



Technology Trends Analysis

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OUTLINE



- Executive Summary
- Introduction
- Methodology
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 - Dashboard
- Discussion
 - Findings & Implications
- Conclusion
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EXECUTIVE SUMMARY



- Trends in programming languages and databases
- Demographic 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

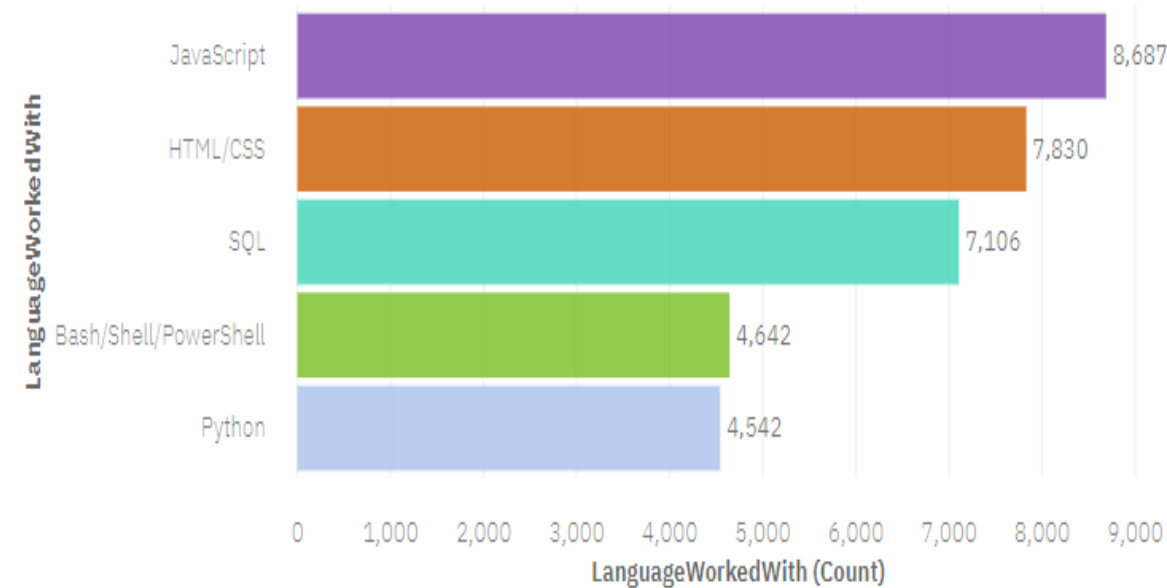
RESULTS

- Results are based on the below table:

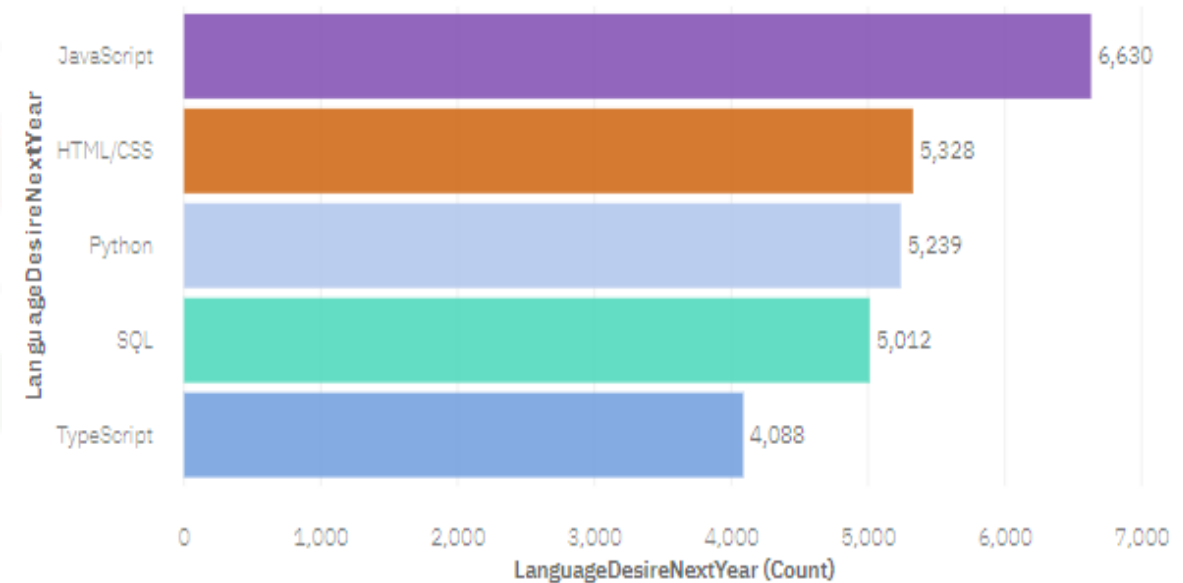
	Respondent	LanguageWorkedWith	LanguageDesireNextYear	DatabaseWorkedWith	DatabaseDesireNextYear	PlatformWorkedWith
0	4	C	C	MySQL	MySQL	Linux
1	4	C++	C#	SQLite	SQLite	Windows
2	4	C#	JavaScript	NaN	NaN	NaN
3	4	Python	SQL	NaN	NaN	NaN
4	4	SQL	NaN	NaN	NaN	NaN
...
74584	25142	Go	Python	NaN	NaN	NaN
74585	25142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

