



Technology Languages and Database analysis and Trends

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OUTLINE



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

EXECUTIVE SUMMARY



- Trends in programming languages and databases
- Demographics survey
- Tech gaps in countries
- Gender gap in jobs

INTRODUCTION



- About: Analyzing the trends in software development
- Purpose:
 - Identify skill requirements for the 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 Collection Sources
 - Stack Overflow Developer 2019 Survey
 - GitHub Job Postings
 - Programming Languages Annual Salary
- Data Exploration
- Data Cleaning
- Data Visualization
- Presentation

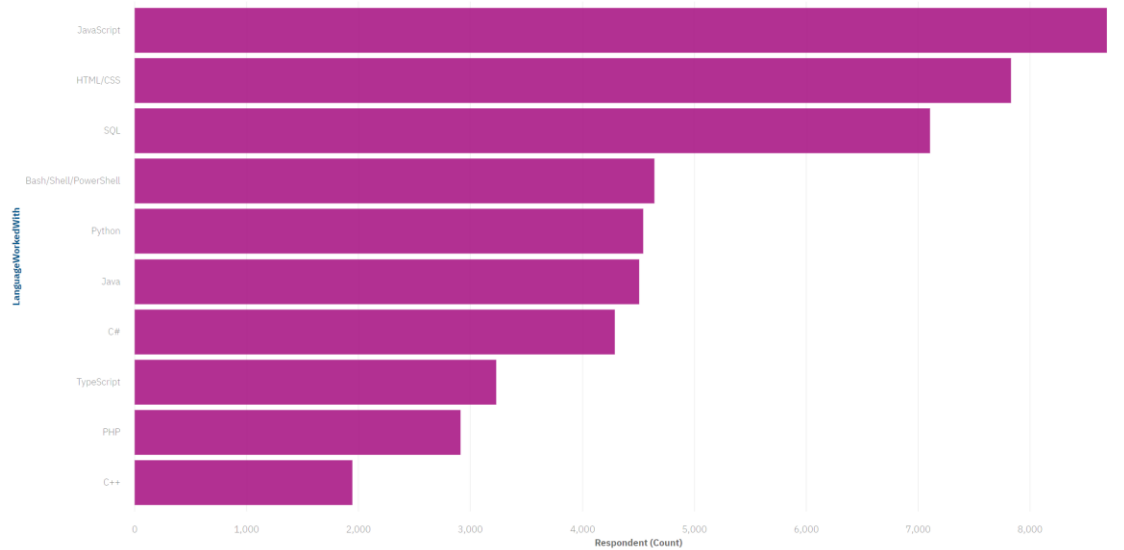
RESULTS

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

PROGRAMMING LANGUAGE TRENDS

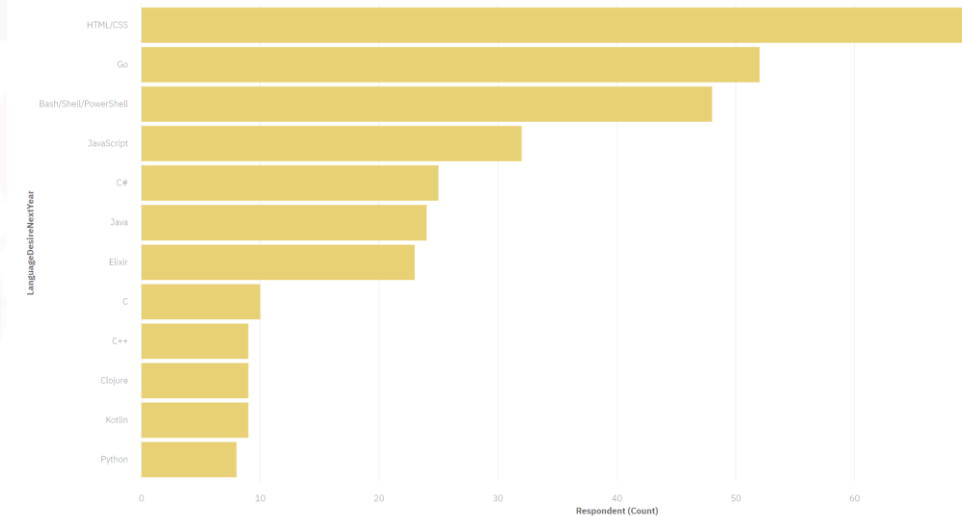
Current Year

Top 10 Language Worked With



Next Year

Top 10 Language Desire Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript, HTML/CSS, SQL are top 3 this year
- HTML and Go are becoming popular next year

