



Technological Trends & Analysis

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OUTLINE



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



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

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?
- 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

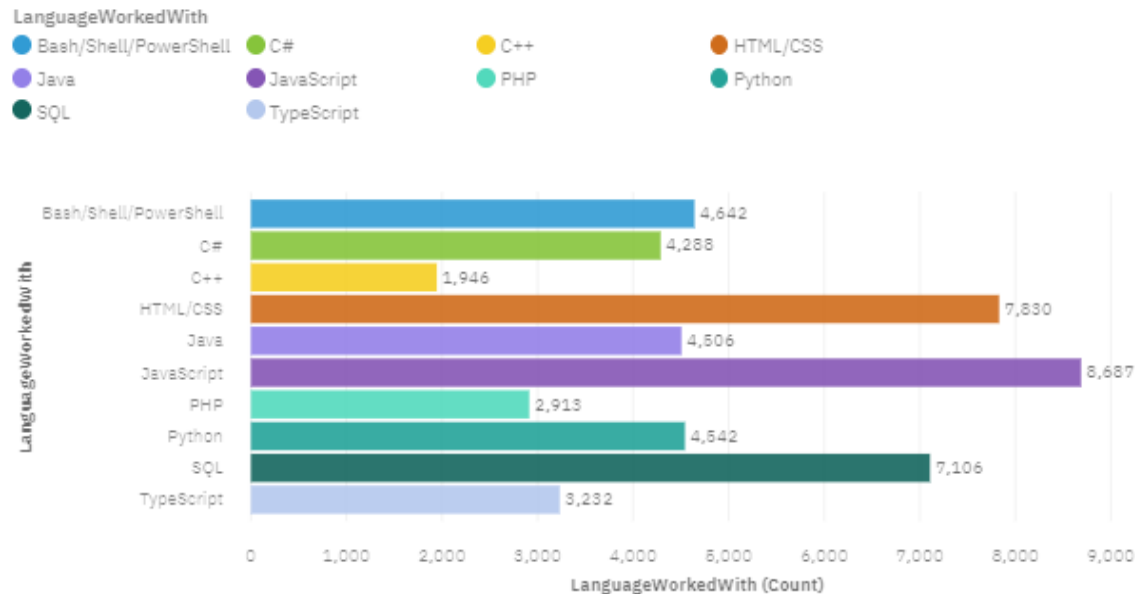
Results are based on this table:

Respondent String	LanguageWorkedWith String	LanguageDesireNextYear String	DatabaseWorkedWith String	DatabaseDesireNextYear String	PlatformWorkedWith String	PlatformDesireNextYear String	WebFrameWorkedWith String	WebFrameDesireNextYear String
4	C	C	MySQL	MySQL	Linux	Linux		
4	C++	C#	SQLite	SQLite	Windows	Windows		
4	C#	JavaScript						
4	Python	SQL						
4	SQL							
9	Bash/Shell/PowerShell	Bash/Shell/PowerShell	DynamoDB	PostgreSQL	AWS	AWS	Express	Express
9	C#	C	PostgreSQL	Redis	Docker	Docker	Ruby on Rails	Ruby on Rails
9	HTML/CSS	HTML/CSS	SQLite	SQLite	Heroku	Heroku	Other(s):	Other(s):
9	JavaScript	JavaScript			Linux	Linux		
9	Python	Ruby			MacOS	MacOS		
9	Ruby	Rust			Slack	Slack		
9	Rust	SQL				Other(s):		
9	SQL	TypeScript						
9	TypeScript	WebAssembly						
9	WebAssembly	Other(s):						
9	Other(s):							
13	Bash/Shell/PowerShell	Bash/Shell/PowerShell	Couchbase	Firebase	Android	Android	Angular/Angular.js	Express
13	HTML/CSS	HTML/CSS	DynamoDB	MySQL	AWS	AWS	ASP.NET	Vue.js
13	JavaScript	JavaScript	Firebase	Redis	Docker	Docker	Express	

