TECHNOLOGY ANALYTICS

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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

- Analyzed Technology Trend in Software and Web Development among Developers around the world
- Key Points of the 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 the Presentation
  - Programmers
  - IT Industry Leaders
  - Students in the field of Computer Science and IT

METHODOLOGY

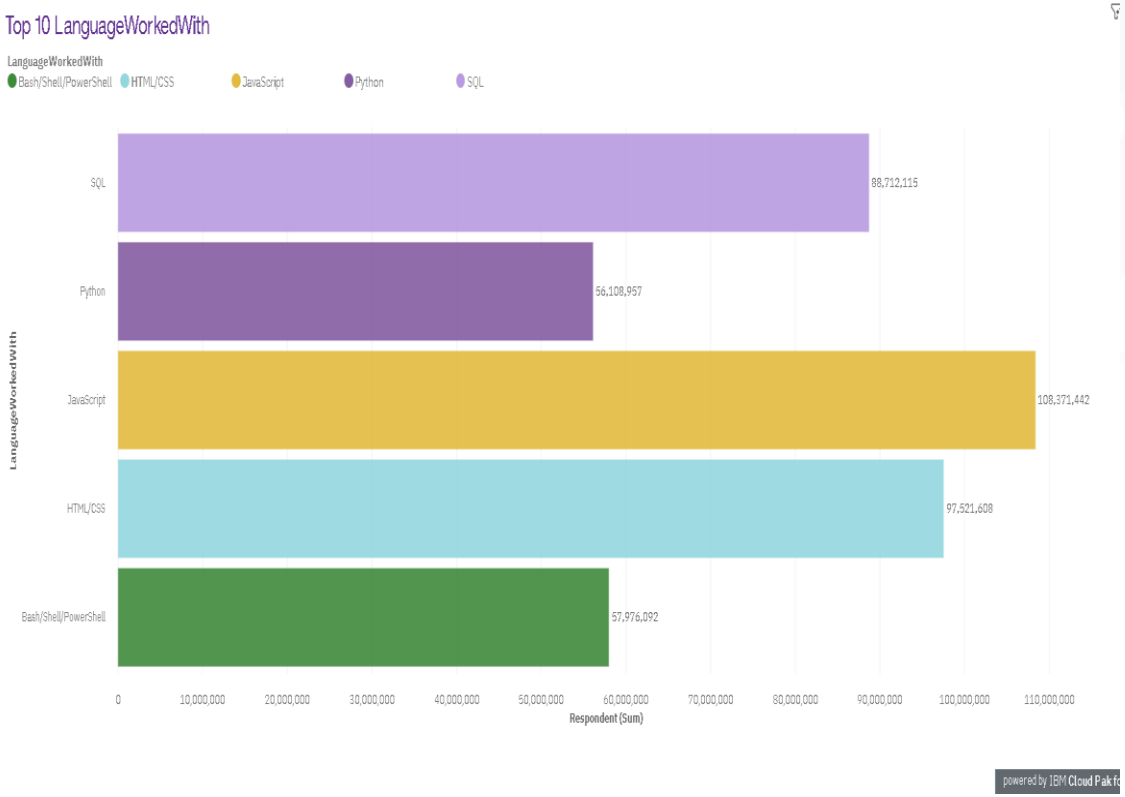
- Data Sources
- Stack Overflow Developer 2019 Survey
- GitHub Job Postings
- Programming Language Annul Salary
- Data Wrangling
- Data Exploration
- Data Cleaning
- Data Visualization
  - Python matplotlib & turtle
  - IBM Cognos

RESULTS

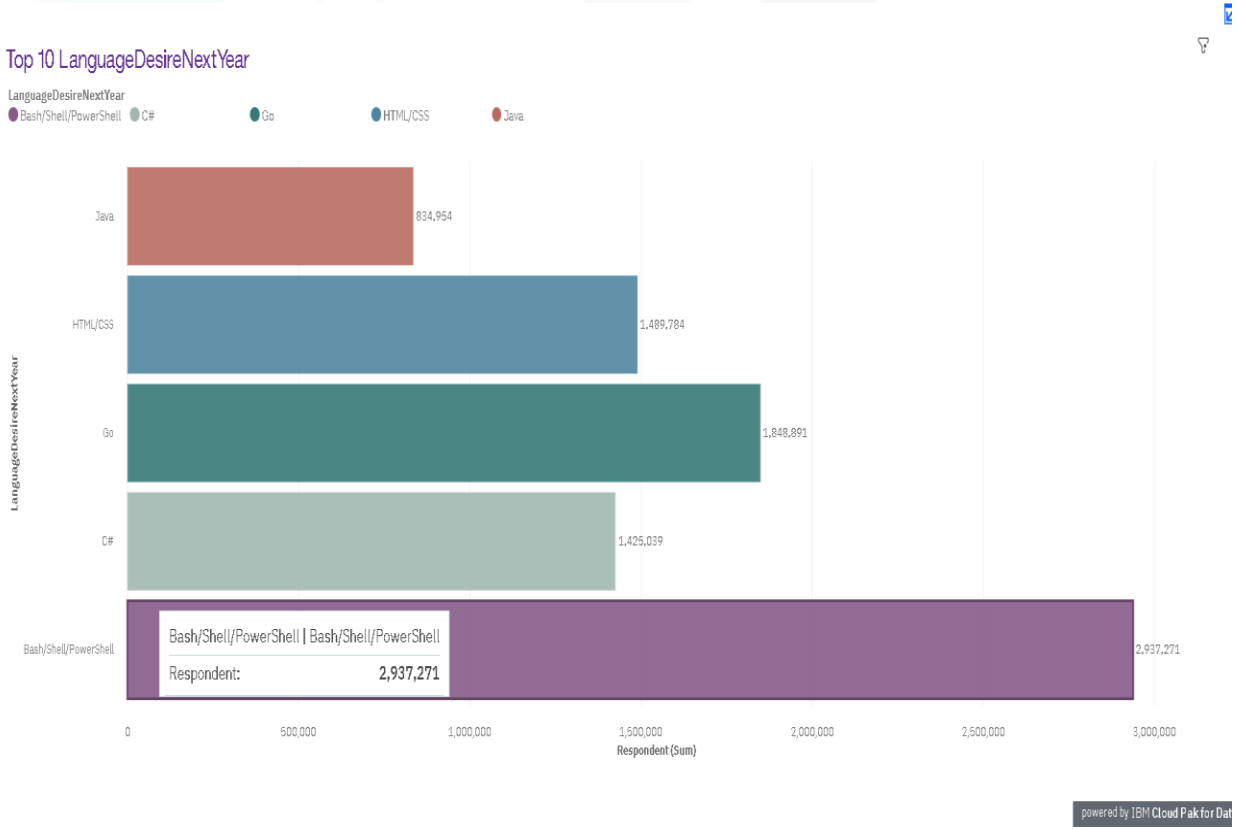
	Respondent	LanguageWorkedWith	LanguageDesireNextYear	DatabaseWorkedWith	DatabaseDesireNextYear	PlatformWorkedWith
0	4	C	C	MySQL	MySQL	Linux
1	4	C++	C#	SQLite	SQLite	Windows
2	4	C#	JavaScript	NaN	NaN	NaN
3	4	Python	SQL	NaN	NaN	NaN
4	4	SQL	NaN	NaN	NaN	NaN
...	...	...	...	...	...	...
74584	25142	Go	Python	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



