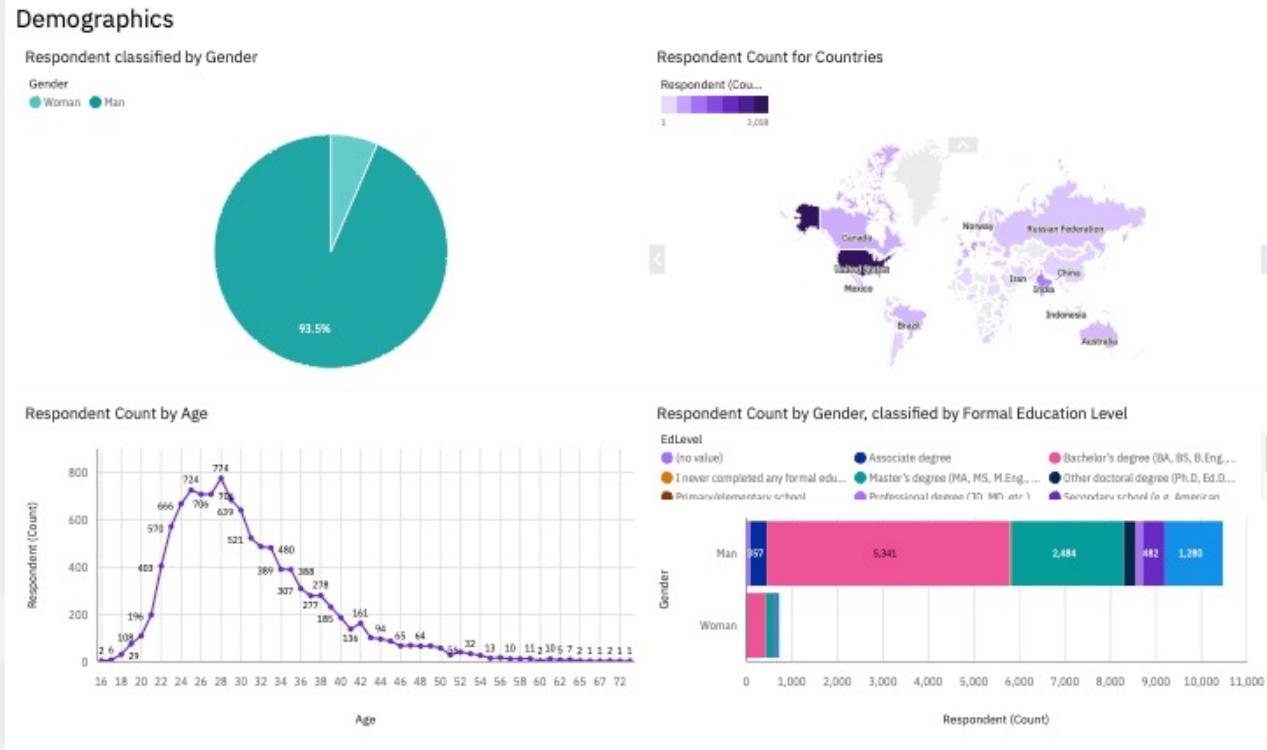
PlatformDesireNextYear



Top 10 WebFrameDesireNextYear



DEMOGRAPHICS



DISCUSSION



- Technology Usage Trend Now and Future
- Gender, Age and Education Discrimination in IT Industry

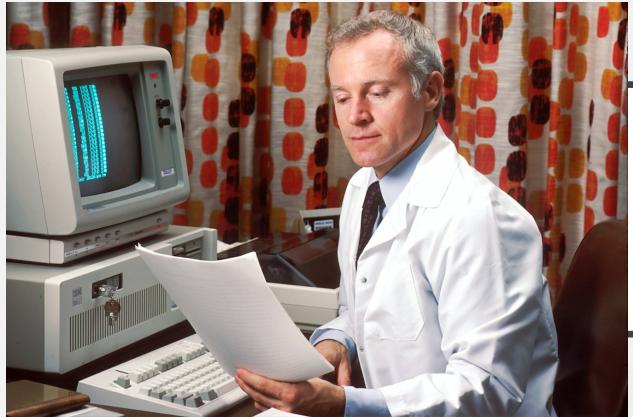
OVERALL FINDINGS & IMPLICATIONS

Findings

- Technology trends changes every year
- USA is the top technology country
- There are extreme gender and age discrimination
- Docker and AWS are the most popular platform

Implications

- Programmers should always follow the latest technology trends
- More countries should have the equal chance to be exposed to new technology
- Gender and Age should not be one of the concerns or benefits of Employment



