



Technology Trends & Analysis Presentation

Yasir Savanur

23/04/2022

OUTLINE



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

EXECUTIVE SUMMARY



- Trends in Programming Languages and Databases
- Demographics Survey
- Technological gap in different countries
- Gender gap in different countries

INTRODUCTION



- About: Analysing 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

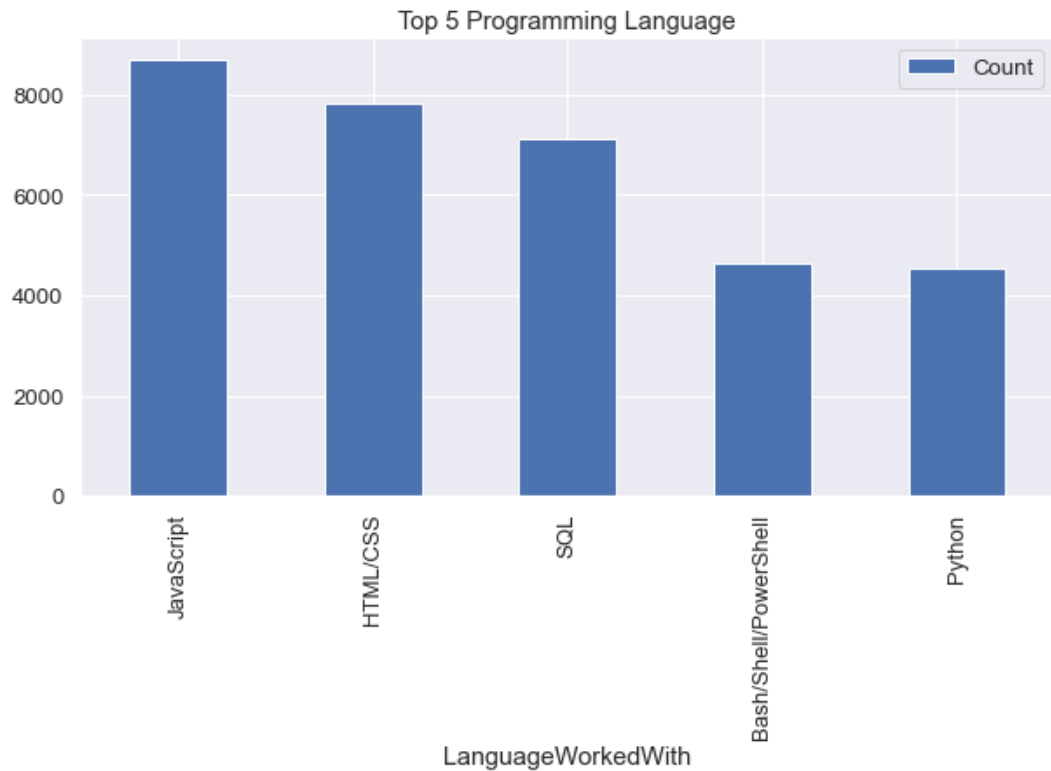
RESULTS

Results are based on this table:

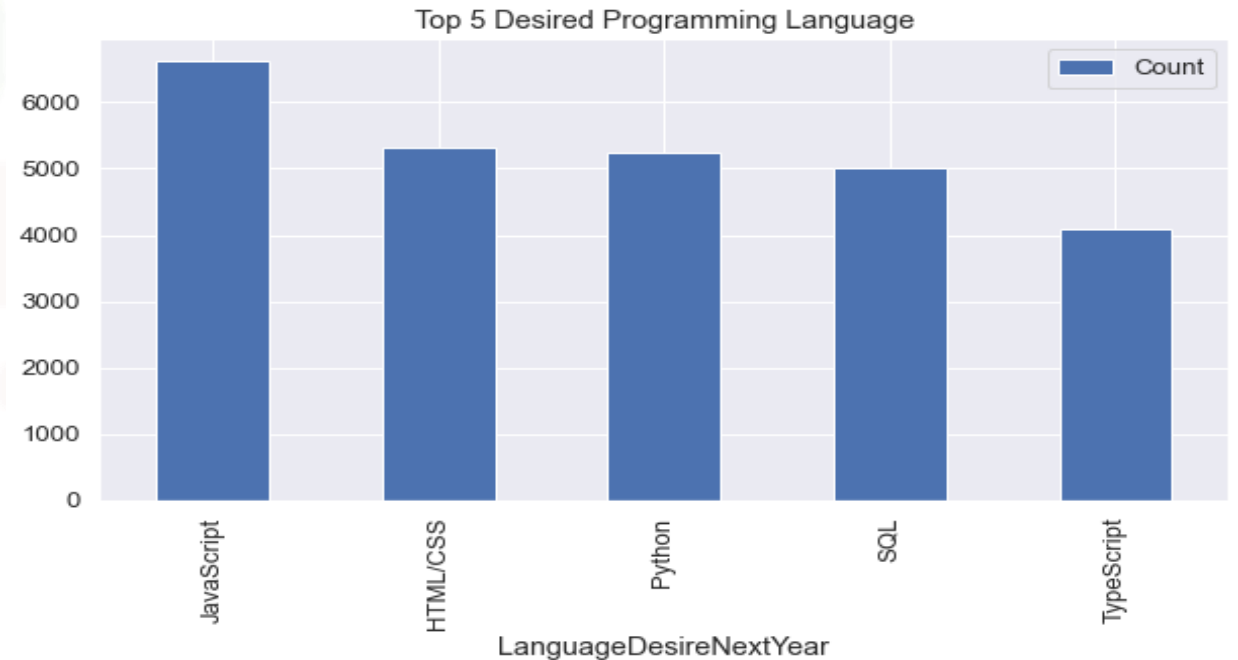
	Respondent	LanguageWorkedWith	LanguageDesireNextYear	DatabaseWorkedWith	DatabaseDesireNextYear	PlatformWorkedWith
0	4	C	C	MySQL	MySQL	Linux
1	4	C++	C#	SQLite	SQLite	Windows
2	4	C#	JavaScript	NaN	NaN	NaN
3	4	Python	SQL	NaN	NaN	NaN
4	4	SQL	NaN	NaN	NaN	NaN
...
74584	25142	Go	Python	NaN	NaN	NaN
74585	25142	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