Next Year



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SKILLS NETWORK

PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

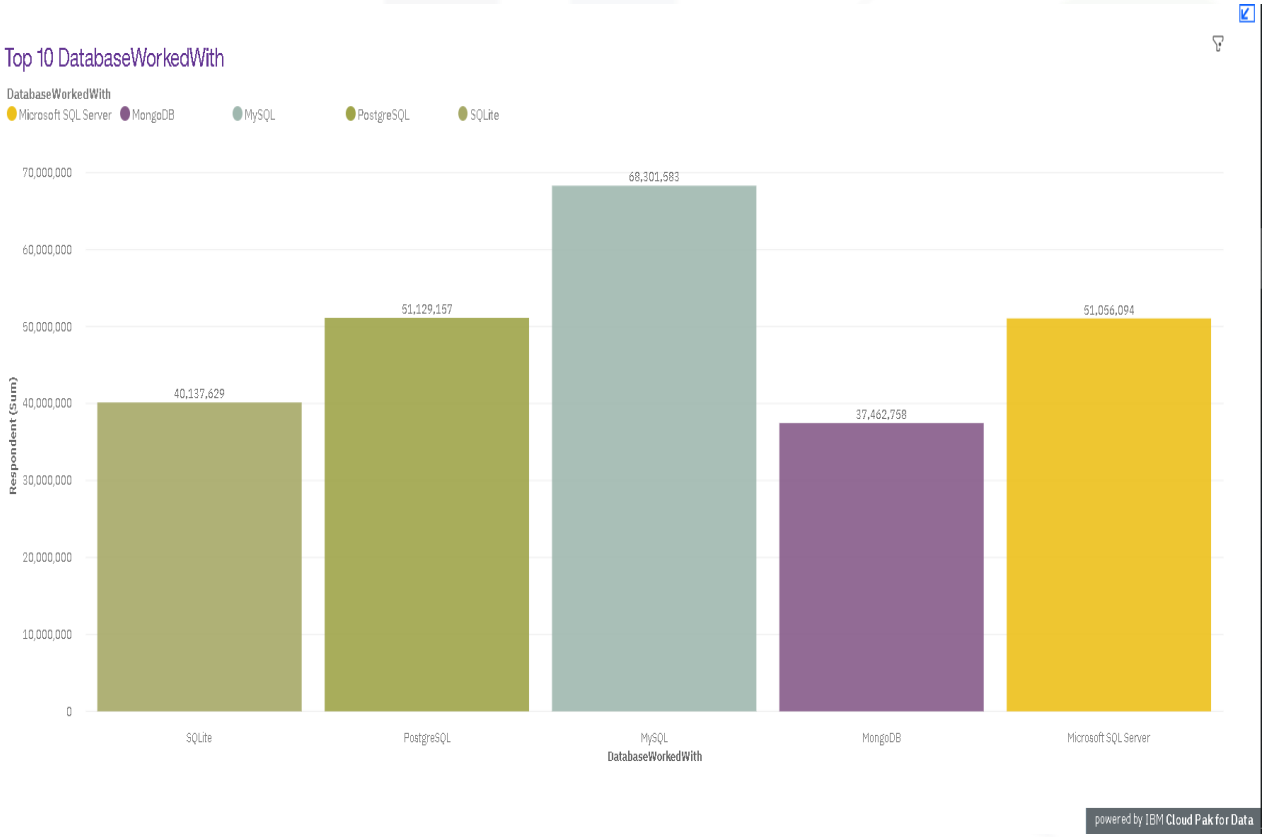
- JavaScript is the TOP Trending Language in the World
- • HTML/CSS and SQL has great portion in Language Usage Trend for long time
- Python and TypeScript are getting more attracted by users

Implications

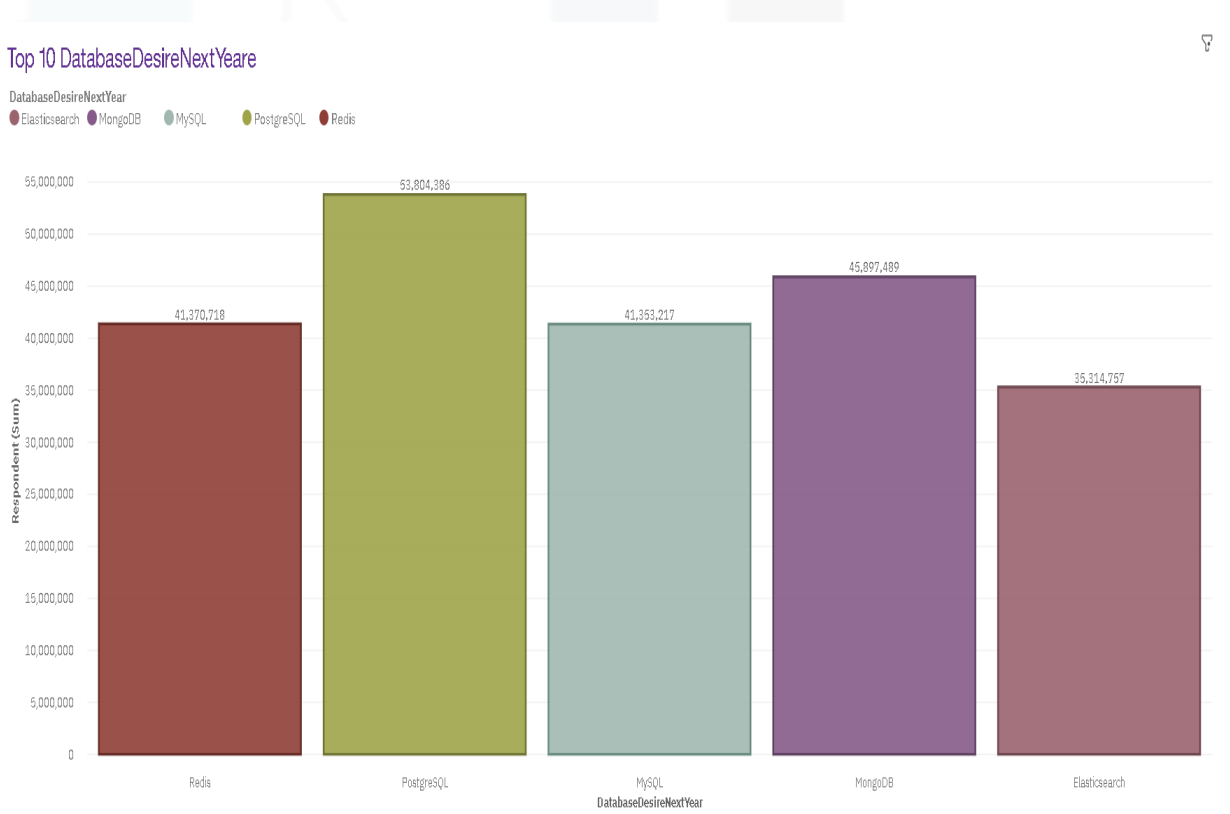
- JavaScript and TypeScript are crucial for developers to learn
- • Web Developments and Web Developers are still in high demands
- Python is the new trending language, especially in AI fields

