



TECHNOLOGY TRENDS & ANALYSIS PRESENTATION ON STACK OVERFLOW DEVELOPER SURVEY 2019

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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.
- Conclusion



INTRODUCTION



About:

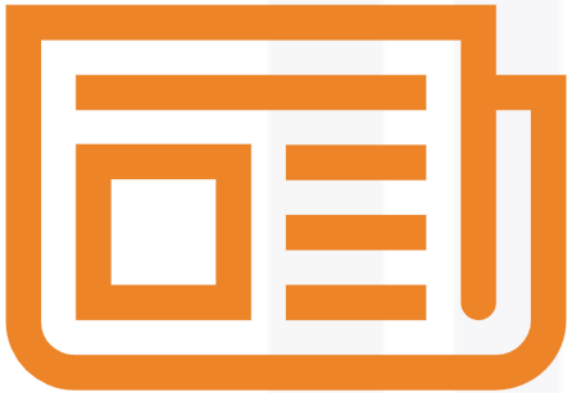
Analyzing the trends in software development.

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.
- Trends in programming languages and database.
- Technological gap in countries & Gender gap in jobs.

Audience: Human resource and IT head.

METHODOLOGY



- Data collection sources
 - Stack Overflow Developer 2019 Survey
 - GitHub Job Postings
 - Programming Languages Annual Salary
- Data Collection & Exploration
 - Web Scraping
 - APIs.
 - Request library.
- Data Wrangling
- Exploratory data analysis
 - Analyzing data distribution.
 - Handling outliers.
 - Correlations.

METHODOLOGY (Continued)



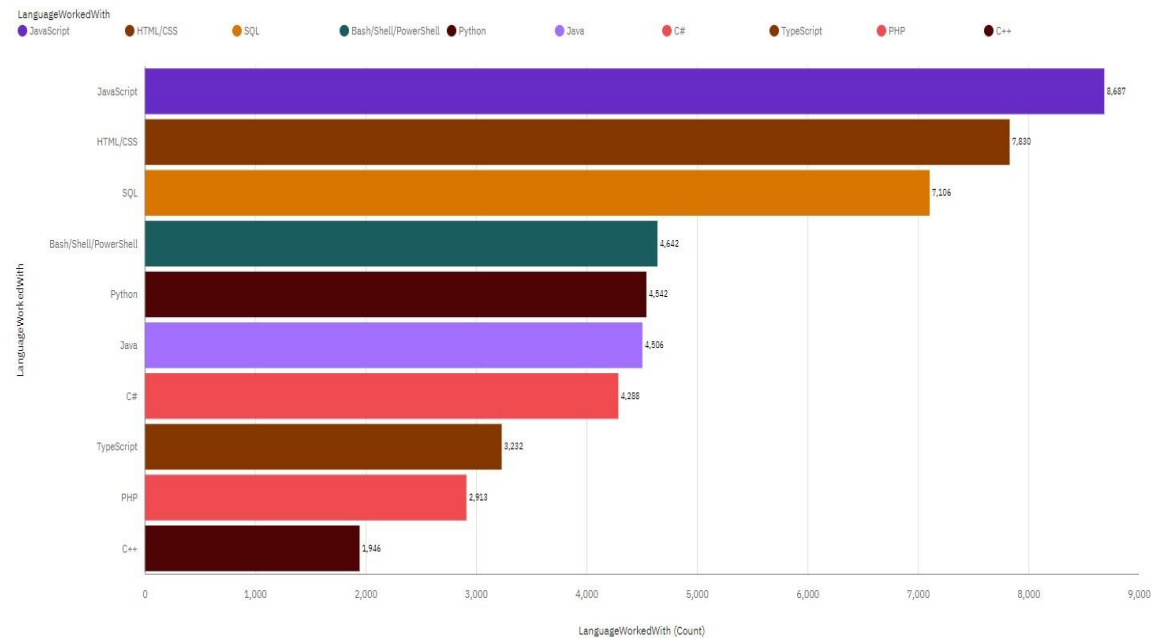
- Data Visualization
 - Highlight distribution of data, relationships, the composition, and comparison of data.
- Dashboards