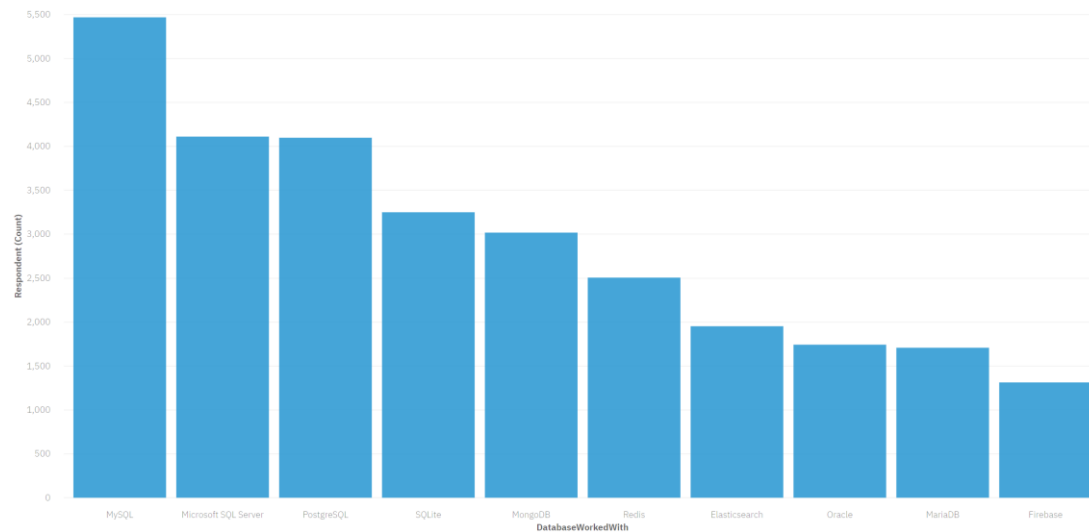
Implications

- Web development are still in high demand
- Big Data technology in companies still requires SQL
- With AI and ML in rising demand, Python is best choice

DATABASE TRENDS

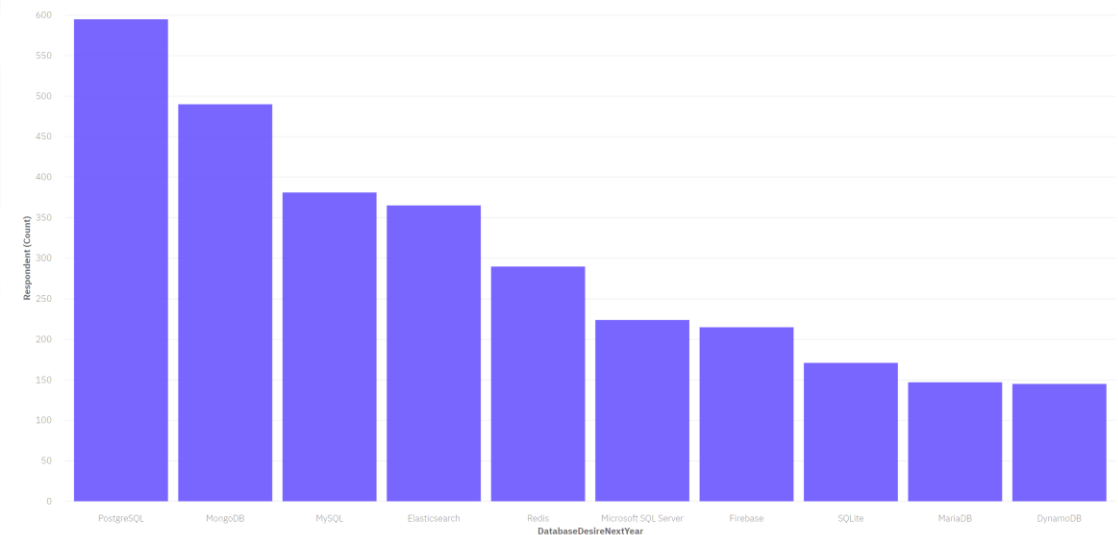
Current Year

Top 10 Database Worked With



Next Year

Top 10 Database Desire Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL most popular
- Behind is Microsoft SQL
- MongoDB and Redis are upcoming favorites
- New kid on the block: Elasticsearch