DATABASE TRENDS

Current Year



Next Year



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DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL is the Most Popular Database
- There are still large number of companies using Microsoft SQL Server
- • MongoDB and Redis are the most favorable NoSQL database

Implications

- NoSQL databases will make a impact for relational databases
- Open-Source Databases like MySQL are preferable
- Software development and Big Data technology requires SQL

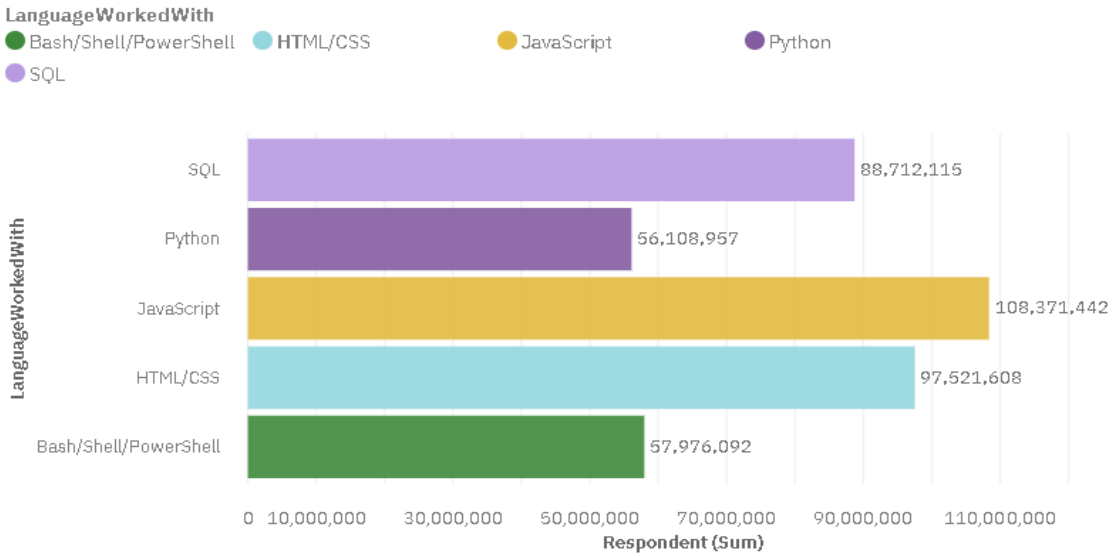
DASHBOARD

https://jp-tok.dataplatform.cloud.ibm.com/dashboards/7165e58a-2508-451d-88f8-4937211c2066/view/7165e31d65a23ef24ce7d4e407cc7e0e7e3f2c0cbabbd007808c7b4906312397a93c4797c82a4358d842026ba6ba1750cc