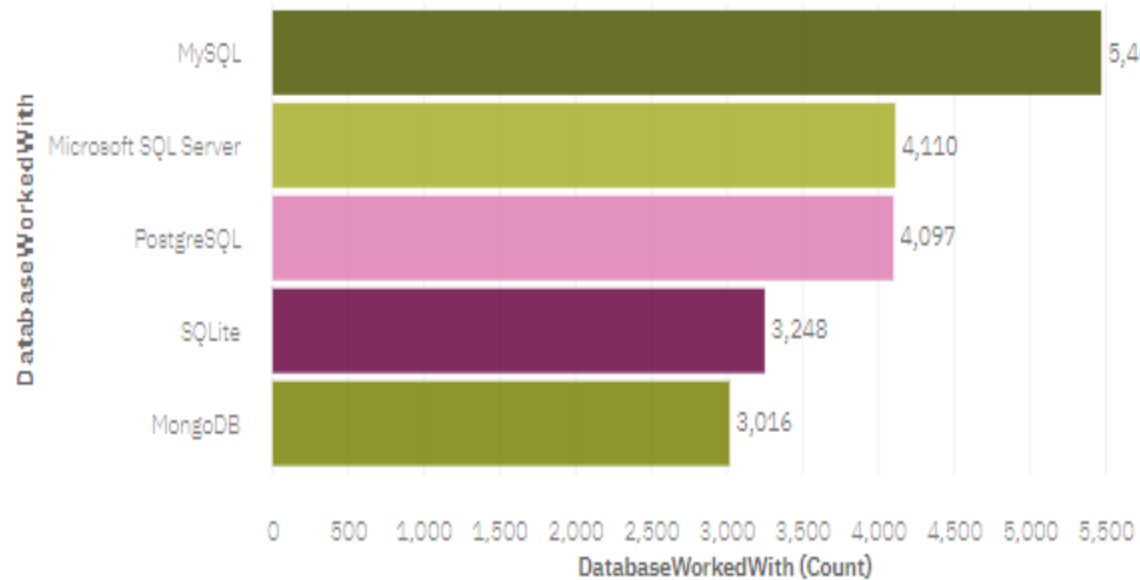
- JavaScript, HTML/CSS, SQL are top 3 this year
- Python and Typescript becoming popular next year
- PowerShell edged out in next year