Data

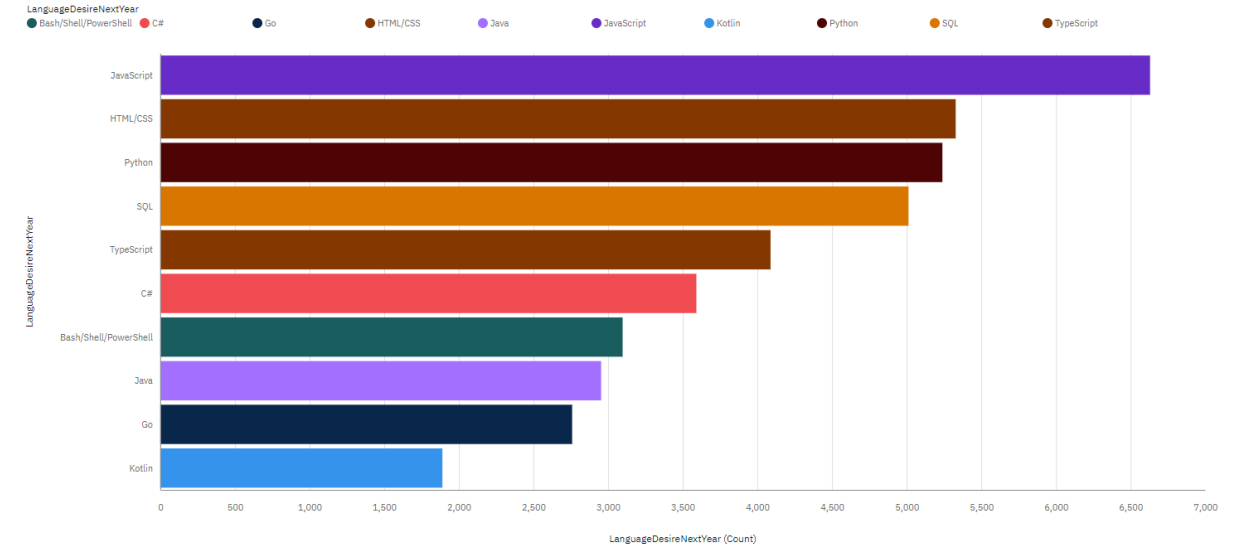
1	Respondent	LanguageWorkedWith	LanguageDesireNextYear	DatabaseWorkedWith	DatabaseDesireNextYear	PlatformWorkedWith	PlatformDesireNextYear	WebFrameWorkedWith
147	50	Java		MySQL		MacOS	Linux	
148	50	JavaScript		Oracle		Raspberry Pi	MacOS	
149	50	PHP		SQLite		WordPress	WordPress	
150	50	Python		Other(s):				
151	50	SQL						
152	53	Bash/Shell/PowerShell	Bash/Shell/PowerShell	DynamoDB	DynamoDB	AWS	AWS	Angular/Angular.js
153	53	HTML/CSS	HTML/CSS	MySQL	MySQL	Docker	Docker	Spring
154	53	Java	Java	Oracle	PostgreSQL			
155	53	JavaScript	JavaScript	Redis	Redis			
156	53	PHP	SQL					
157	53	SQL	TypeScript					
158	53	TypeScript						
159	54	Bash/Shell/PowerShell	Bash/Shell/PowerShell	Elasticsearch	DynamoDB	Docker	AWS	Django
160	54	HTML/CSS	HTML/CSS	Firebase	Elasticsearch	Linux	Google Cloud Platform	React.js
161	54	JavaScript	JavaScript	PostgreSQL	Firebase	MacOS	Linux	
162	54	Python	Python	SQLite	SQLite		MacOS	
163	54						Microsoft Azure	
164	56	Bash/Shell/PowerShell	Java	MySQL	Cassandra	Heroku	AWS	Spring
165	56	HTML/CSS	JavaScript	Oracle	DynamoDB		Docker	
166	56	Java	Kotlin		Elasticsearch		Google Cloud Platform	