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

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

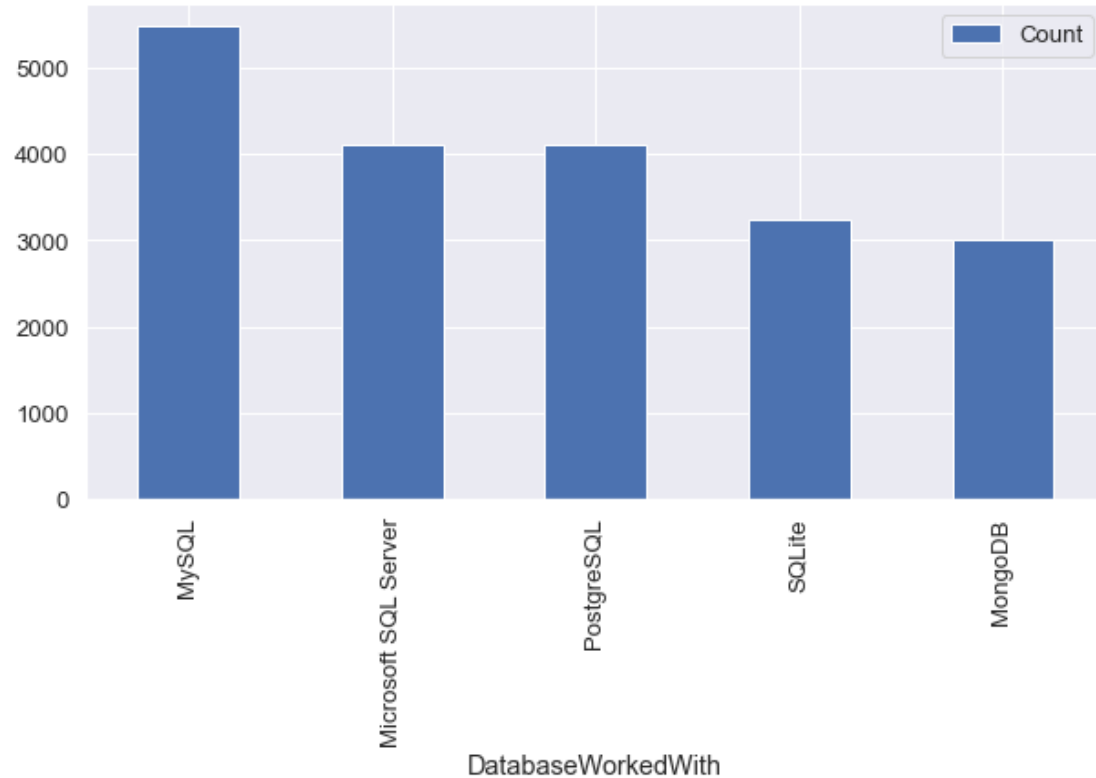
Implications

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

DATABASE TRENDS

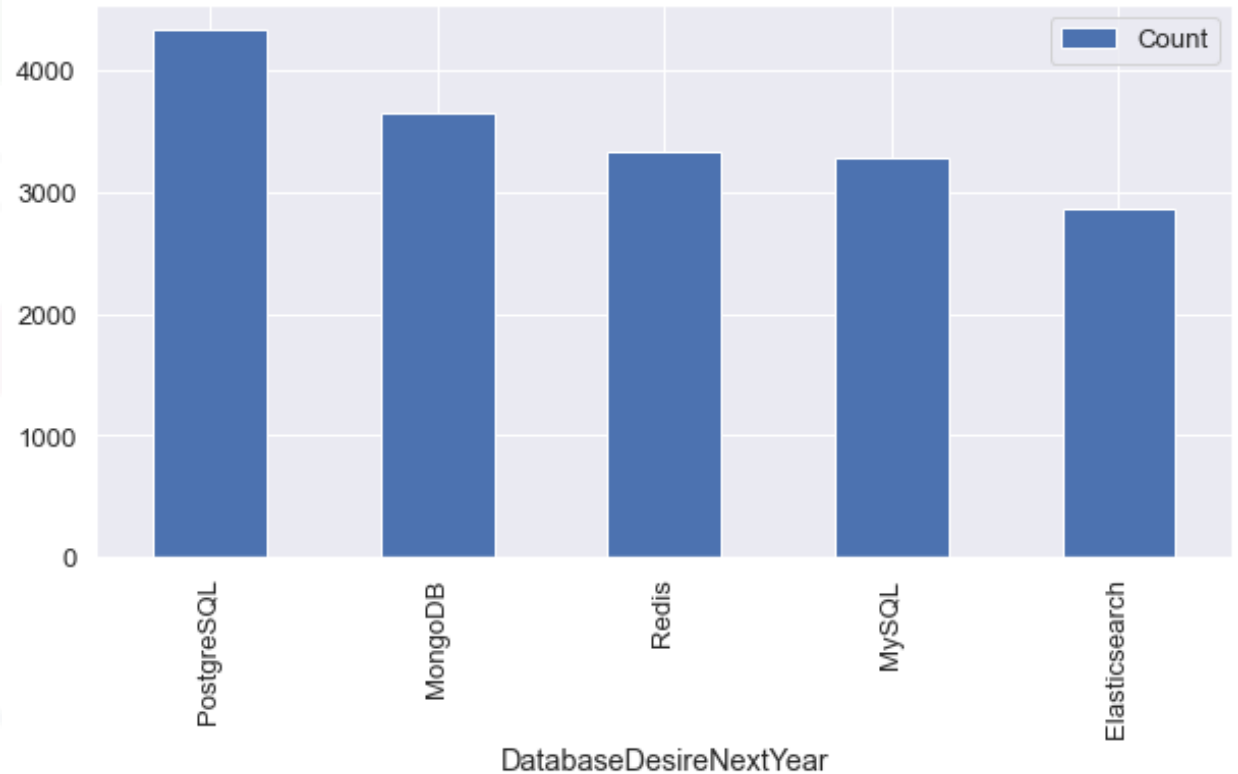
Current Year

Top 5 Databases



Next Year

Top 5 Databases Desired Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL is the most popular
- Followed by 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

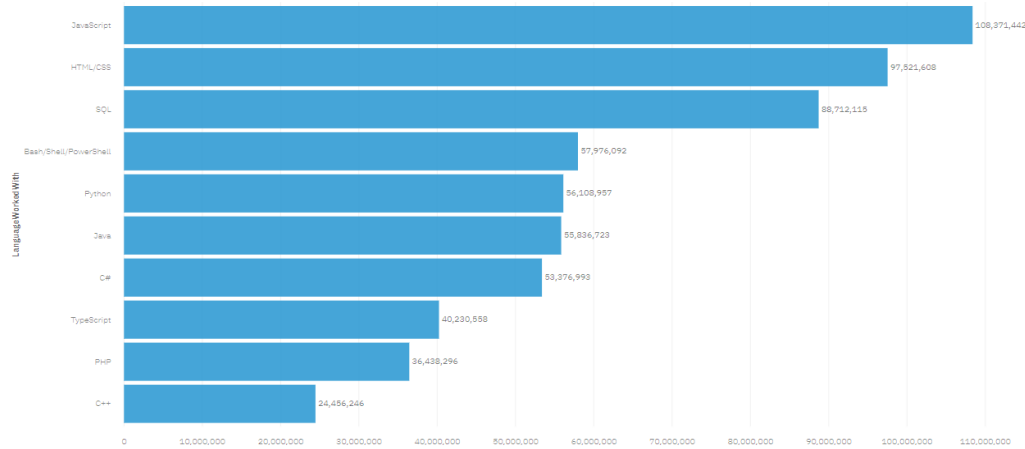
IBM COGNOS DASHBOARD EMBEDDED URL



<https://eu-gb.dataplatform.cloud.ibm.com/dashboards/080db4b4-7cd8-40fe-963f-8aafe714847d/view/5b00c3762cb23efc52efc4e407cb2b02753e730fbabbd001878d7b495b327397f06d1099c828195adb470166a5b9105fcd>