Implications

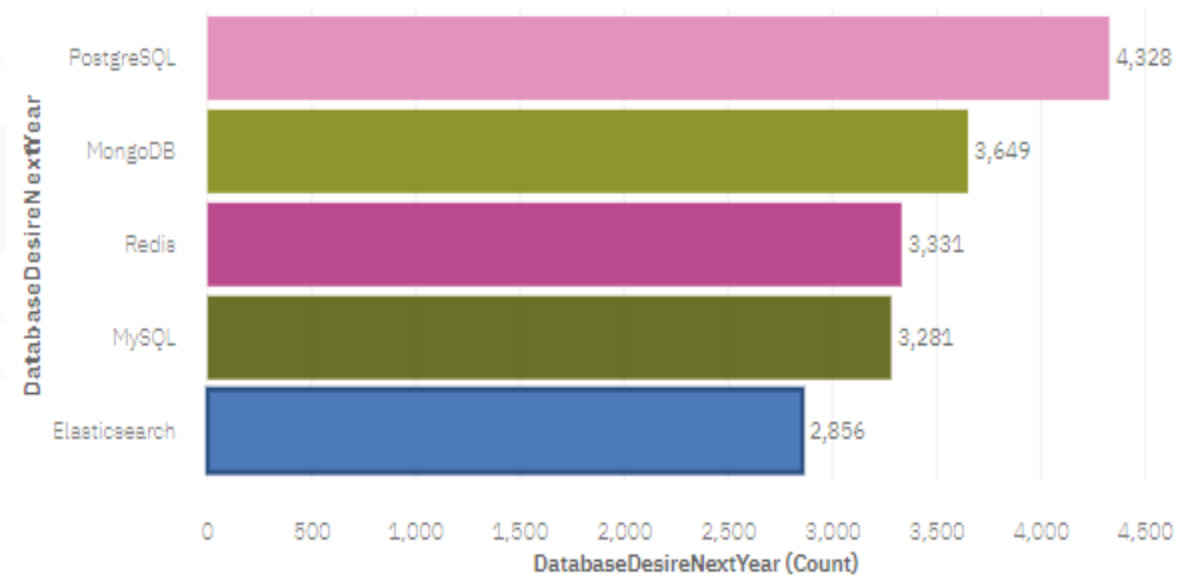
- Web development are still in high demand
- Big Data technology in companies still requires SQL
- With AI and ML in rising demand, Python is best choice

DATABASE TRENDS

Current Year



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

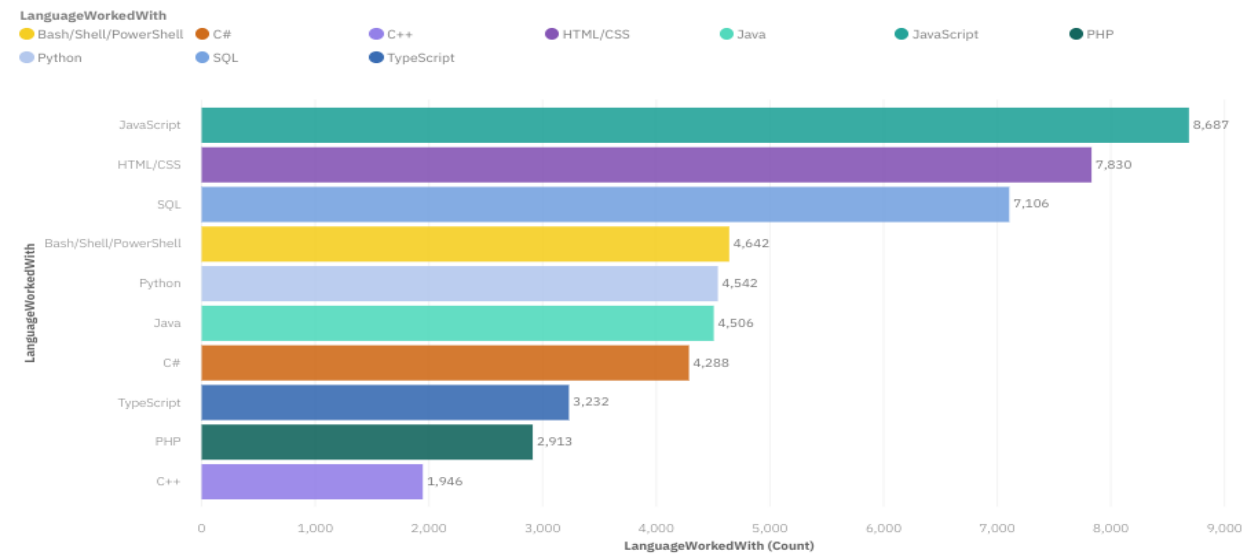


[Technology Trend Analysis Dashboard](#)