Implications

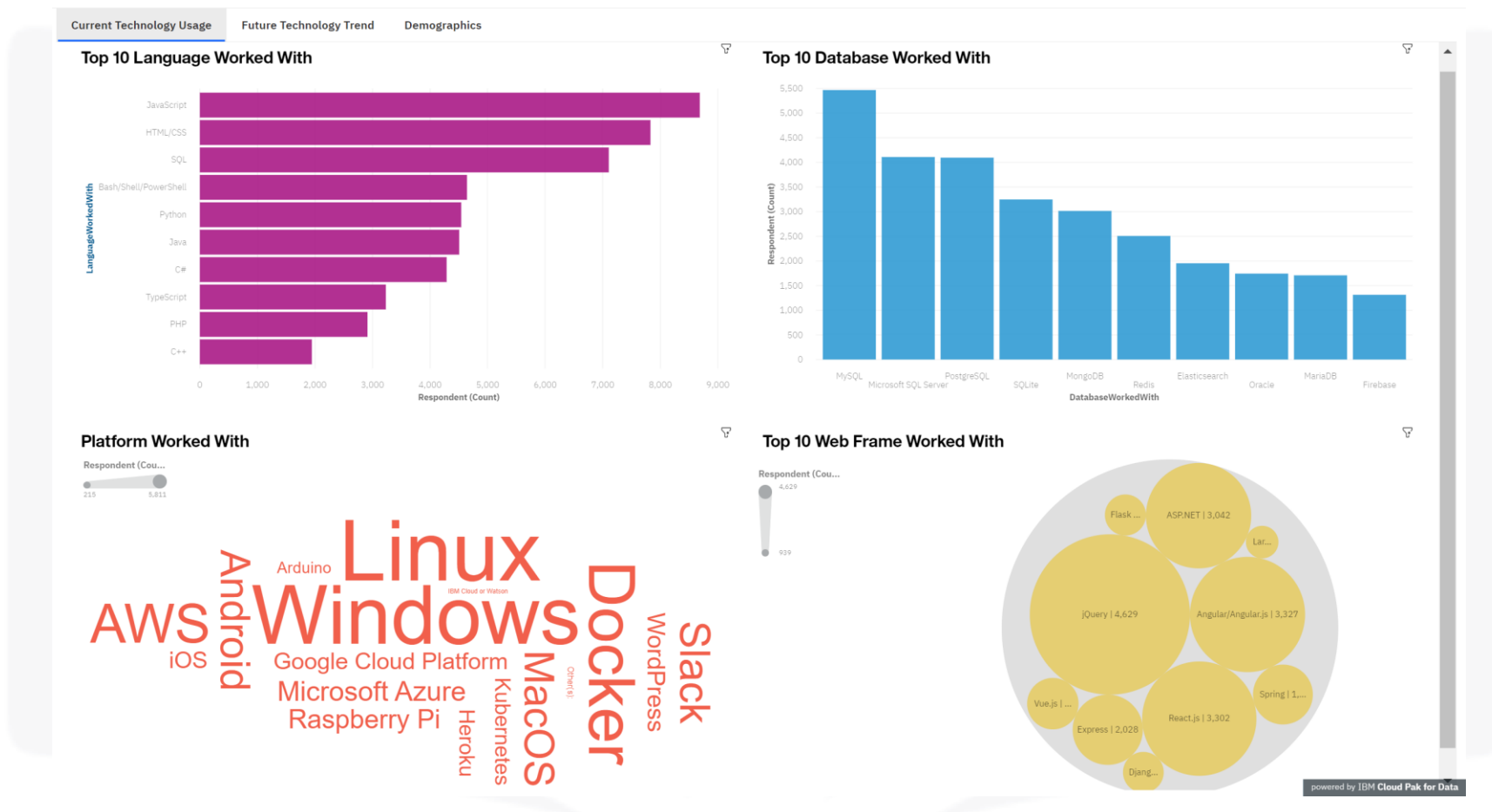
- Open-source databases are still preferable in companies
- NoSQL databases will make an impact for storing non-relational data
- Redis supports abstract data types
- Pre-tuned search to website, app, or ecommerce store

DASHBOARD



<https://dataplatform.cloud.ibm.com/dashboards/189ac0c8-a2b6-4bf0-b542-fb4f50558a0f/view/7c0afb2422b60ee04fd7d4e407c87d037866265fb6bbd10587827b495b312597f33c4593c87e4d52d8130664f4eb460d9a>