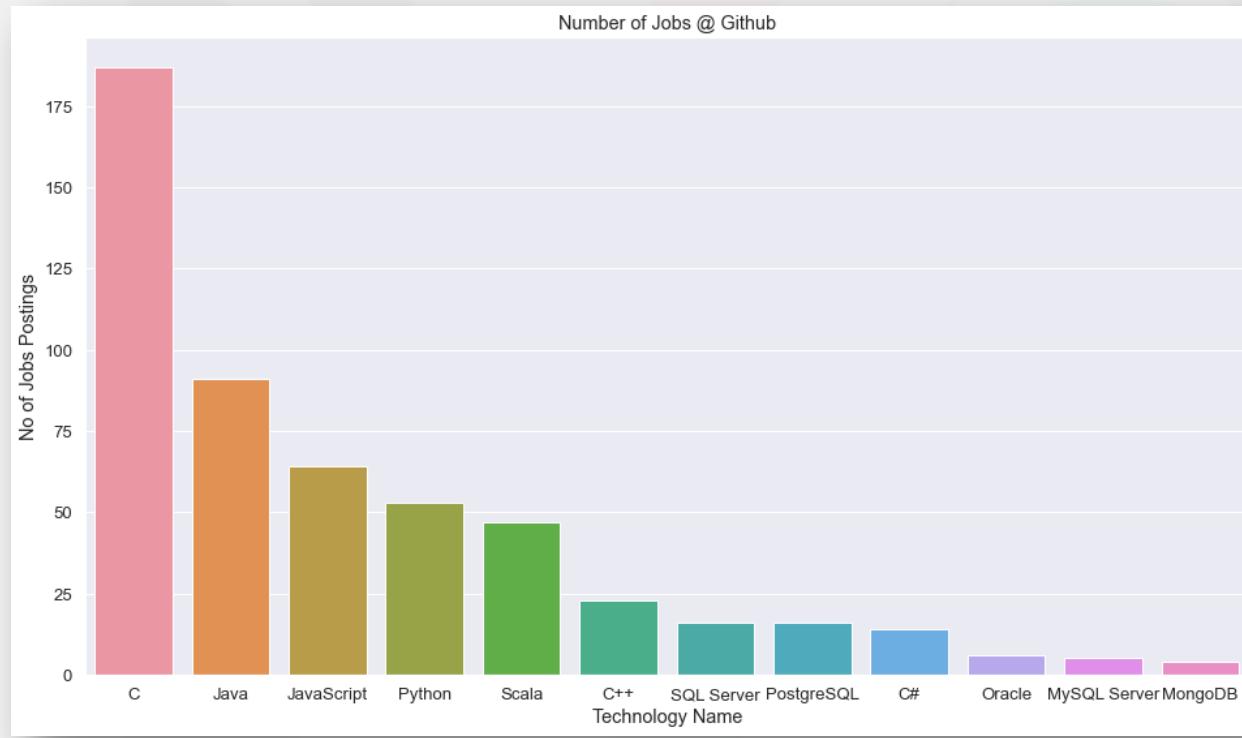
CONCLUSION

- Continuous adaptation to evolving technology trends is crucial for professionals in the field.
- Global efforts should focus on fostering technological advancements beyond geographical boundaries.
- Promoting diversity and combating discrimination based on gender and age is essential for a fair and inclusive workforce.
- Acknowledging and leveraging popular platforms like Docker and AWS can contribute to technological progress.
- Overall, a commitment to staying current, promoting inclusivity, and embracing technology fosters a more robust and equitable future in the tech industry.

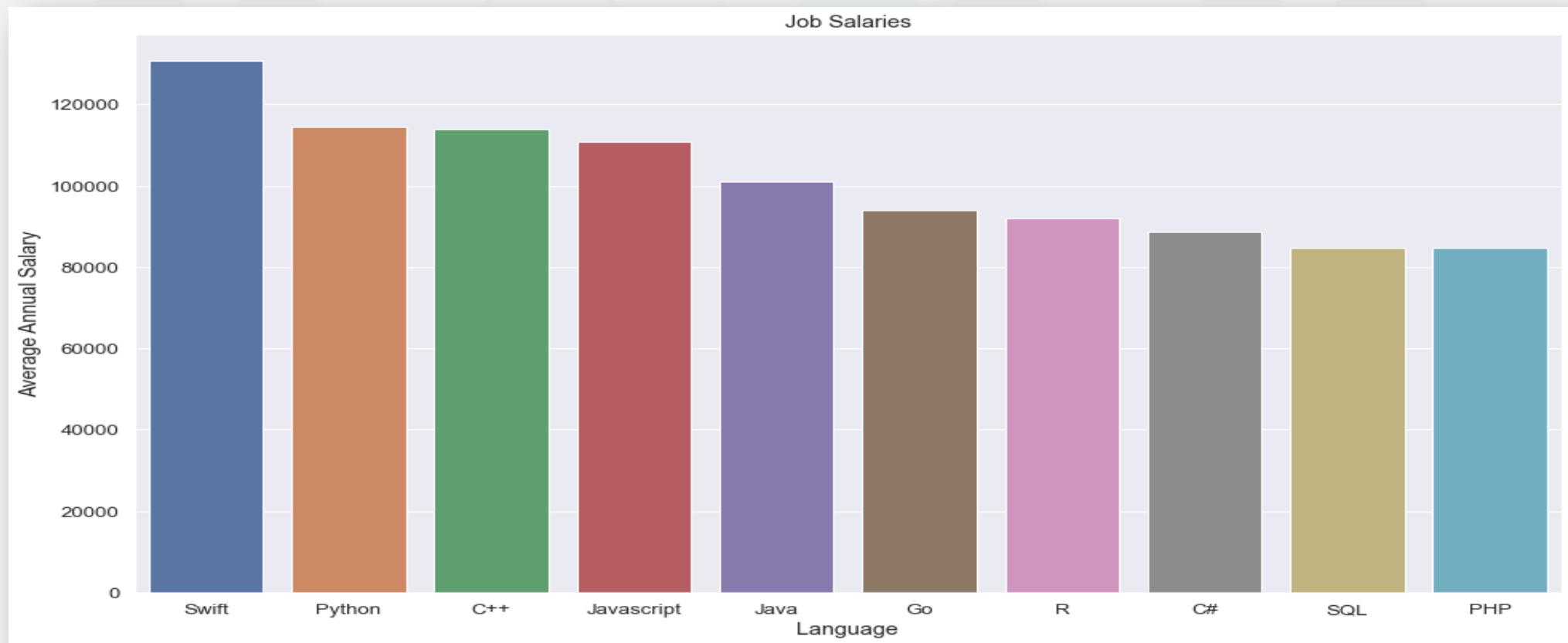
APPENDIX



GITHUB JOB POSTINGS



POPULAR LANGUAGES



ADDITIONAL VISUALS