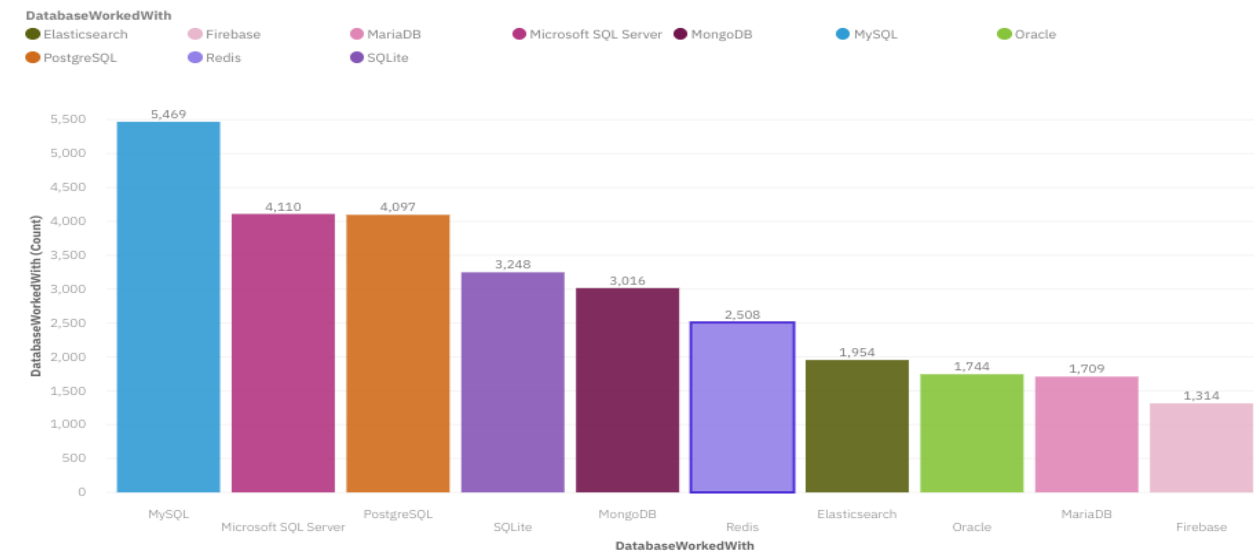
CURRENT TECHNOLOGY USAGE DASHBOARD

Current Technology Usage	Future Technology Trend	Demographics
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Top 10 LanguageWorkedWith