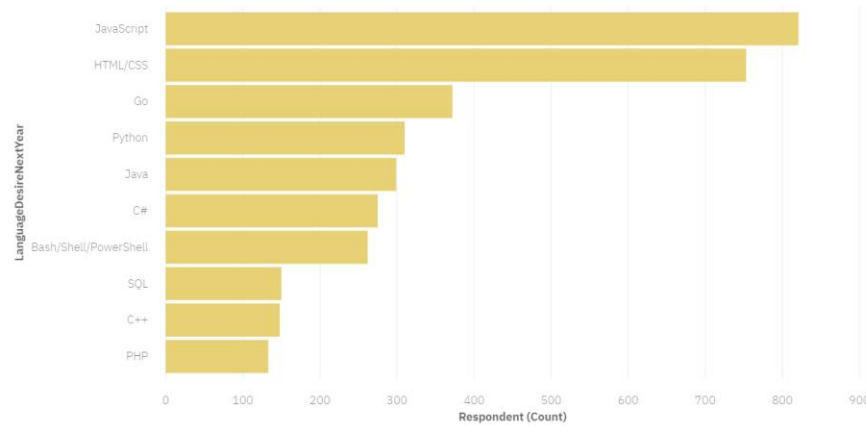
DASHBOARD TAB 1



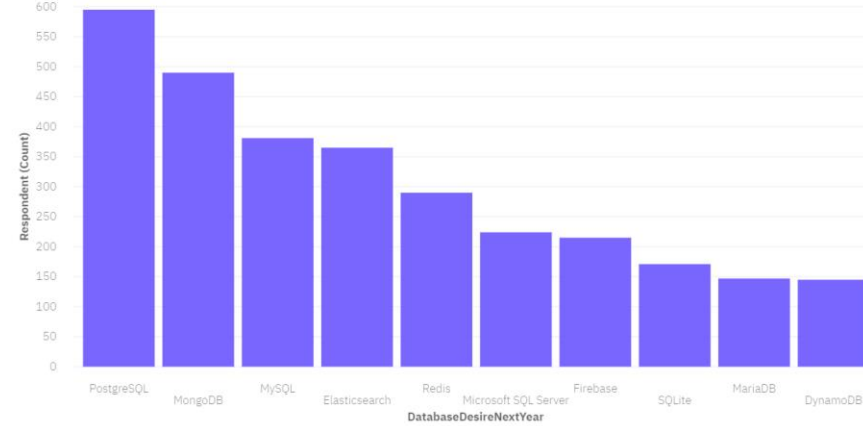
DASHBOARD TAB 2

Current Technology Usage **Future Technology Trend** Demographics

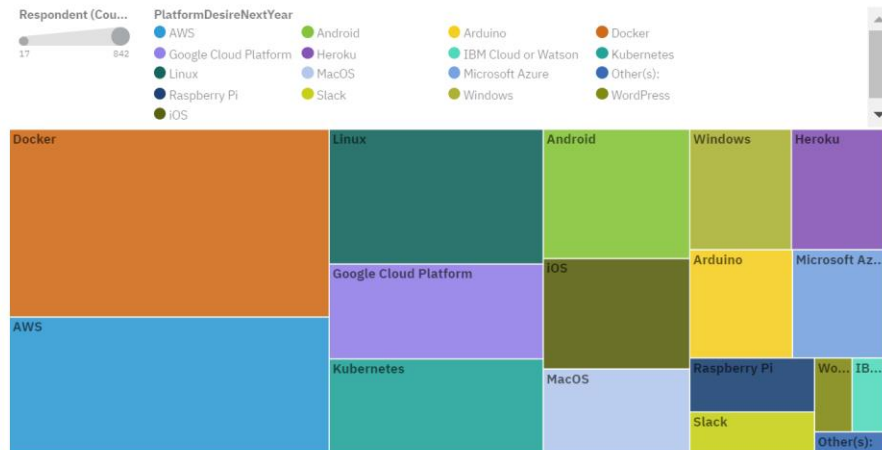
Top 10 Language Desire Next Year



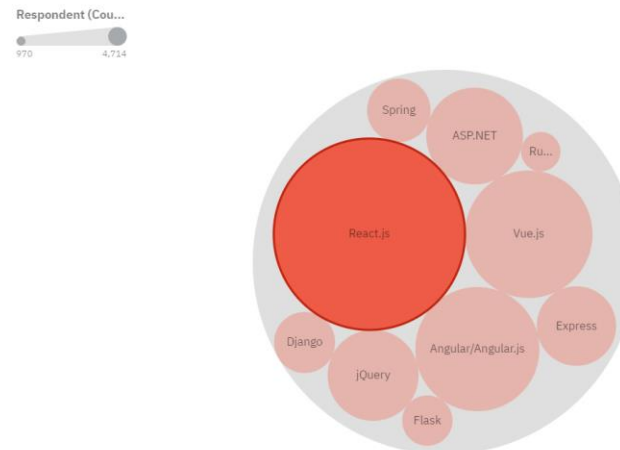
Top 10 Database Desire Next Year



Platform Desire Next Year



Top 10 Web Frame Desire Next Year



powered by IBM Cloud Pak for Data

IBM Developer



DISCUSSION



- Technology Trends now and future
- Training and Reskilling workers
- Divide of technology gaps in developing countries
- Eliminate age and education discrimination in employment