DASHBOARD - CURRENT TECHNOLOGY USAGE

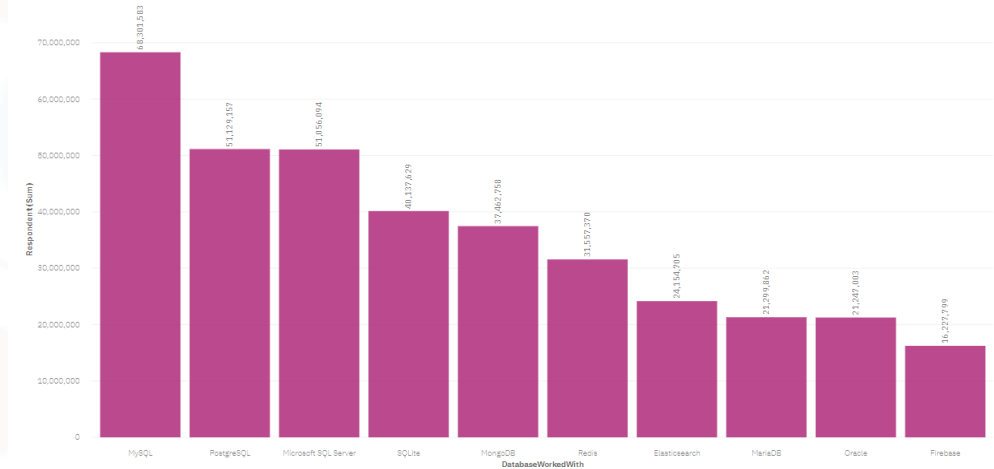
Top 10 Languages



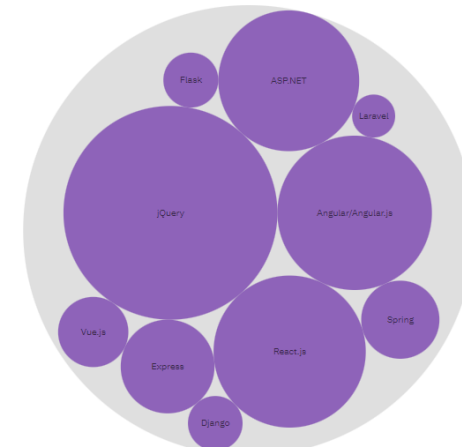
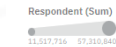
Top 10 Platforms