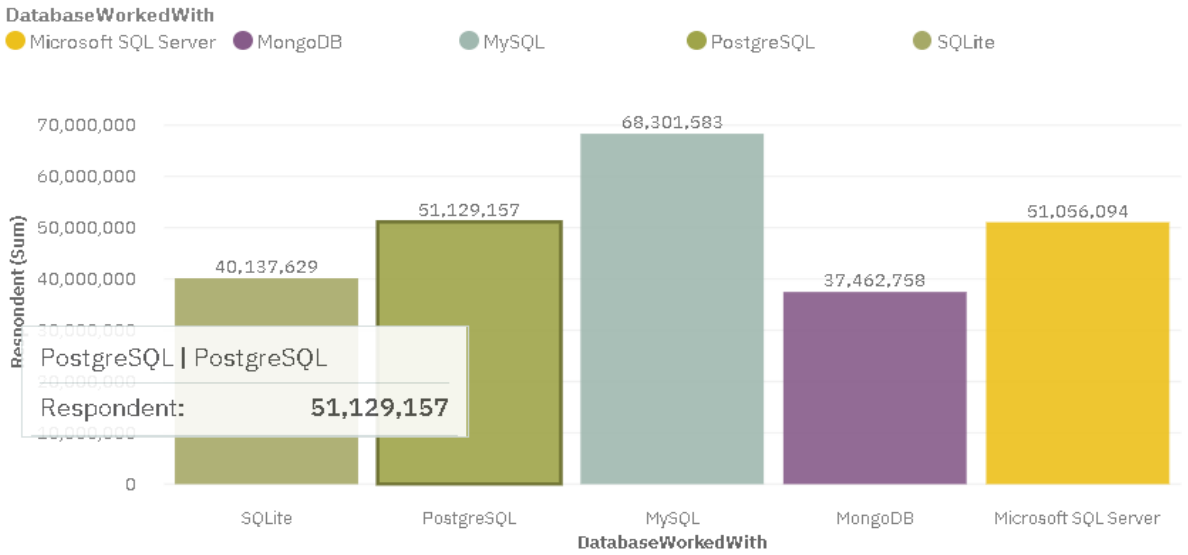
CURRENT TECHNOLOGY USAGE

Current Technology Usage | Future Technology Trend | Demographics

Top 10 LanguageWorkedWith

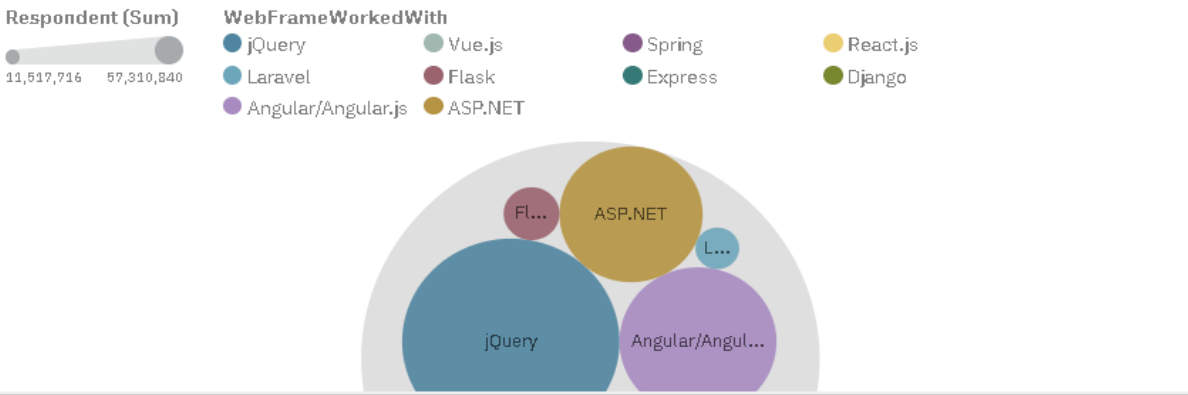


Top 10 DatabaseWorkedWith



PlatformWorkedWith

Top 10 WebFrameWorkedWith



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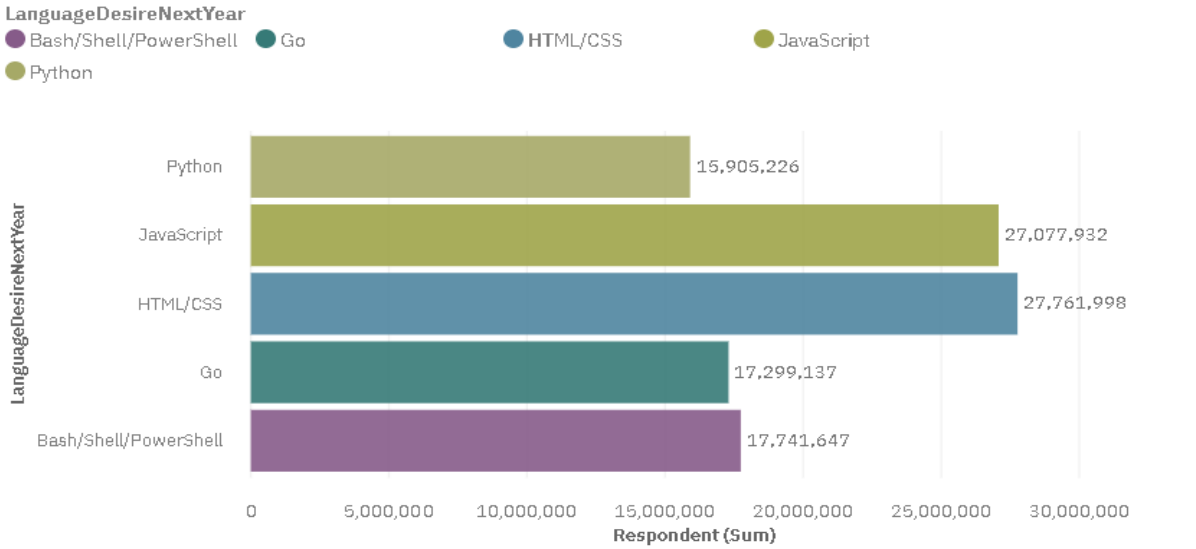
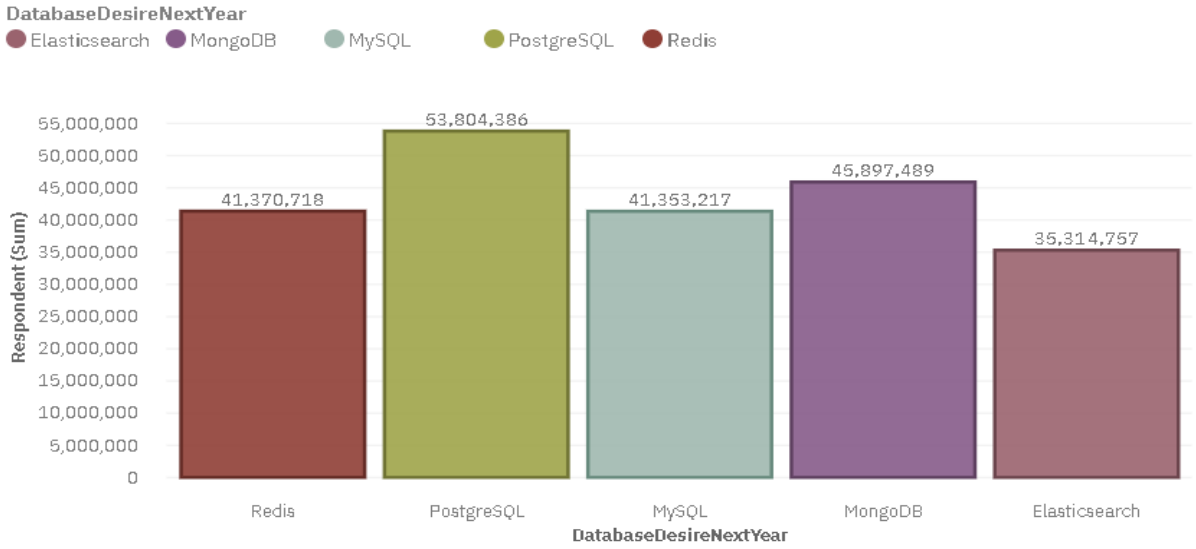
FUTURE TECHNOLOGY TREND