PROGRAMMING LANGUAGE TRENDS

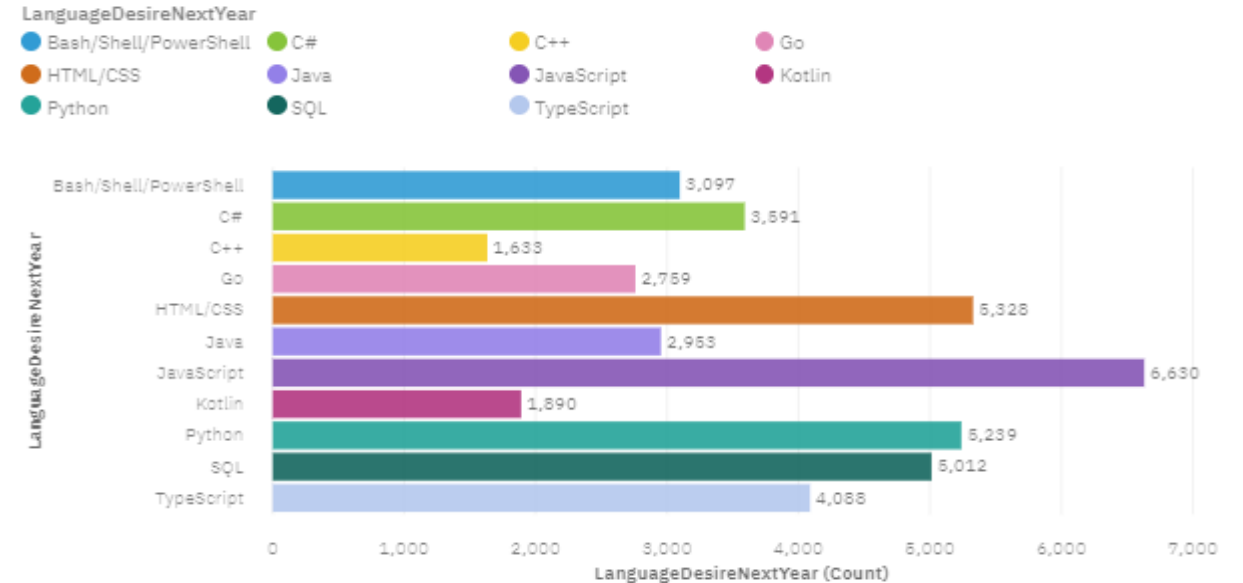
Current Year

Top 10 Languages Worked With



Next Year

Top 10 Languages Desired Next Year



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

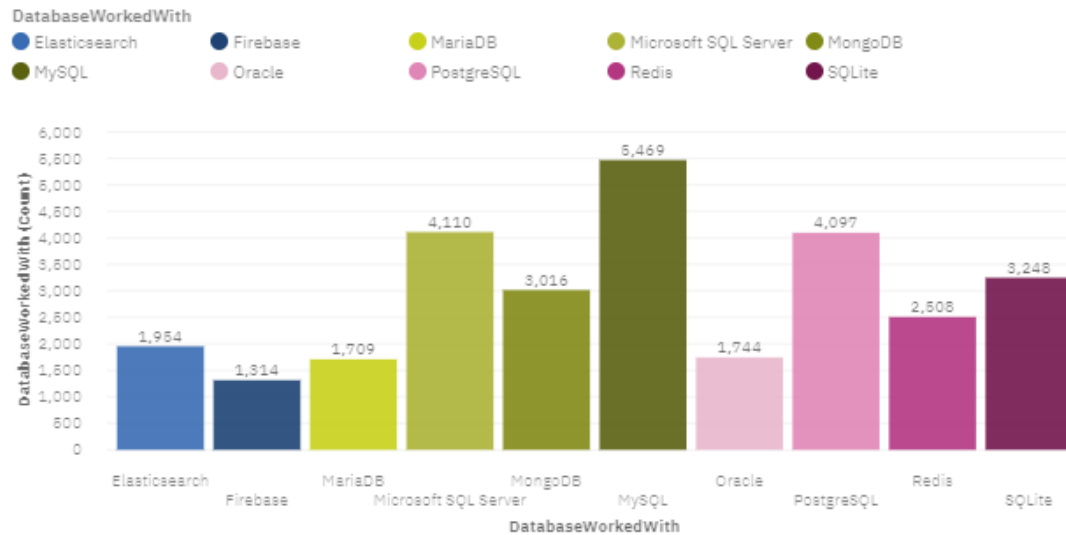
Implications

- 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

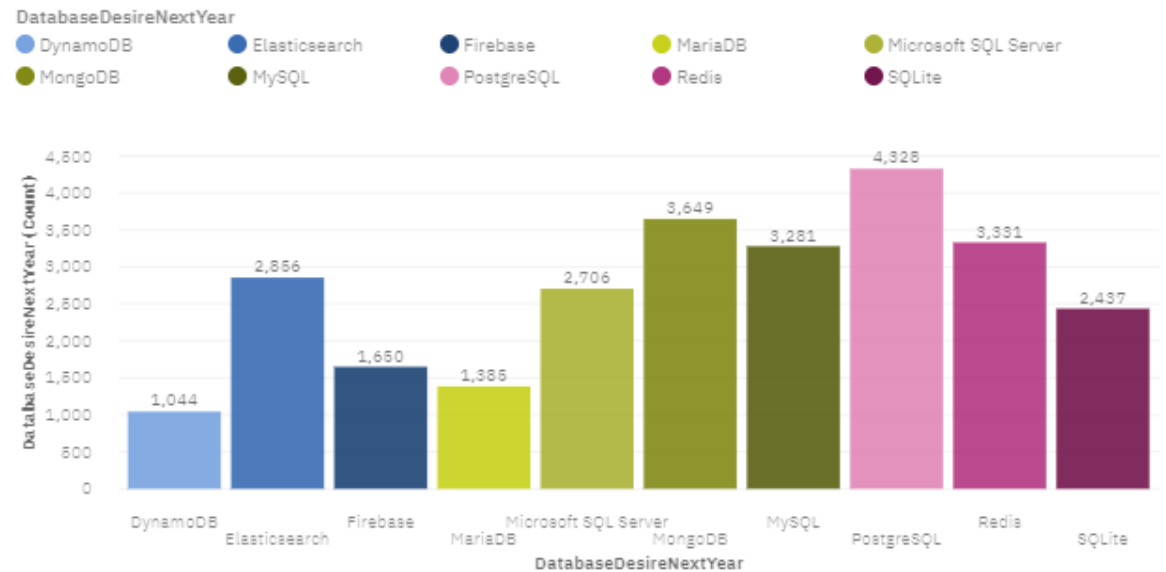