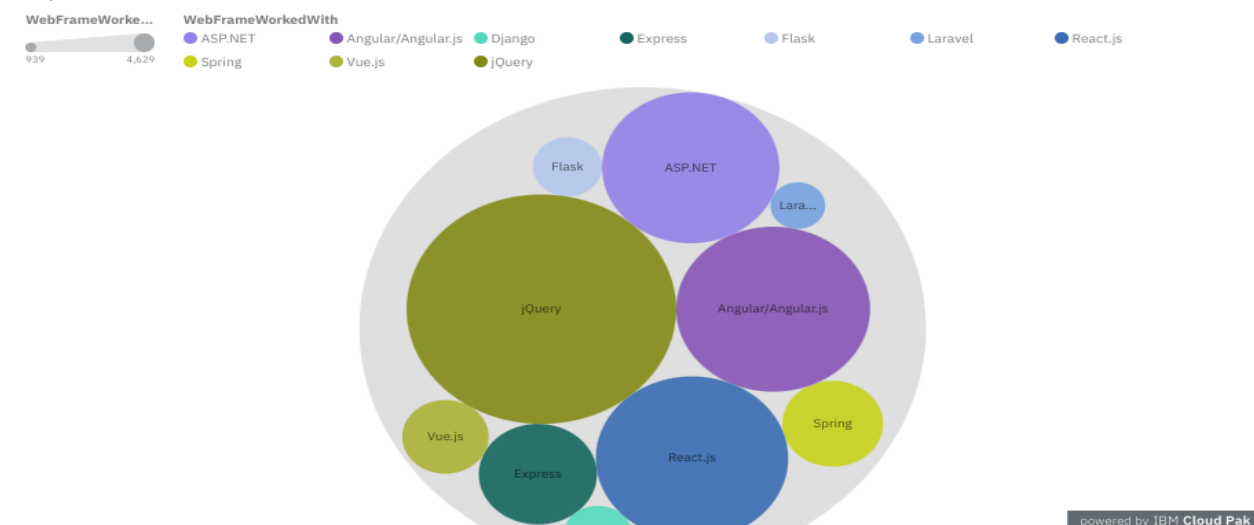
Top 10 DatabaseWorkedWith



PlatformWorkedWith



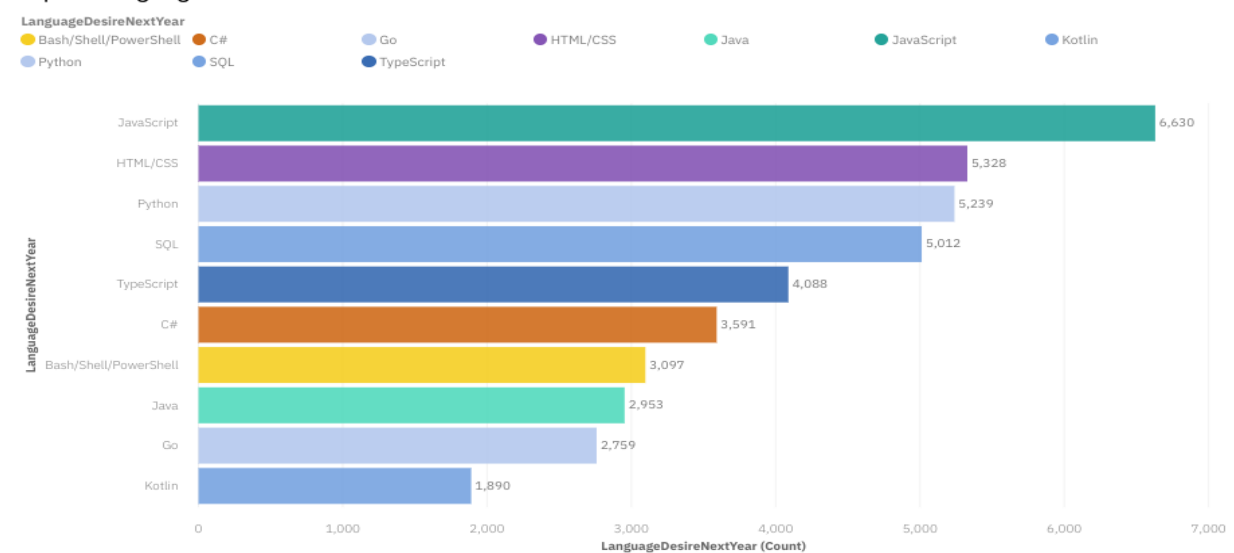
Top 10 WebFrameWorkedWith



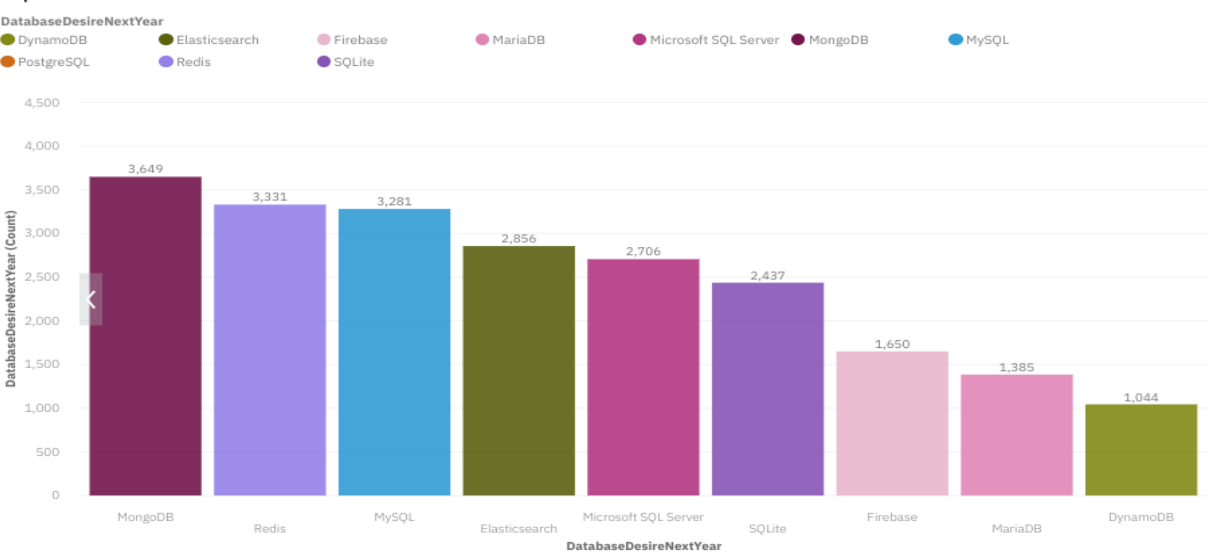