Current Technology Usage | Future Technology Trend | Demographics

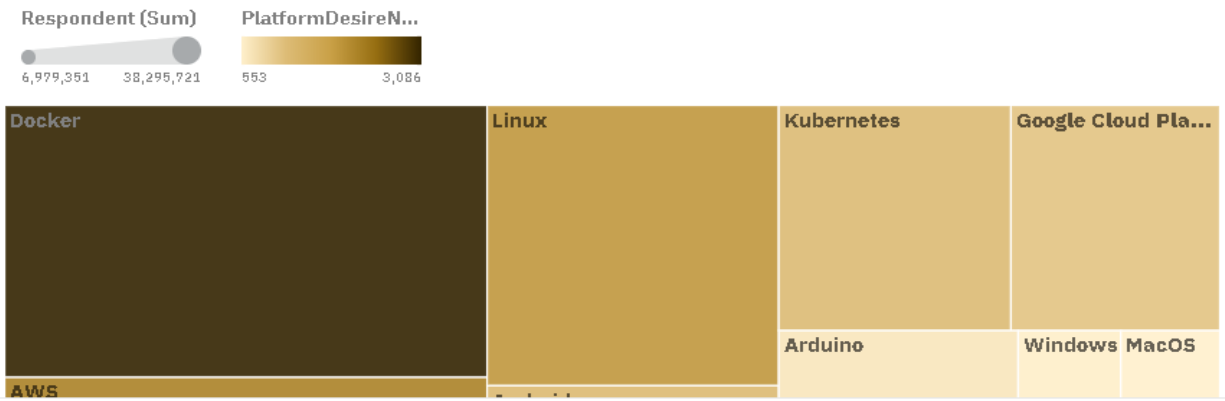
Top 10 LanguageDesireNextYear



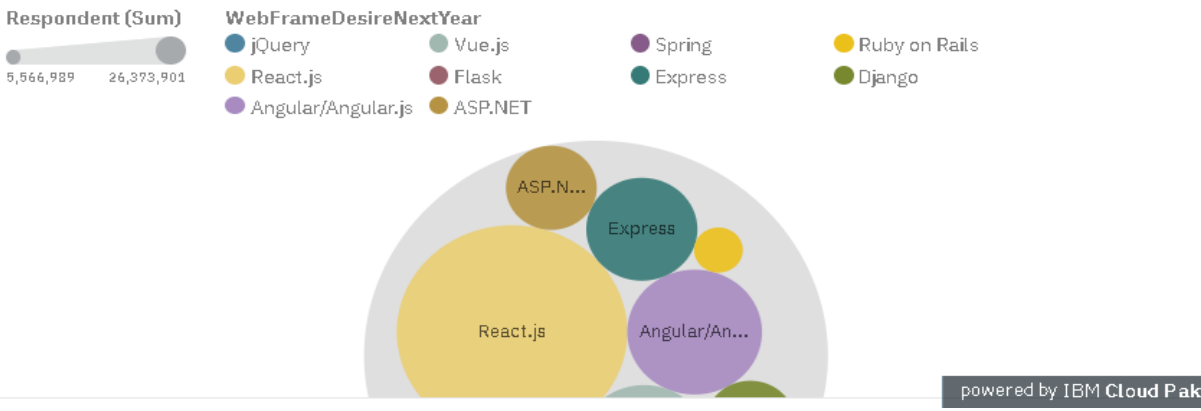
Top 10 DatabaseDesireNextYeare



PlatformDesireNextYear



Top 10 WebFrameDesireNextYear



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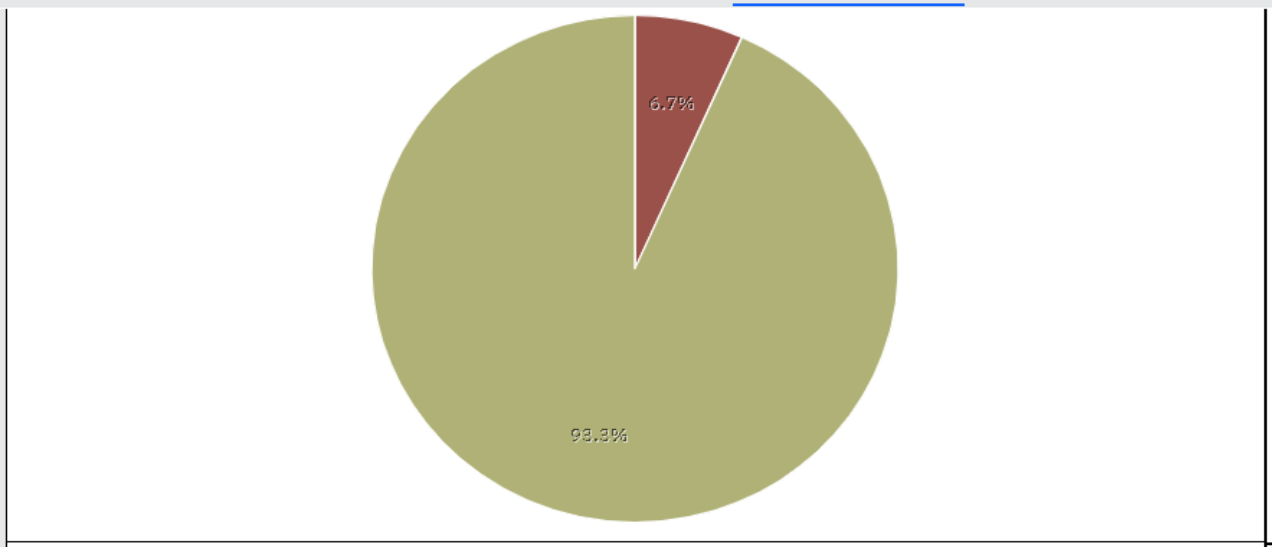
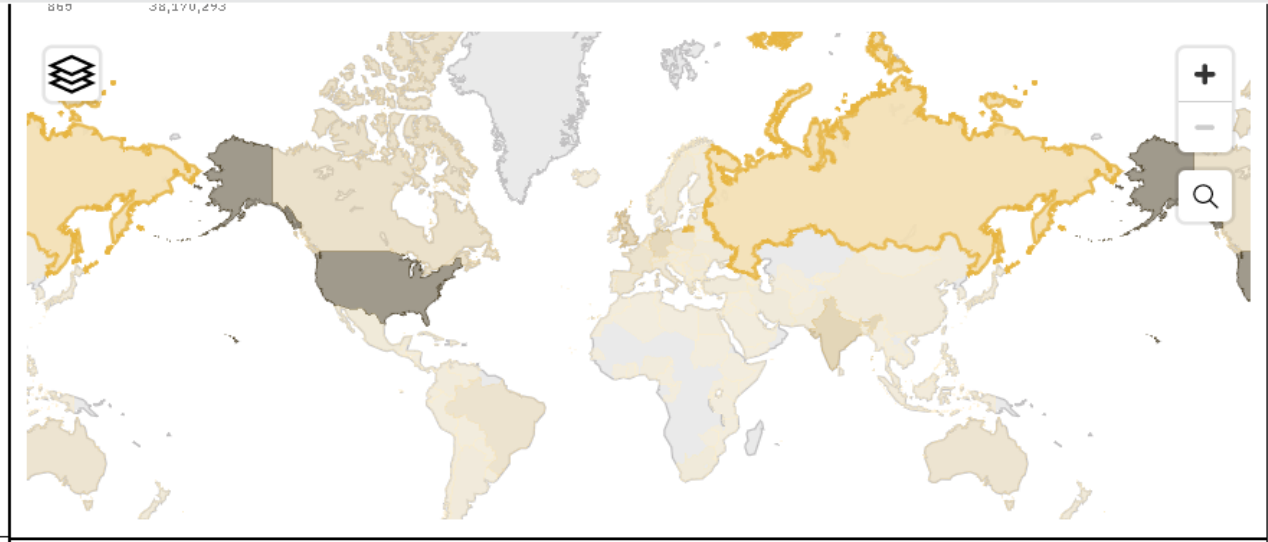
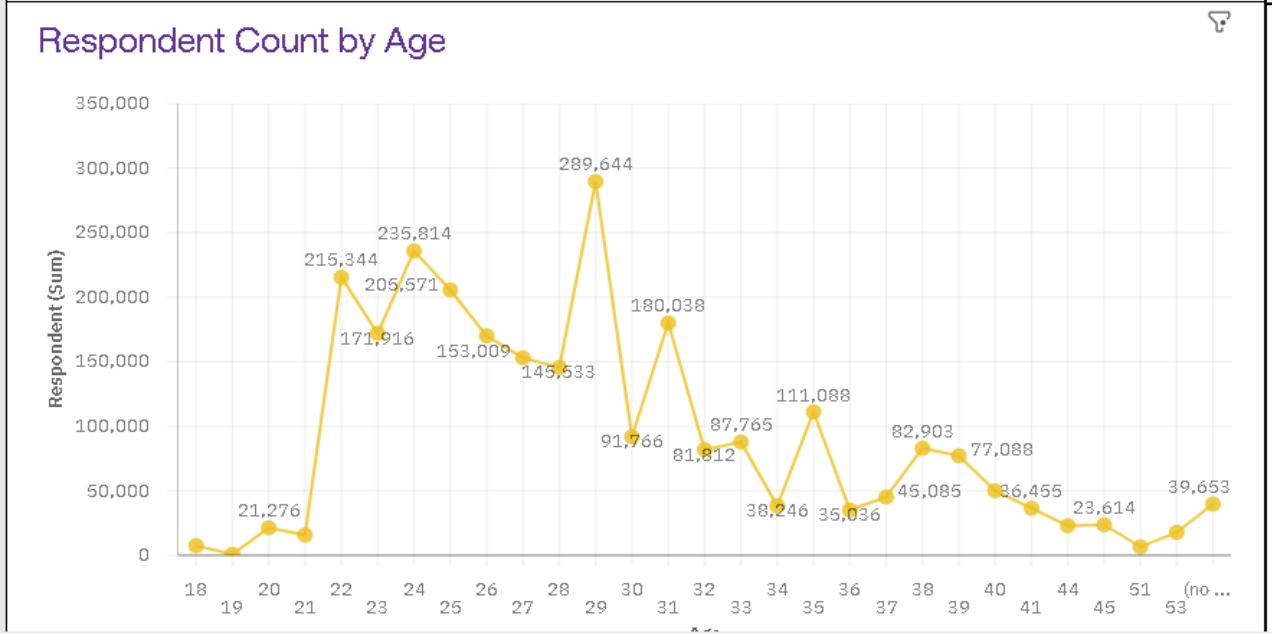
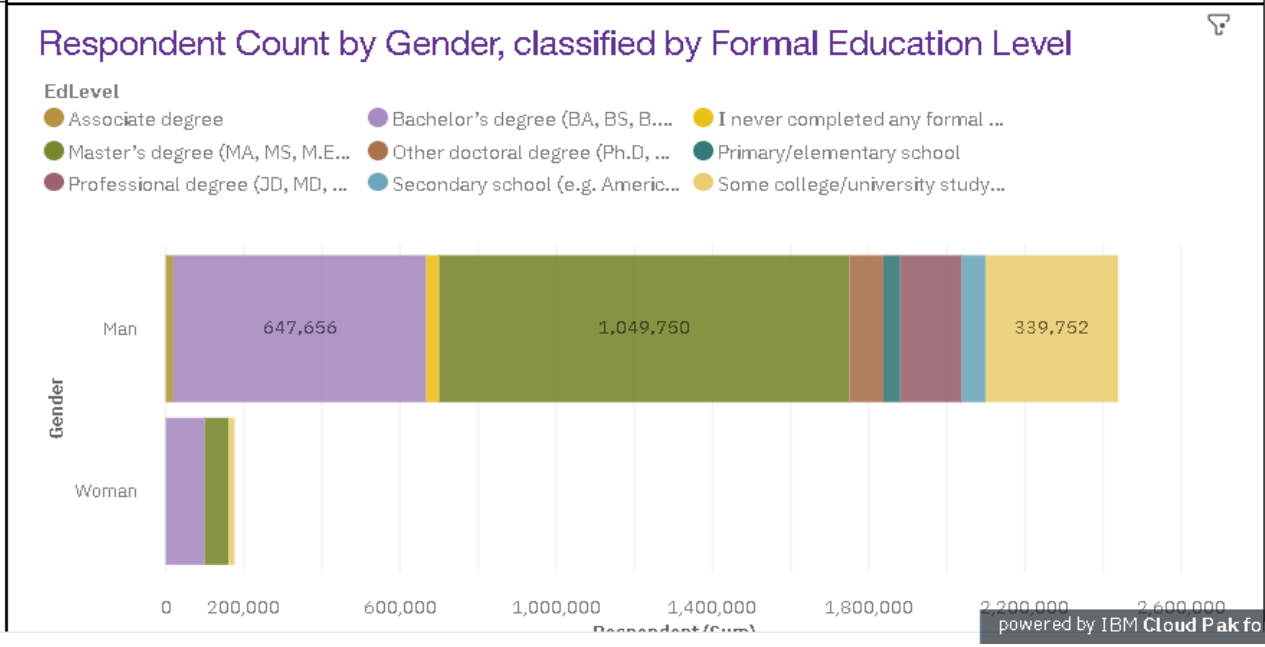
DEMOGRAPHICS