Current Year

Top 10 Databases Worked With



Next Year

Top 10 Databases Desired 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

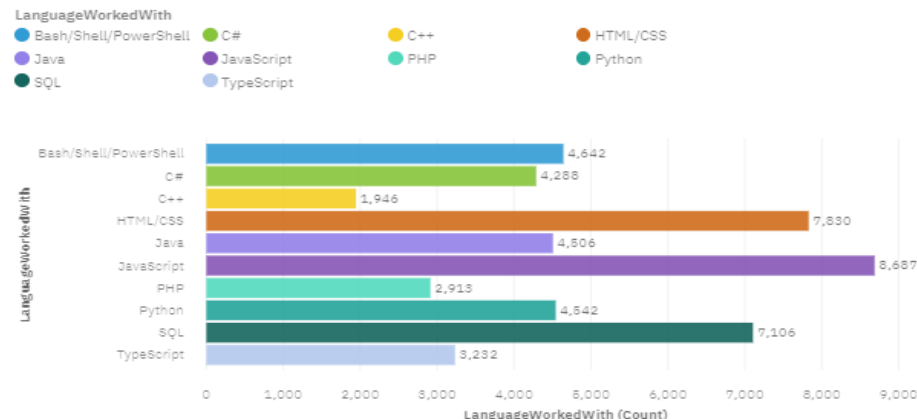
DASHBOARD

IBM COGNOS LINK DASHBOARD

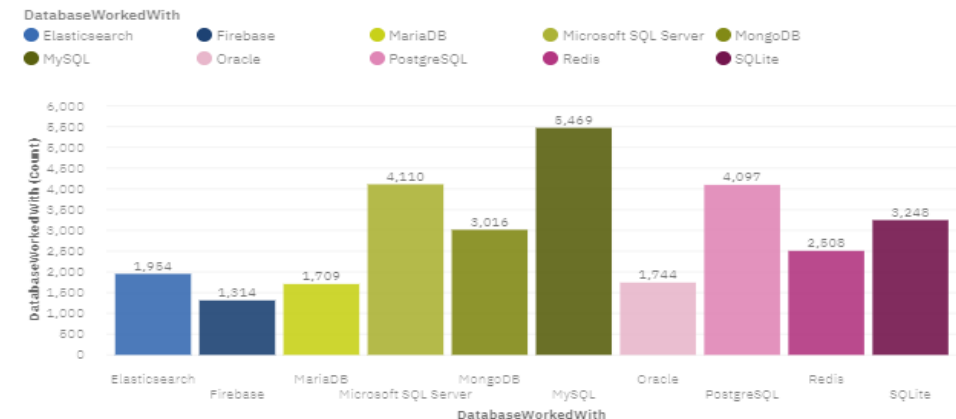


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Top 10 Languages Worked With