Top 10 Databases

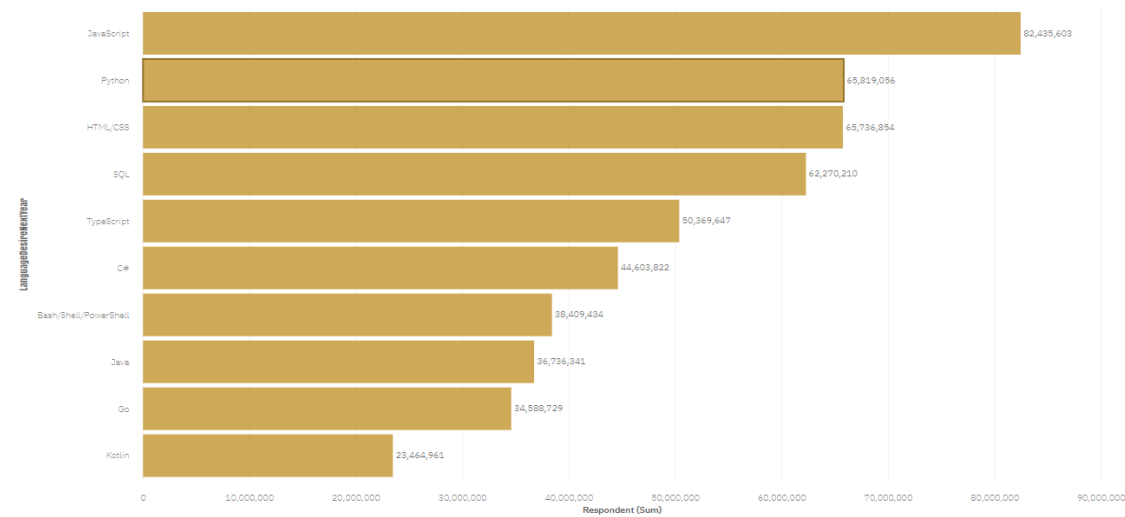


Top 10 Web Frameworks

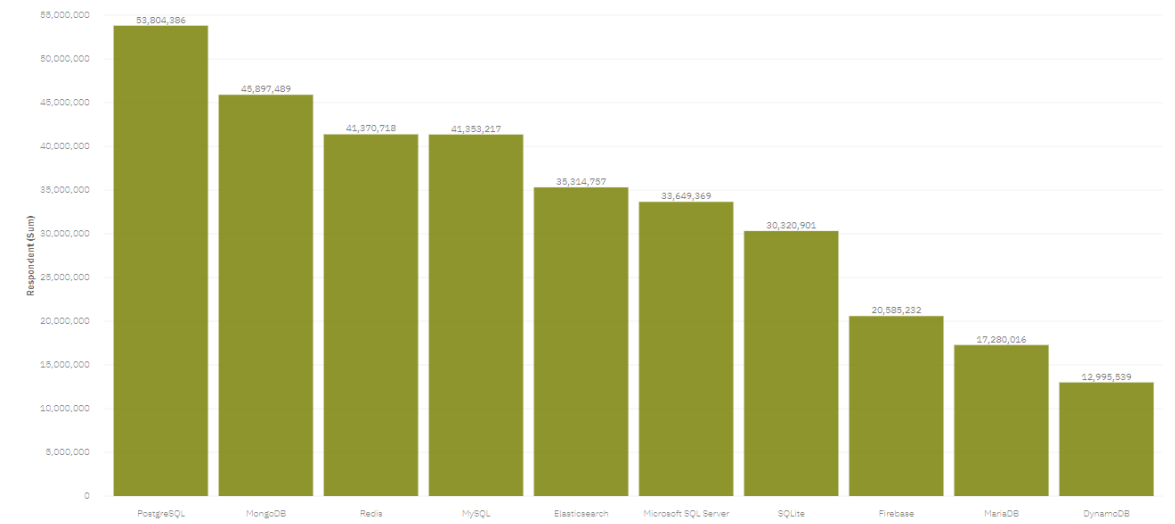


DASHBOARD – FUTURE TECHNOLOGY TREND

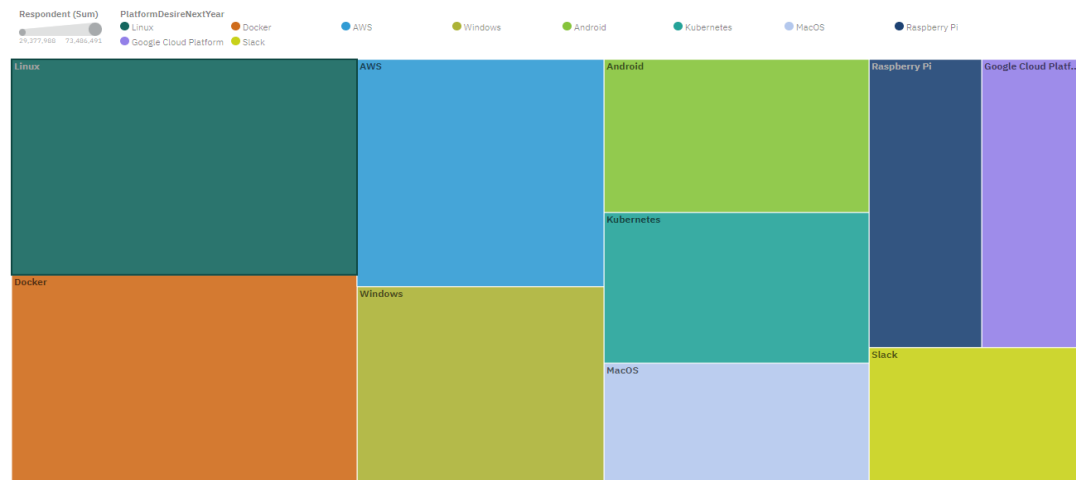
Top 10 Languages Desire to Learn Next Year