DISCUSSION

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

OVERALL FINDINGS & IMPLICATIONS

Findings

- Technology Trends Changes as Time goes
- United States is the Top Technology Country
- Extreme Gender and Age Discrimination
- Docker and AWS are the Most Popular Platform

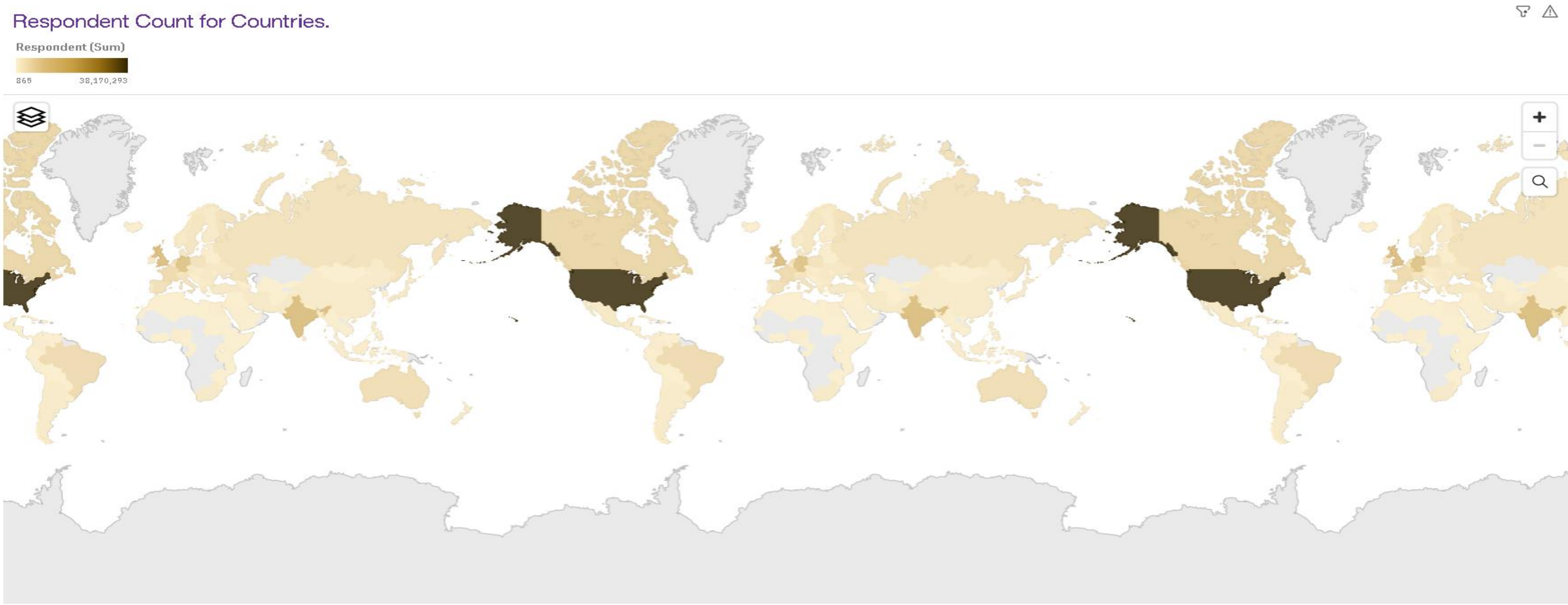
Implications

- Programmers should study to follow the Recent Technology Trends
- More Countries should have Equal Opportunities to learn new Technology
- Gender and Age should not be one of concerns or benefits of Employment