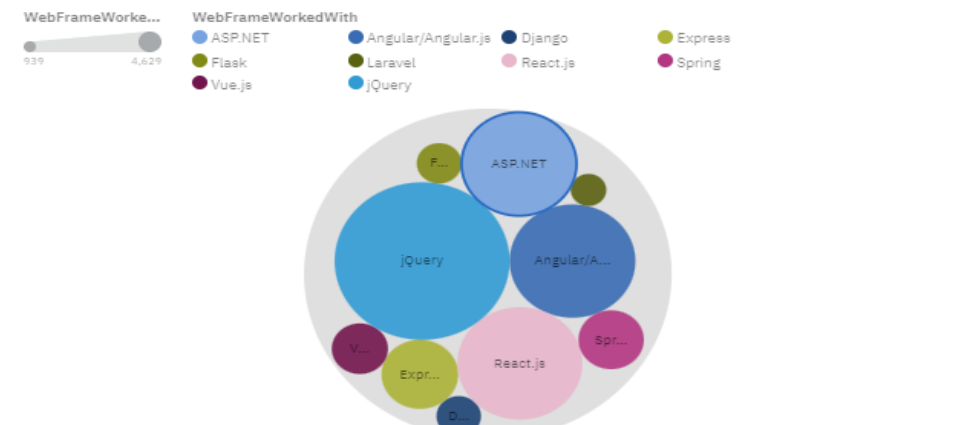
Top 10 Databases Worked With



Platforms Worked With

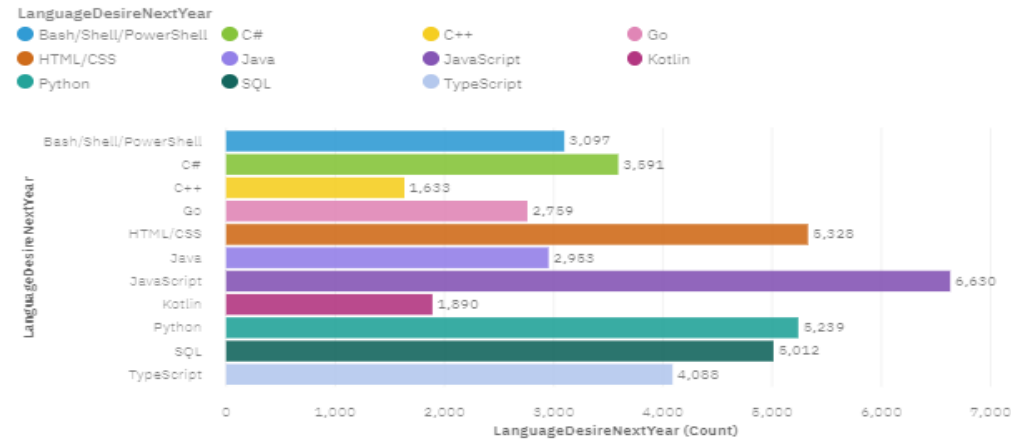


Top 10 Web Frames Worked With

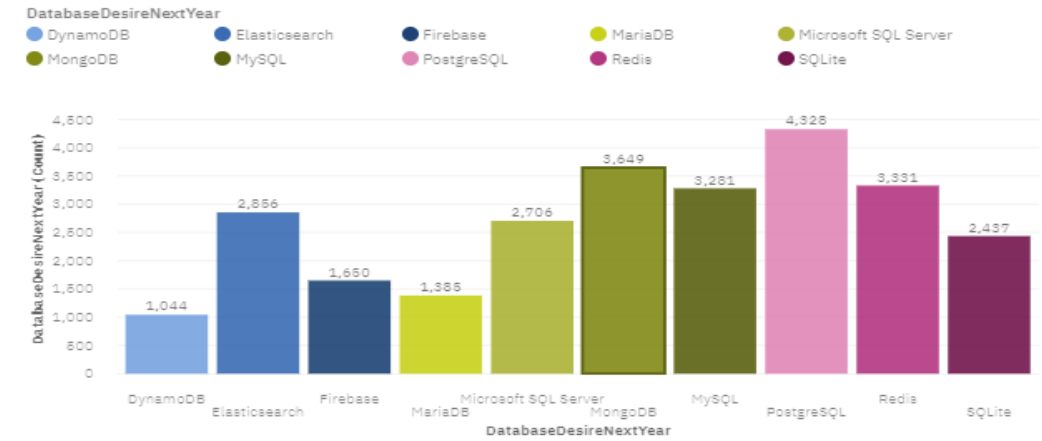


FUTURE TECHNOLOGY TREND DASHBOARD

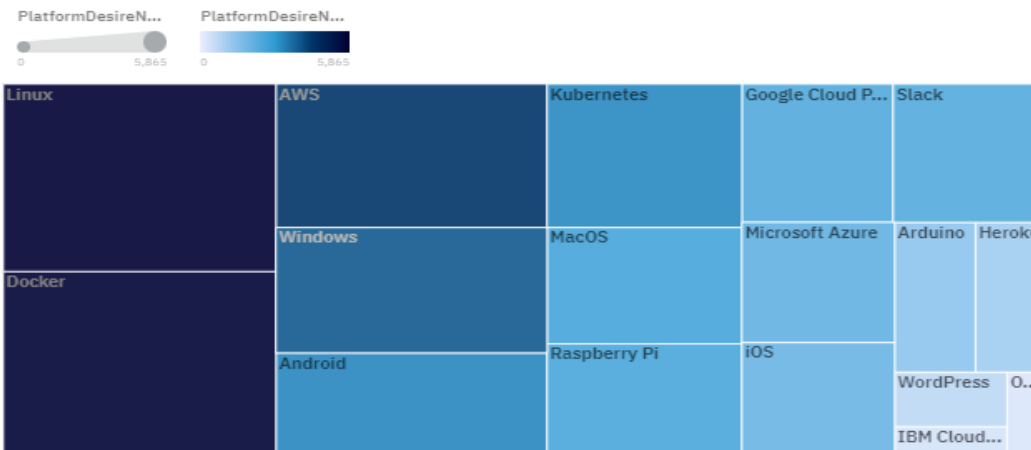
Top 10 Languages Desired Next Year