FUTURE TECHNOLOGY TREND DASHBOARD

Current Technology Usage Future Technology Trend Demographics

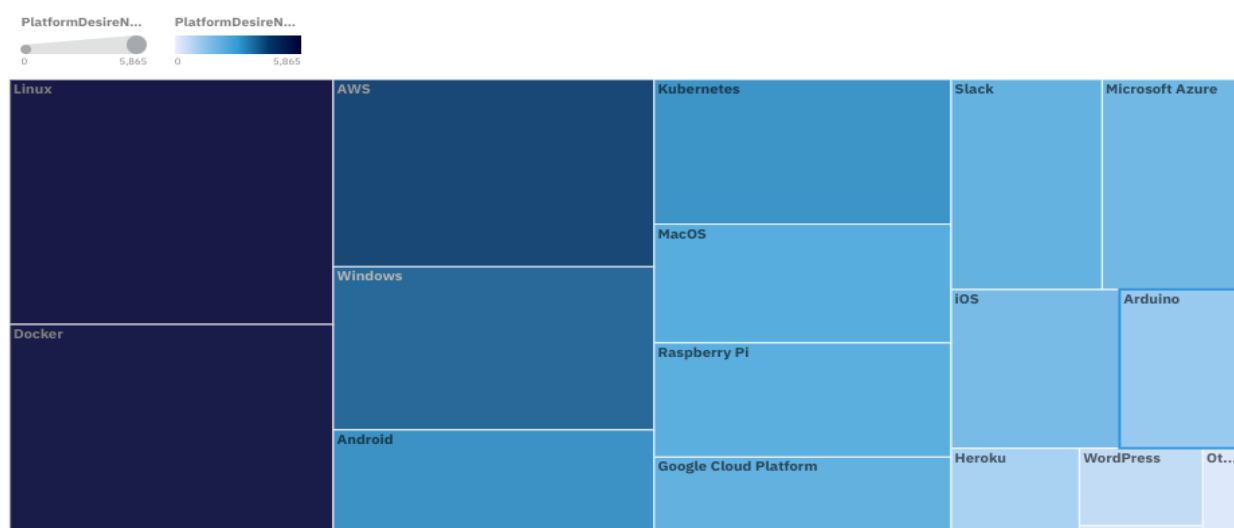
Top 10 LanguageDesireNextYear



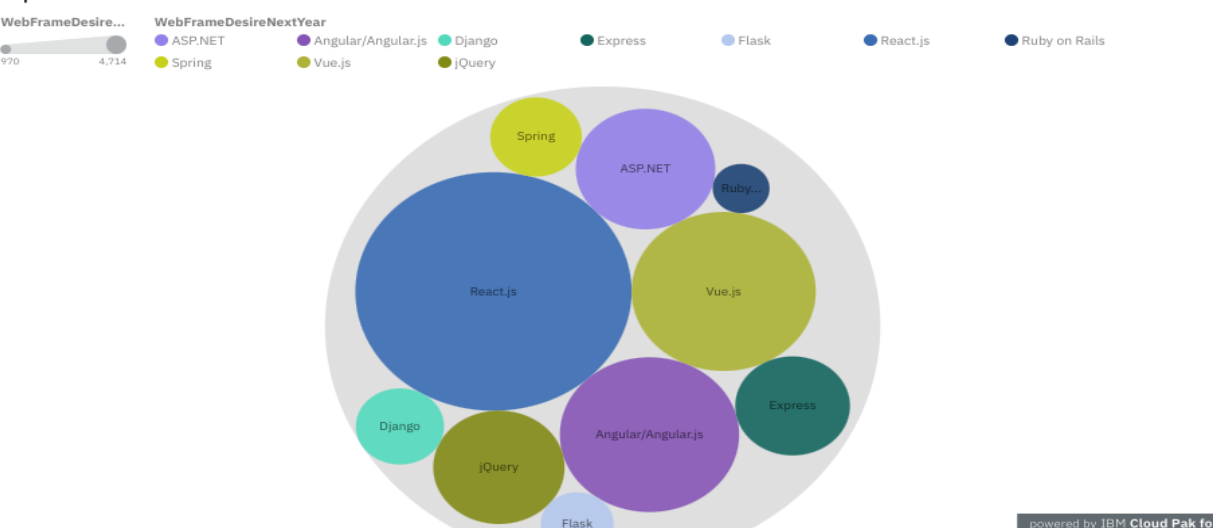