PROGRAMMING LANGUAGE TRENDS

Top 10 LanguageWorkedWith



Top 10 LanguageDesireNextYear



PROGRAMMING LANGUAGE TRENDS – FINDINGS & IMPLICATIONS

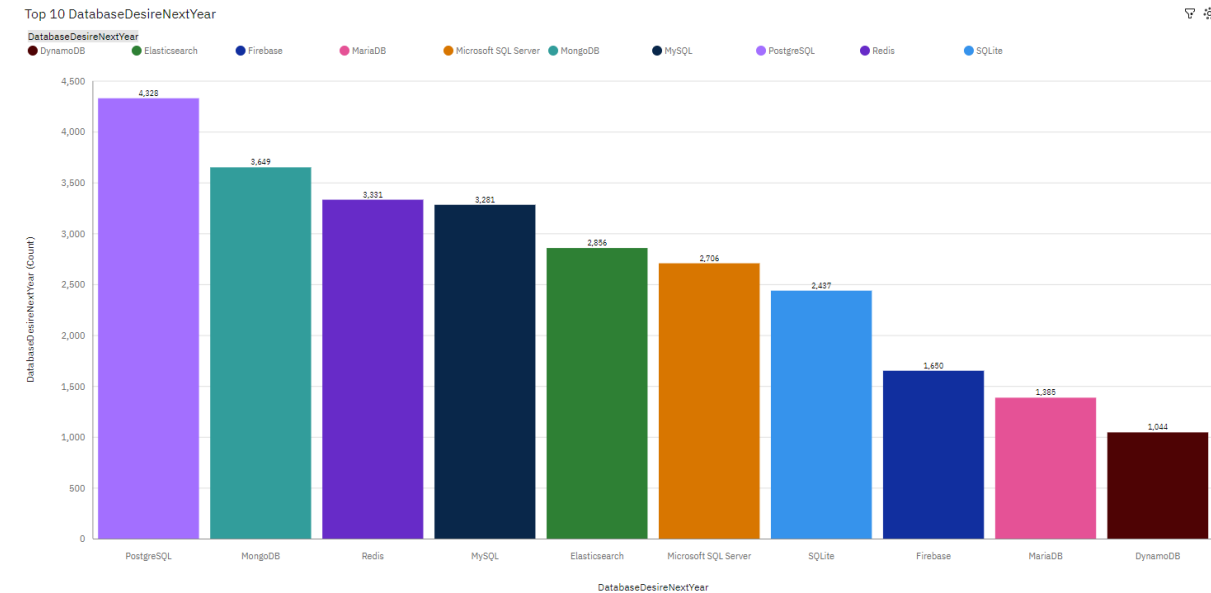
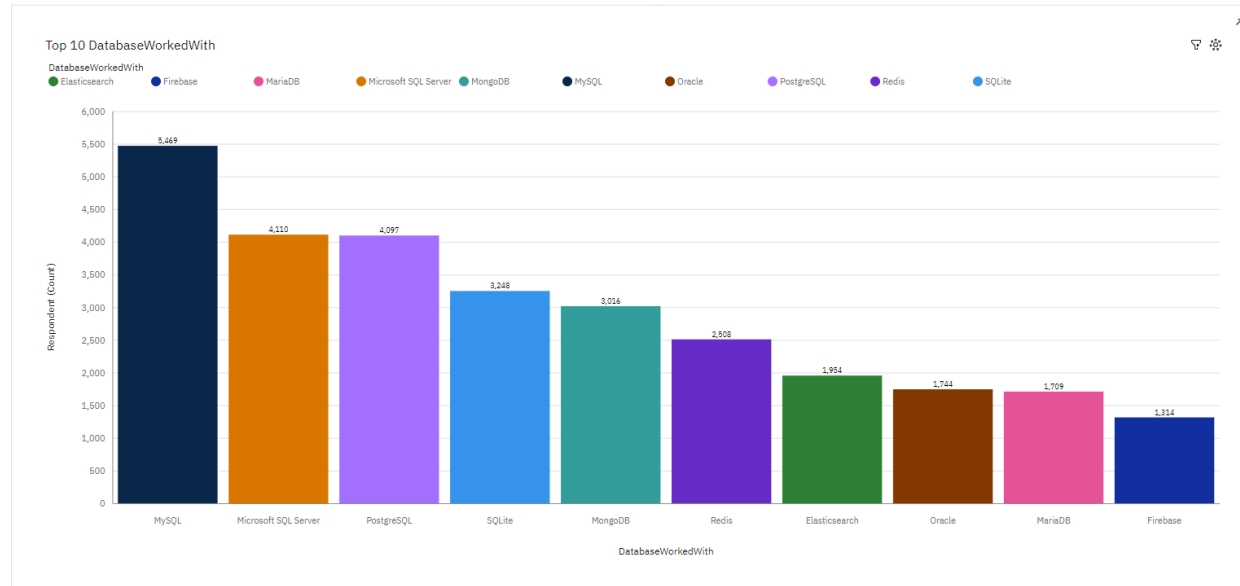
Findings