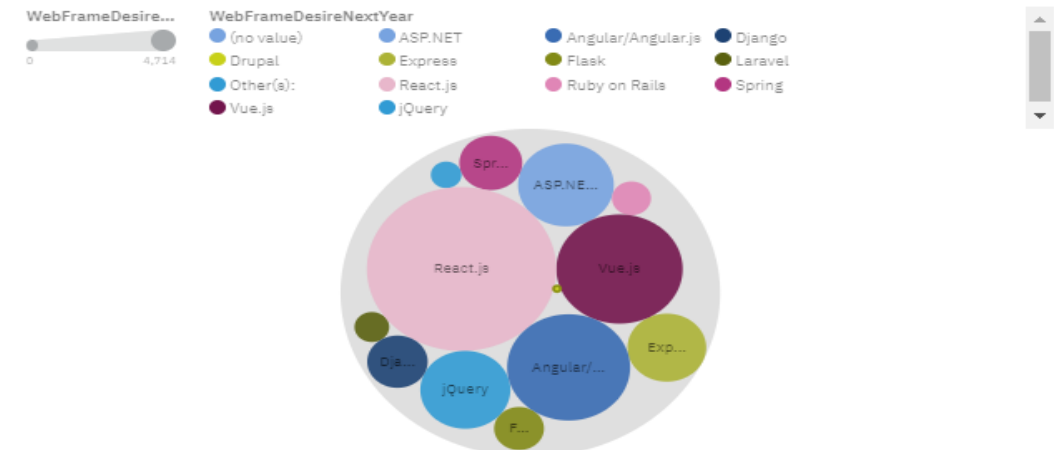
Top 10 Databases Desired Next Year



Platforms Desired Next year



Top 10 Web Frames Desired Next Year



DEMOGRAPHICS DASHBOARD



Filters



Fields



Properties

Current Technology Usage

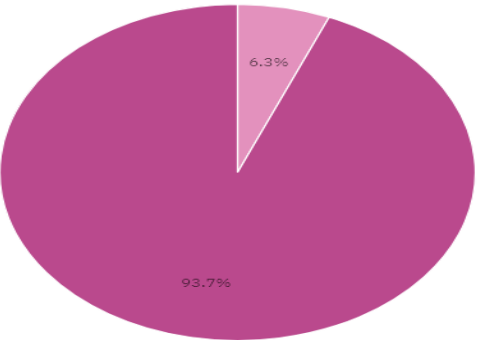
Future Technology Trend