OVERALL FINDINGS & IMPLICATIONS

Findings

- Changing in technology every year
- Gender gap in technology jobs
- Platforms like Docker and AWS are growing

Implications

- Companies need to be flexible and adjust to quick changes
- Impact of job hiring's
- Shift to faster app deployments and cloud services in future

CONCLUSION



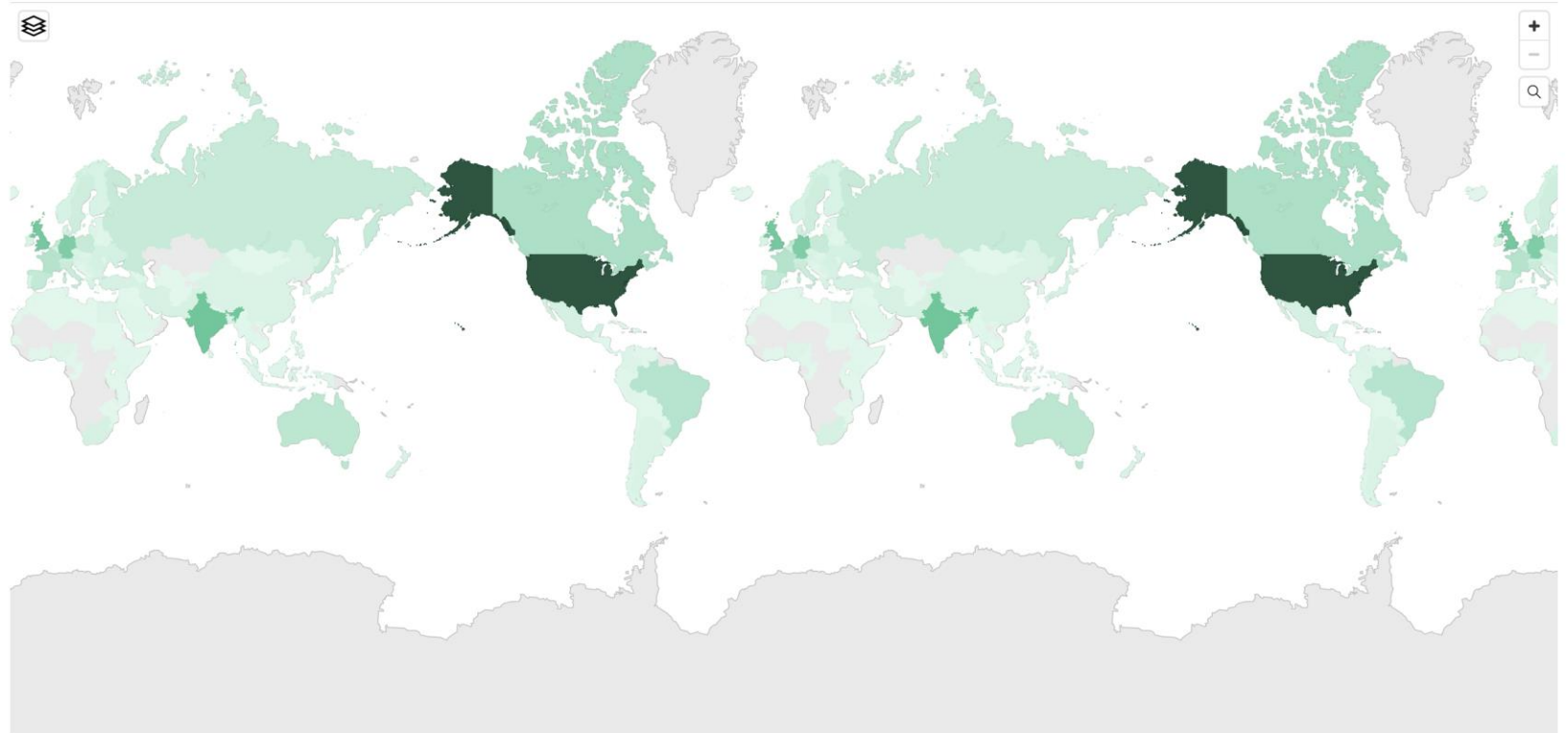
- Technology Trends for current and next year
- Programming Languages, Database and Platform overview
- Demographics overview
- Actions to be taken
- In future, incorporate Machine Learning to predict trends and salaries