- JavaScript, HTML/CSS, SQL are top 3 this year
- Python and Typescript becoming popular next year
- PowerShell edged out in 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



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

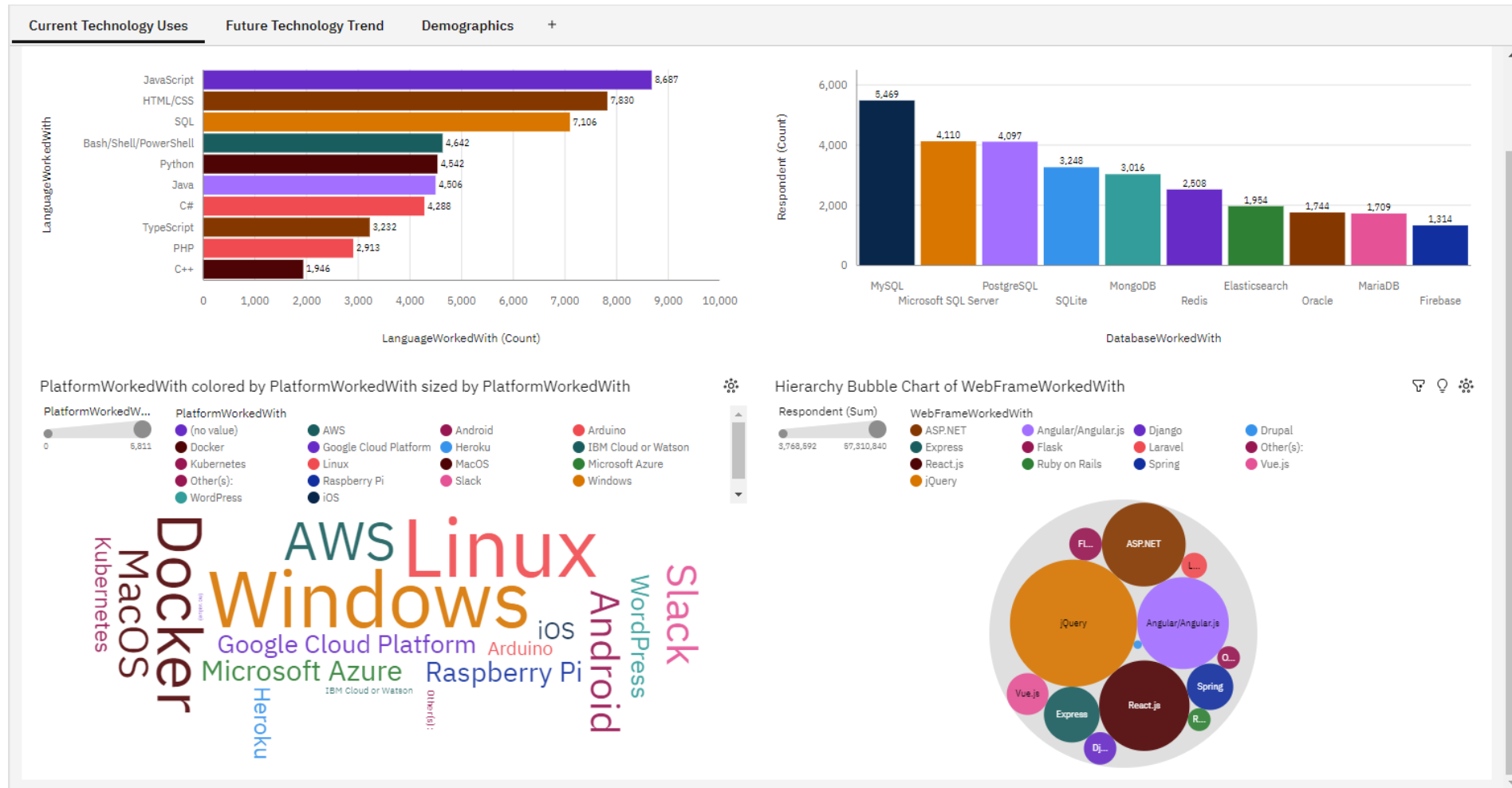
- Open source databases are still preferable in companies
- NoSQL databases will make an impact for storing non relational data
- Redis supports abstract data types
- Pre tuned search to website, app, or ecommerce store