Demographics

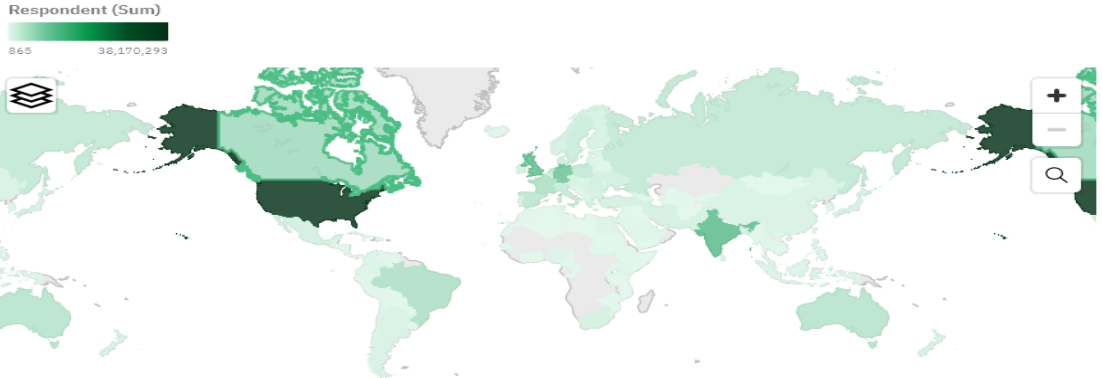


Respondent classified by Gender

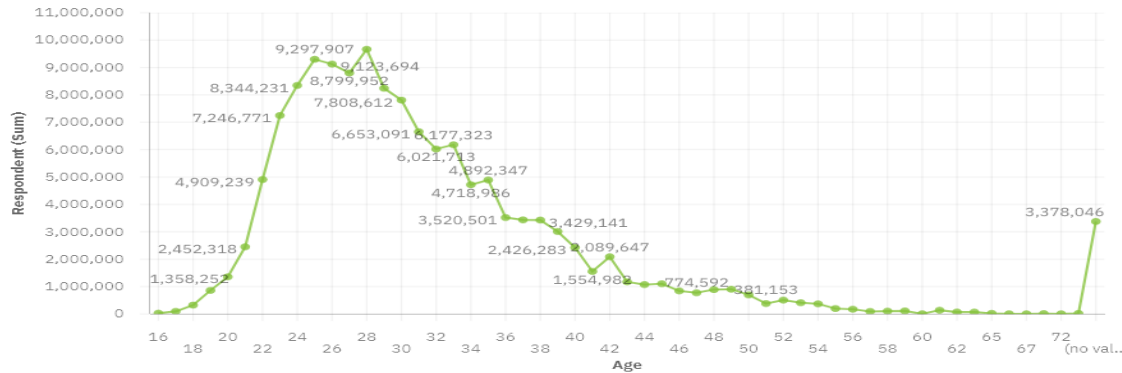
Gender
● Woman ● Man



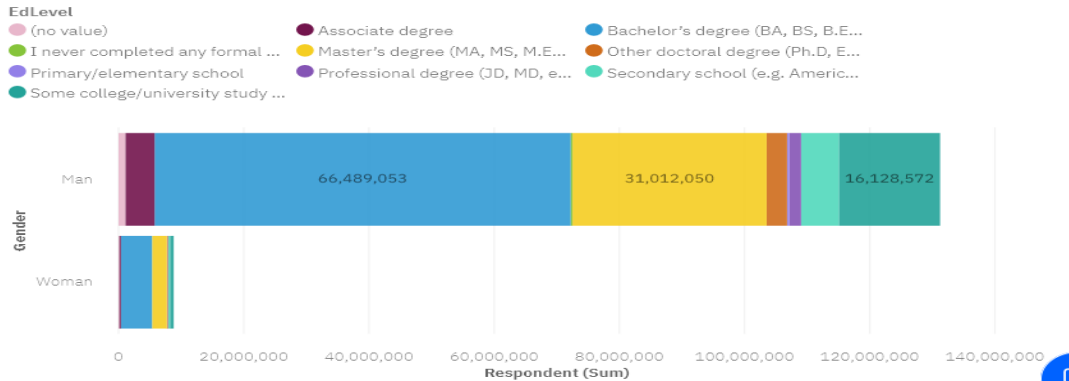
Respondent Count for Countries



Respondent Count by Age



Respondent Count by Gender, classified by Formal Education Level