CONCLUSION

- Technology Trends
- Programming Languages, Database, Platform and Web Frame Trends
- Demographics Trends
- Gender and Education
- Programming Languages Trends and Salary

APPENDIX


Respondent Count for Countries.
Respondent (Sum)
865
38,170,293
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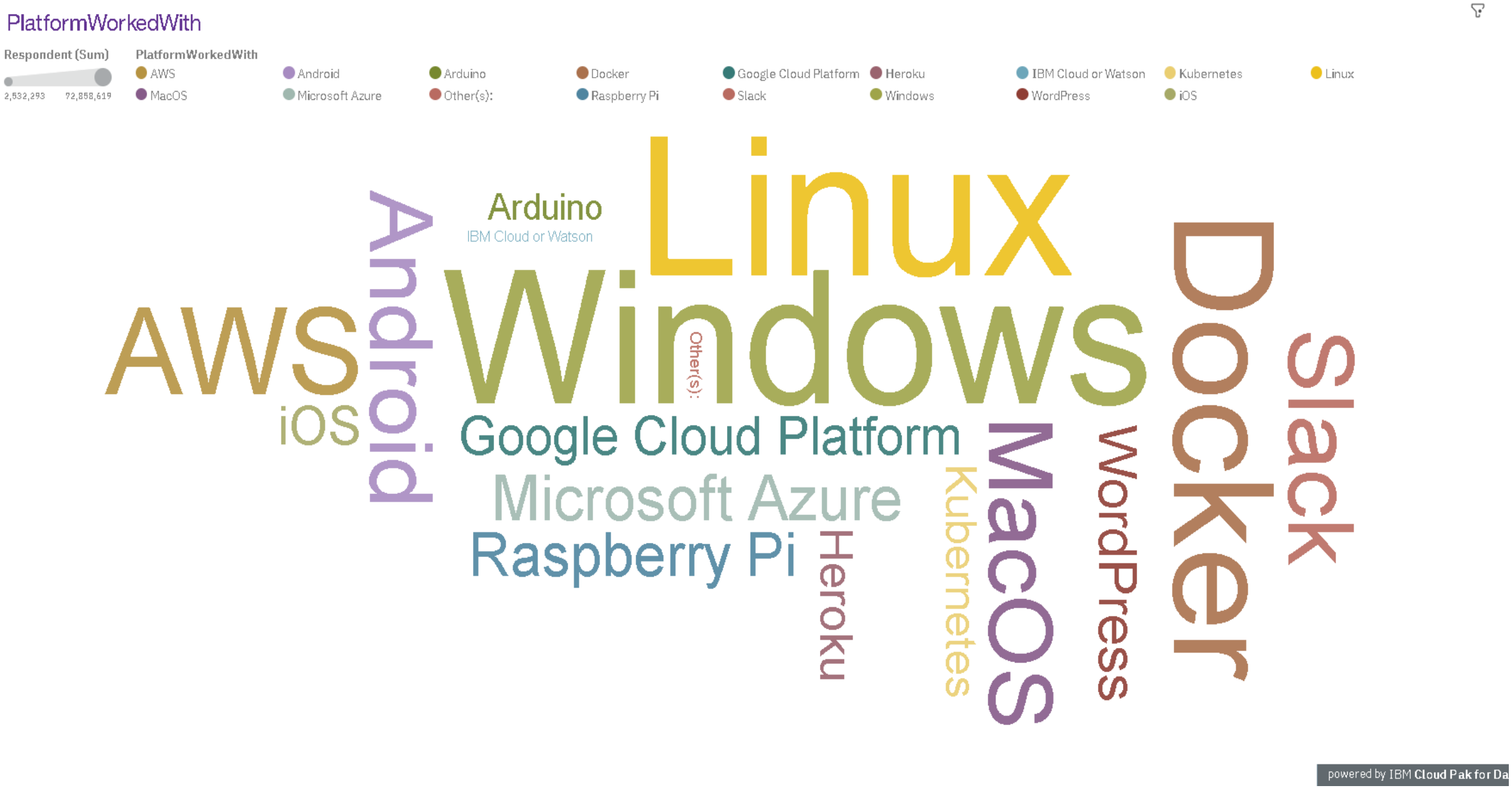

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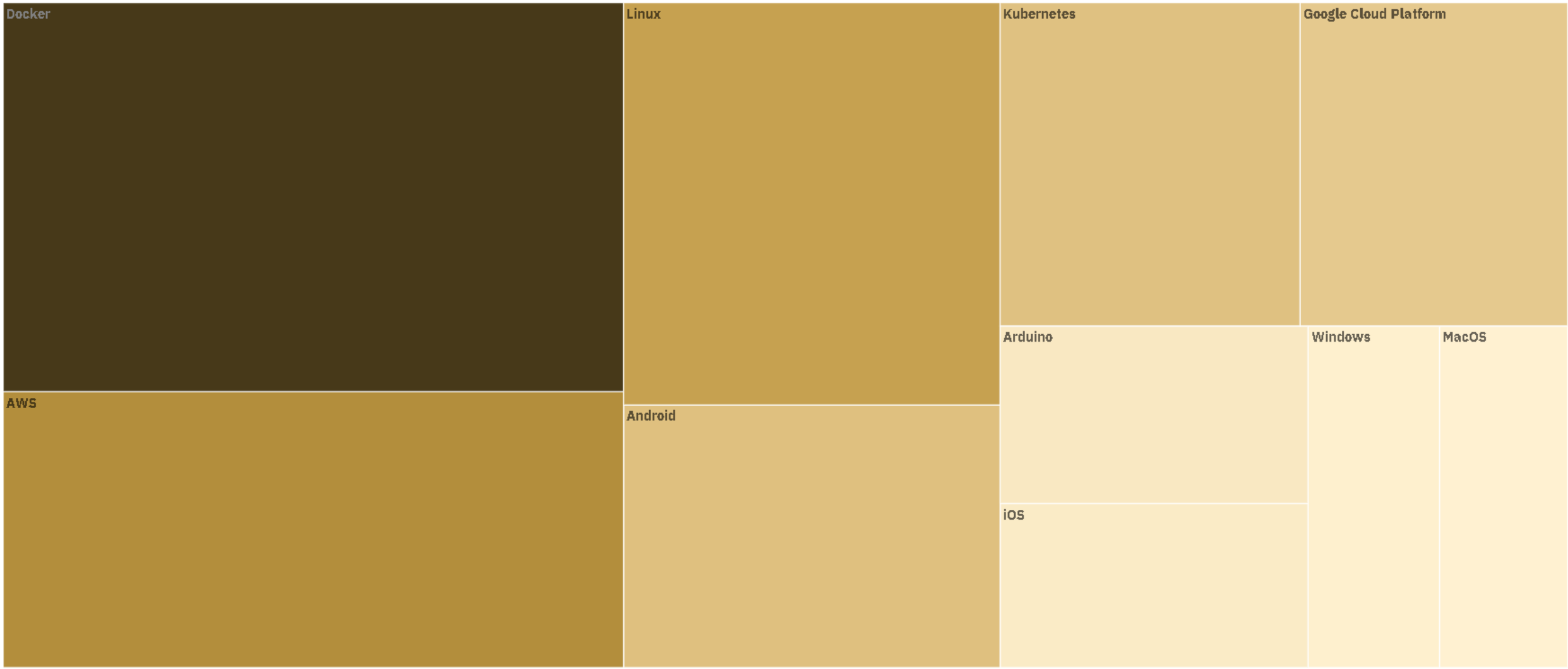
PlatformDesireNextYear