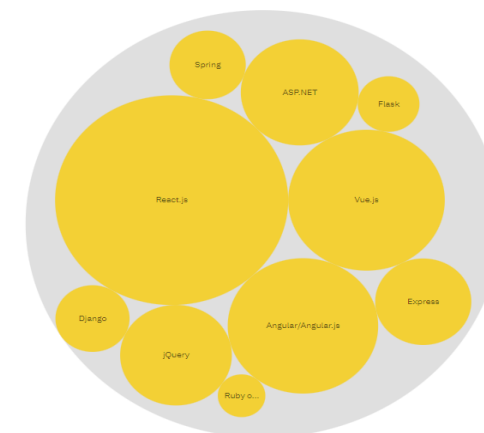
Top 10 Database Desire to Learn Next Year



Platform Desire to Learn Next Year



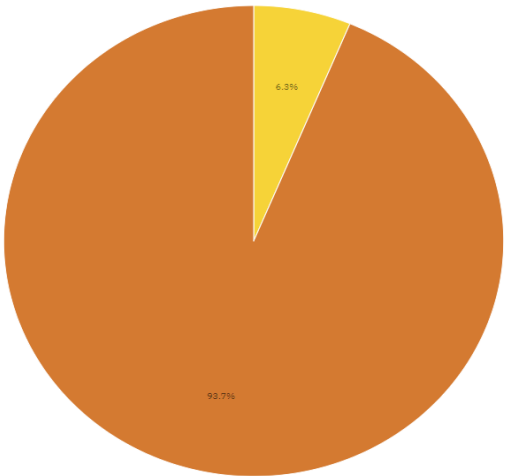
Top 10 Web Frameworks Desire to Learn Next Year