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

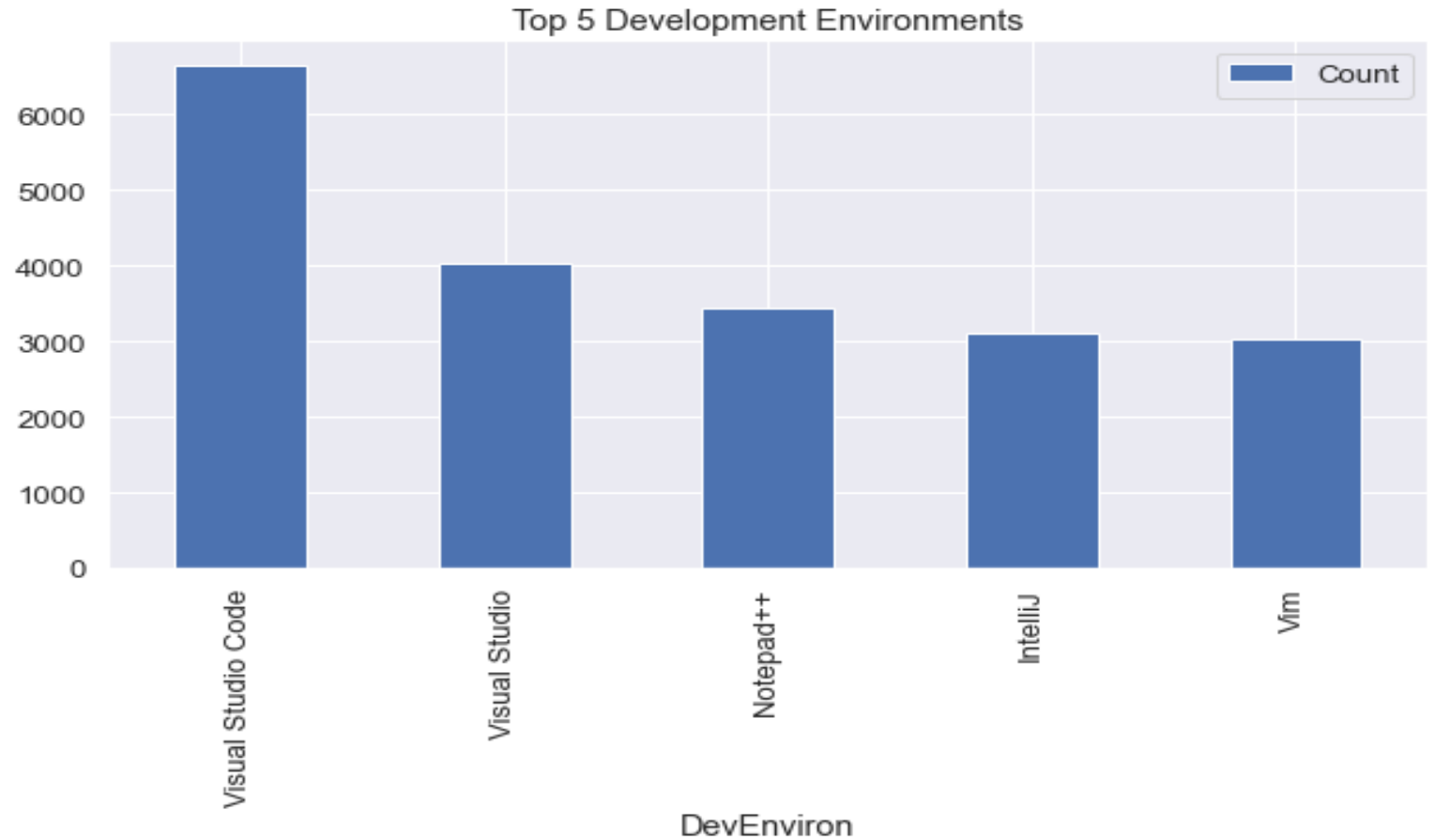
- Companies need to be flexible and adjust to rapid changes
- Need to spread technology out to lagging countries
- Impact of job hiring's
- Shift to faster app deployments and cloud services in future