DASHBOARD

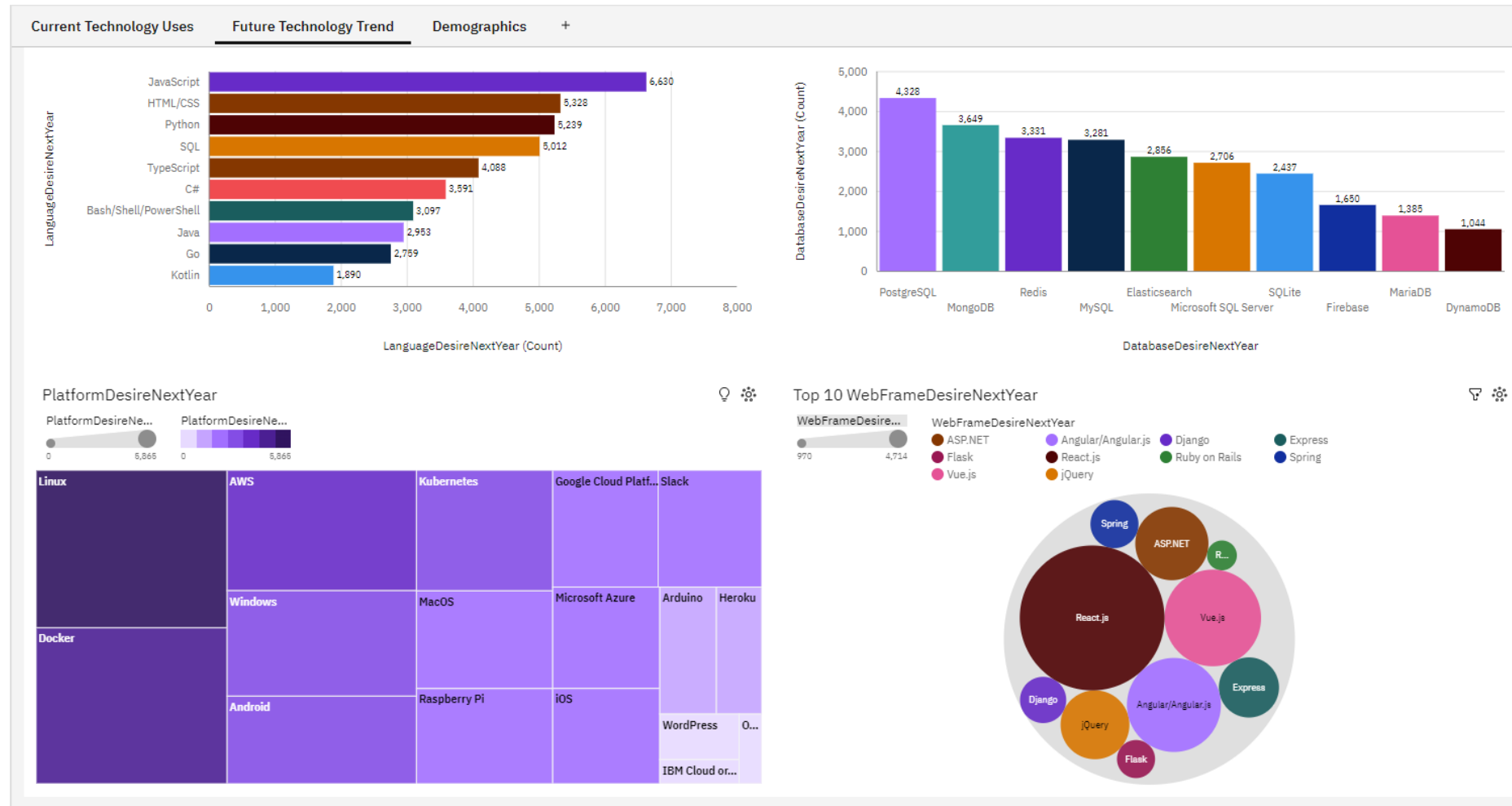


https://github.com/engrsejaz/dashboard/blob/main/Dashboard_Final_Project_SEjaz.pdf