APPENDIX

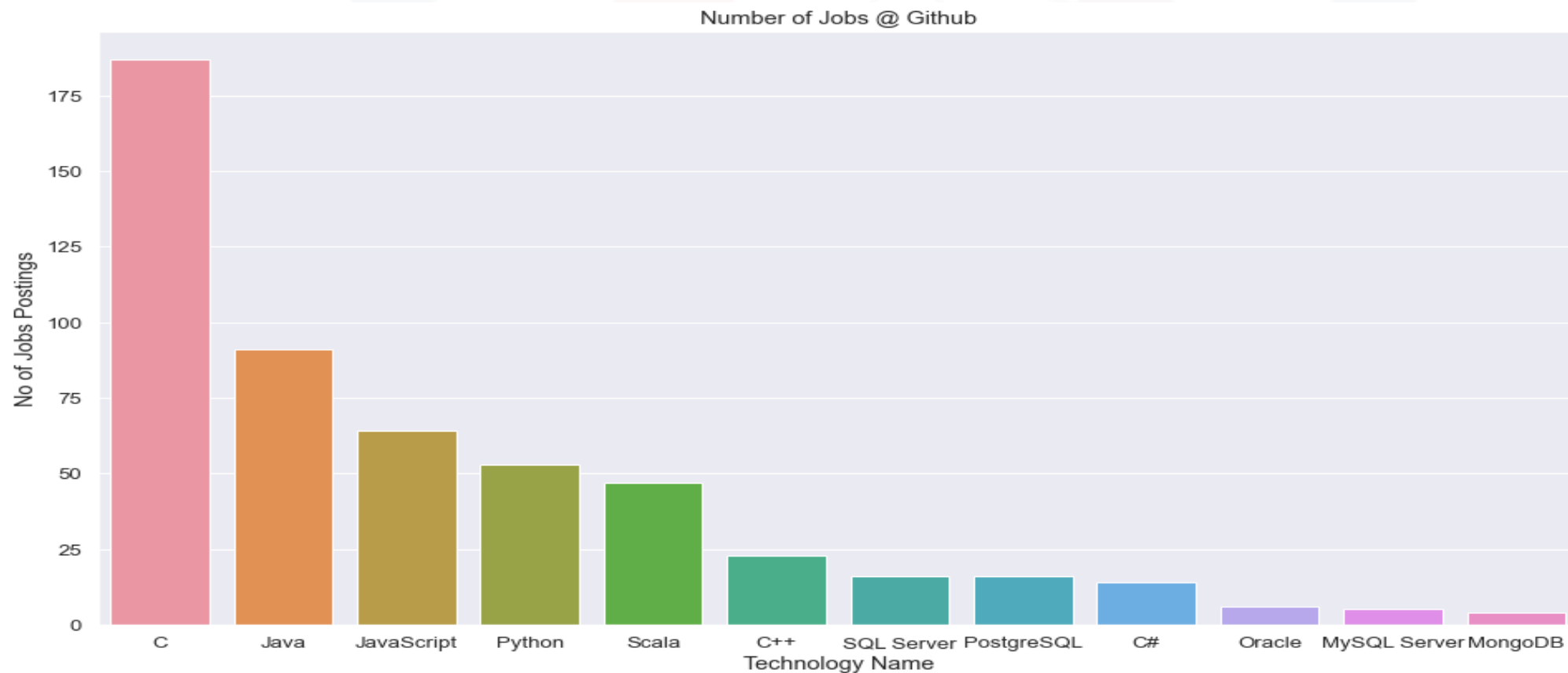


Respondent Count for Countries

Respondent (Sum)
865 26,154,240



GITHUB JOB POSTINGS



POPULAR LANGUAGES