CONCLUSION



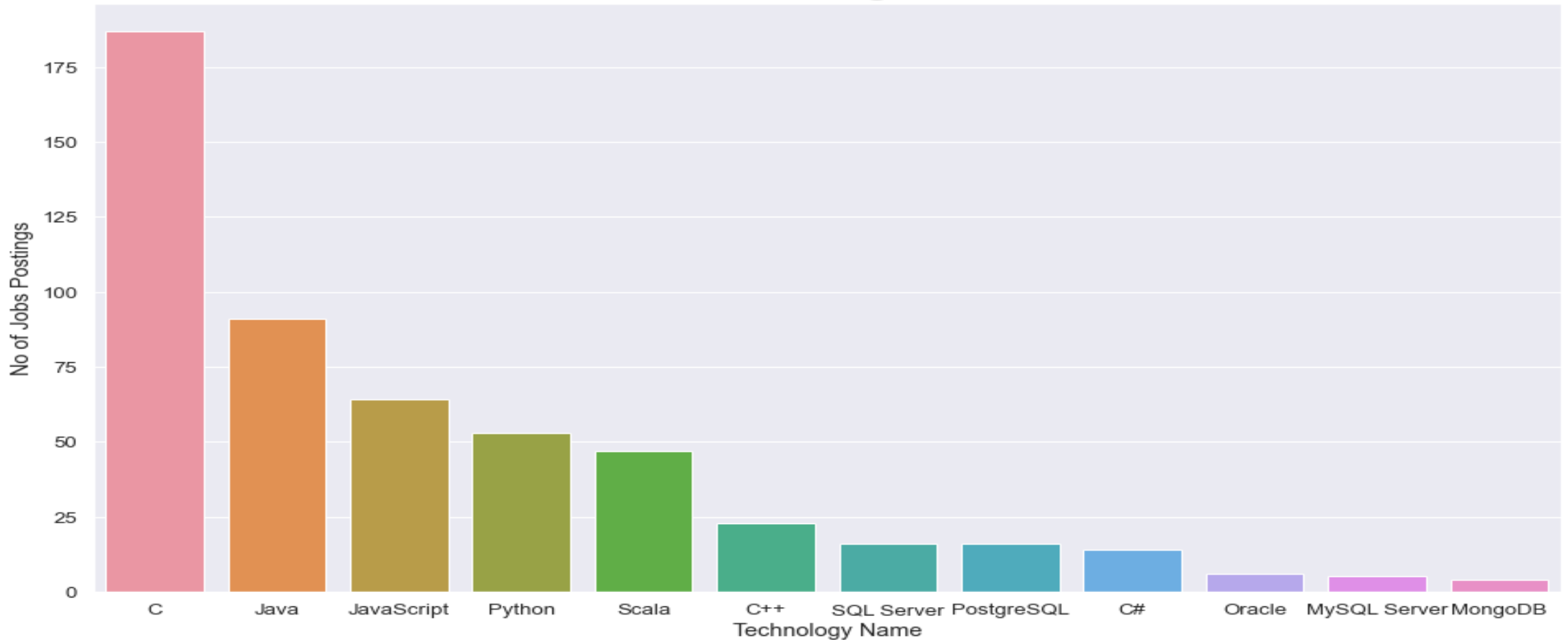
- Technology Trends for current and next year
- Programming Languages, Database and Platform overview
- Demographics overview
- Actions to be taken
- In future, incorporate Machine Learning to predict trends and salaries

APPENDIX



GITHUB JOB POSTINGS

Number of Jobs @ Github



POPULAR LANGUAGES BY SALARY