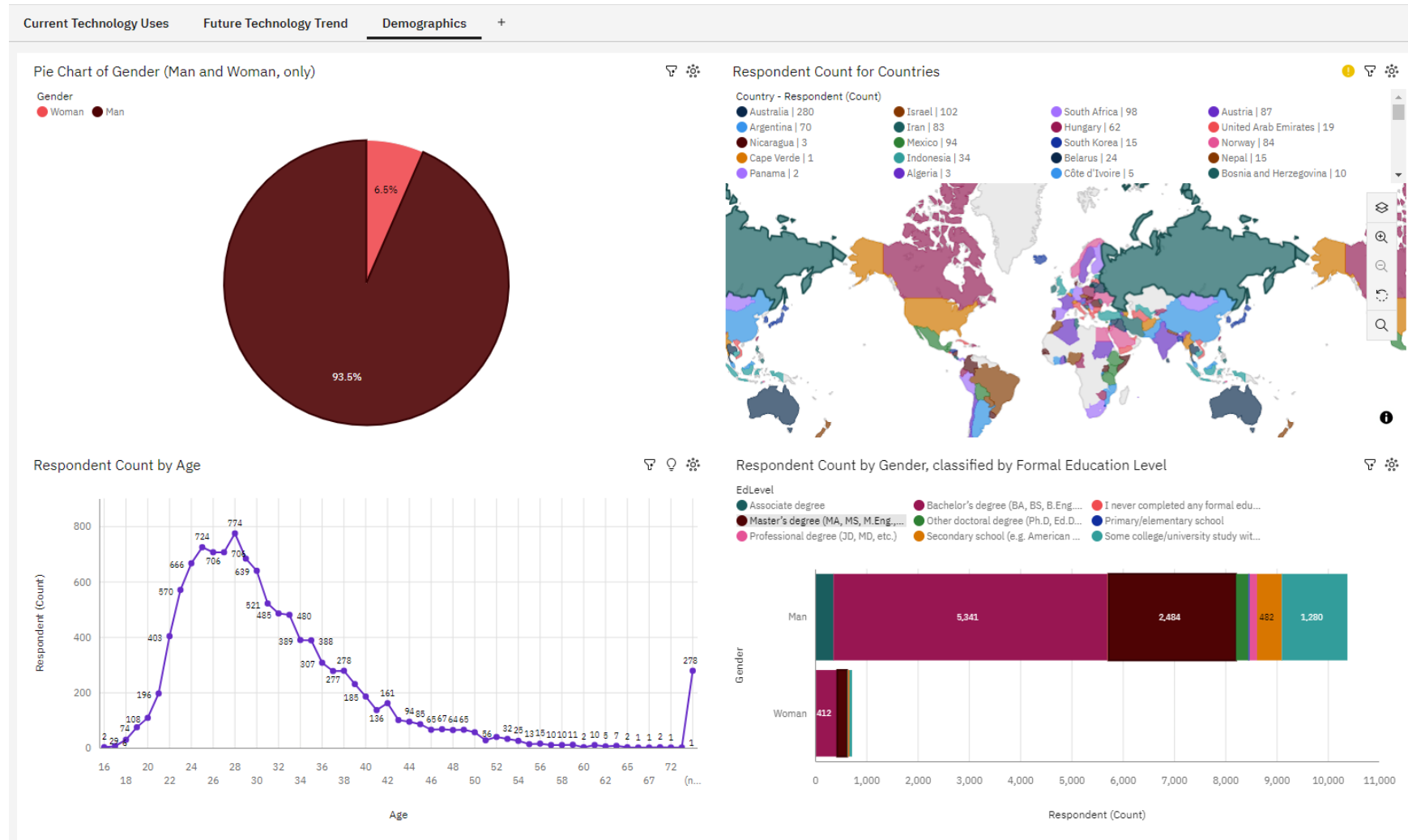
CURRENT TECHNOLOGY USAGE



FUTURE TECHNOLOGY TREND



DEMOGRAPHICS



DISCUSSION



- Technology Trends now and future
- Training and Reskilling workers
- Females 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



- 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



POPULAR LANGUAGES



GitHub Job POSTINGS