Respondent (Sum) 6,979,351 38,295,721

PlatformDesireN... 553 3,086



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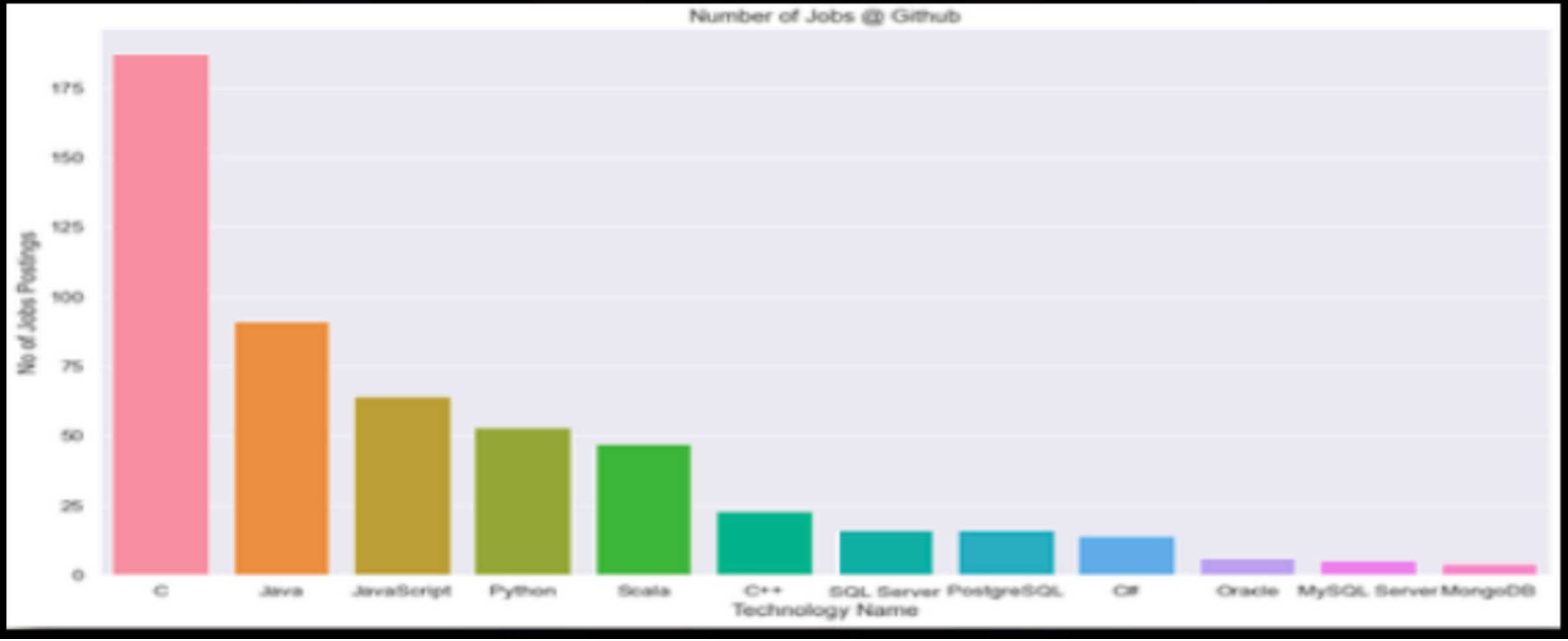
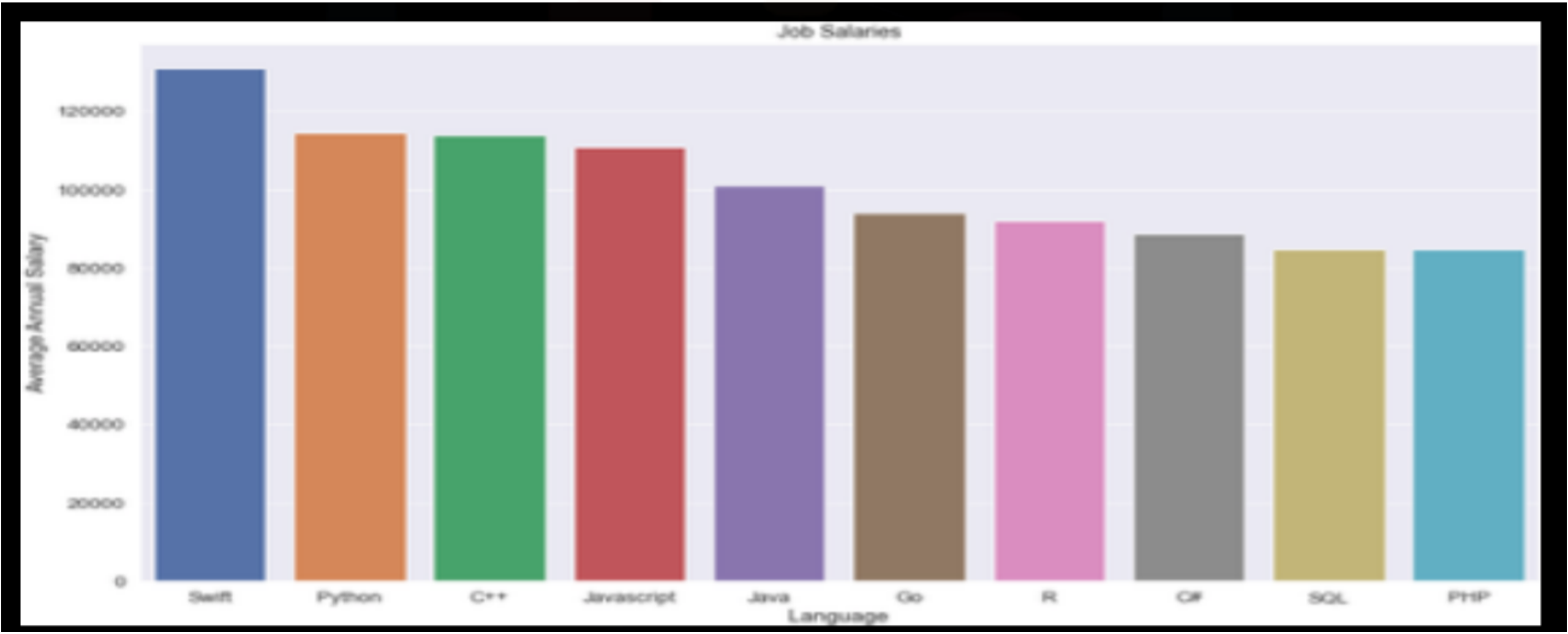
GITHUB JOB POSTINGS



POPULAR LANGUAGES