DASHBOARD - DEMOGRAPHICS

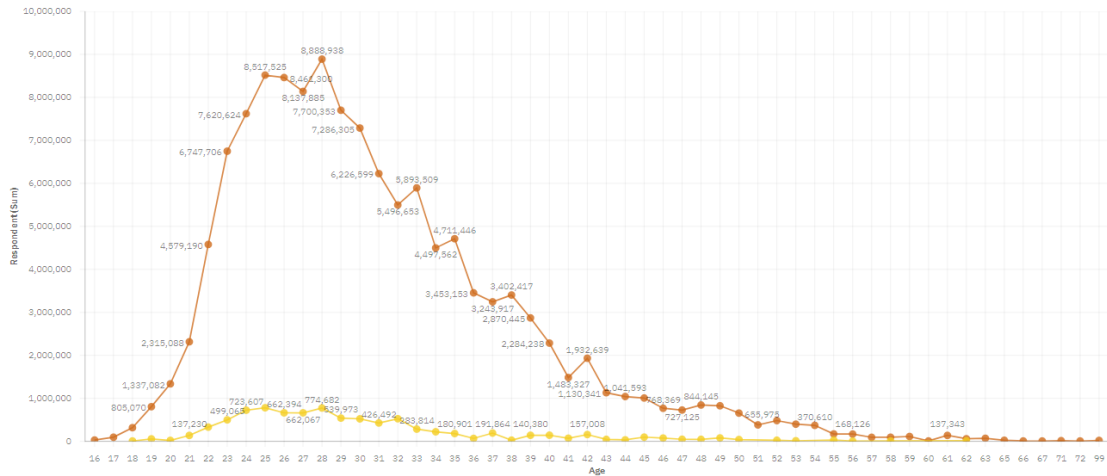
Respondent classified by Gender

Gender
Woman Man



Respondent Count by Age

Gender
Man Woman



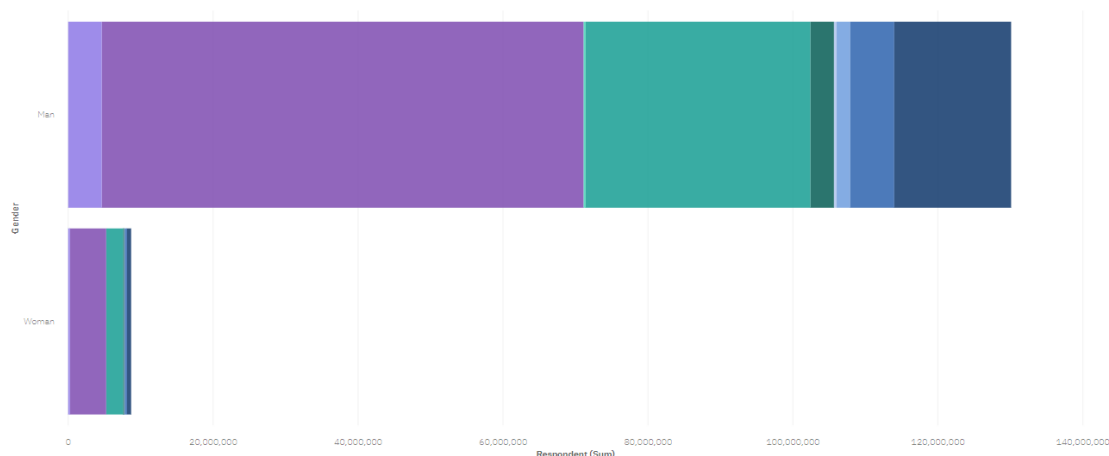
Respondent Count for Countries

Respondent (Sum)
865 38,170,293



Respondent Count by Gender, classified by Formal Education Level

EdLevel
Associate degree Bachelor's degree (BA, BS, B.E., B.S.) I never completed any formal... Master's degree (MA, MS, M.E., M.S.) Other doctoral degree (Ph.D., E.D., etc.) Primary/elementary school Professional degree (JD, MD, etc.)
Secondary school (e.g. American high school) Some college/university study ...



DISCUSSION



- No significant difference in Technology trends between now and future
- Training and Reskilling workers is essential
- More female participation in Technology field should be enforced
- Bridge 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 such as the US, UK & India
- Gender gap in technology jobs
- Platforms like Docker and AWS are growing

Implications

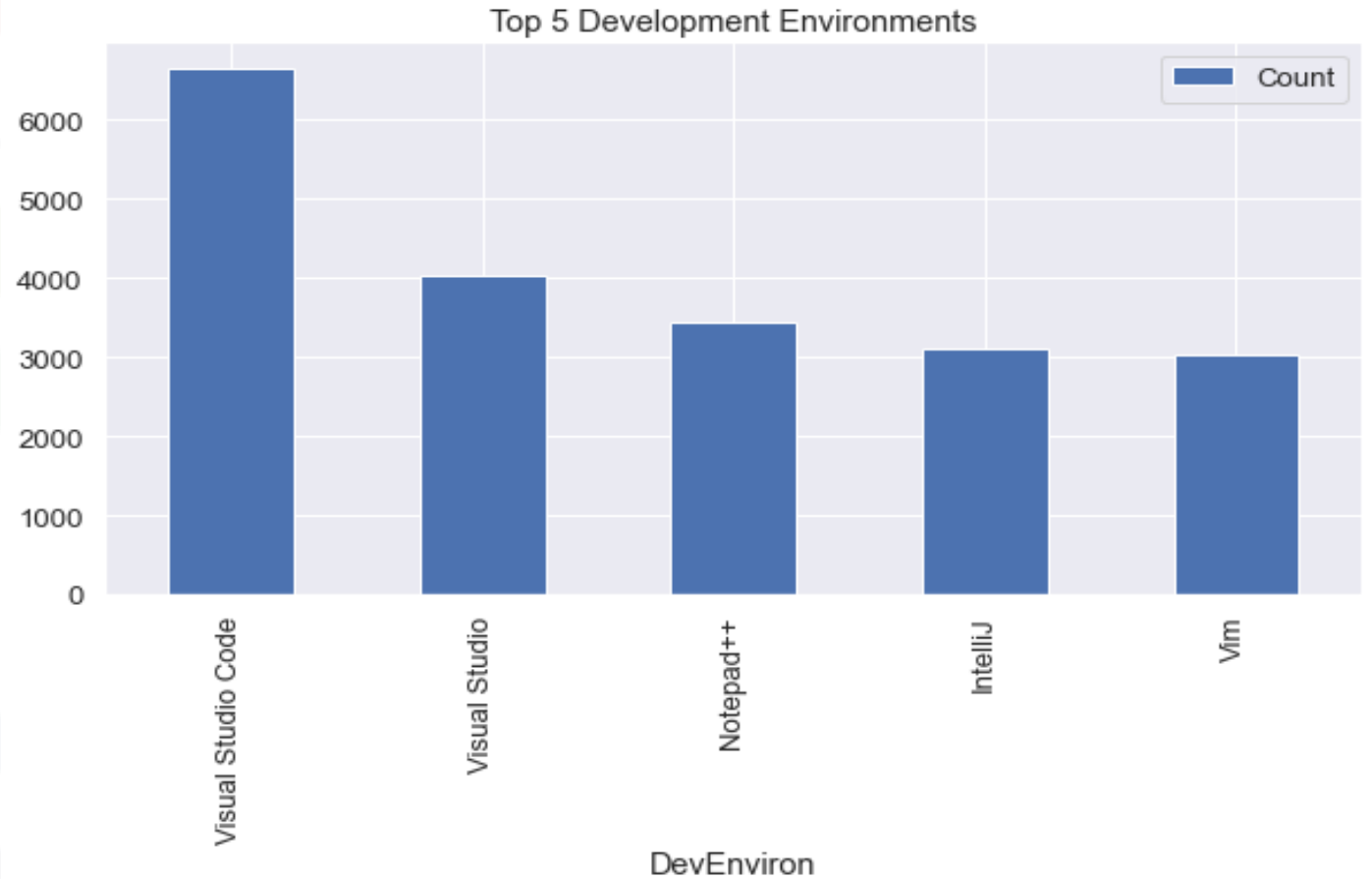
- Companies need to be flexible and adjust to rapid changes
- Need to spread technology out to lagging countries
- Impact of job hiring's
- Shift to faster app deployments and cloud services in future

CONCLUSION

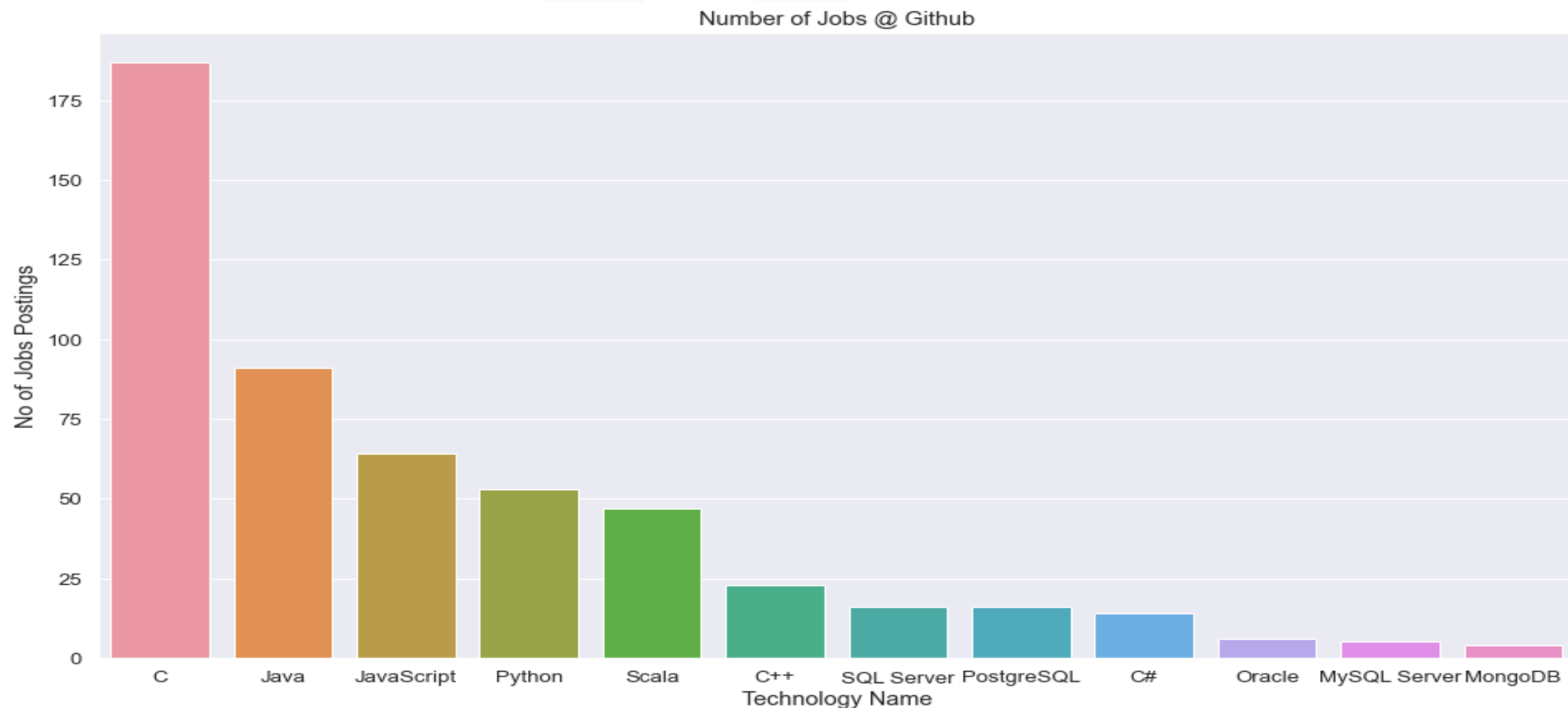


- Technology Trends for current and next year
- Programming Languages, Database and Platform overview
- Demographics overview
- Actions to be taken
- In future, incorporate Machine Learning to predict trends and salaries

APPENDIX



GITHUB JOB POSTINGS



POPULAR LANGUAGES BY SALARY

Job Salaries