Top 10 DatabaseDesireNextYear



PlatformDesireNextYear



Top 10 WebFrameDesireNextYear



IBM Developer

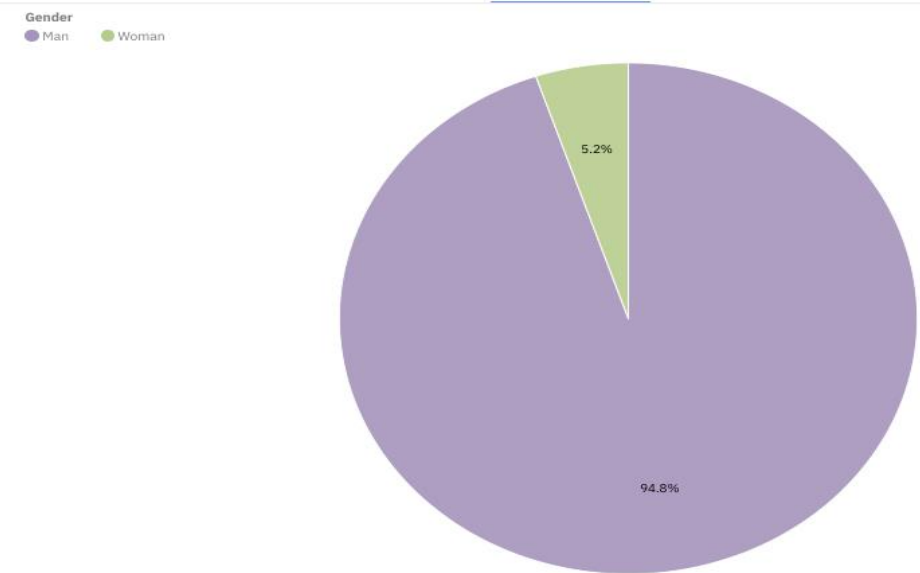
SKILLS NETWORK

powered by IBM Cloud Pak for

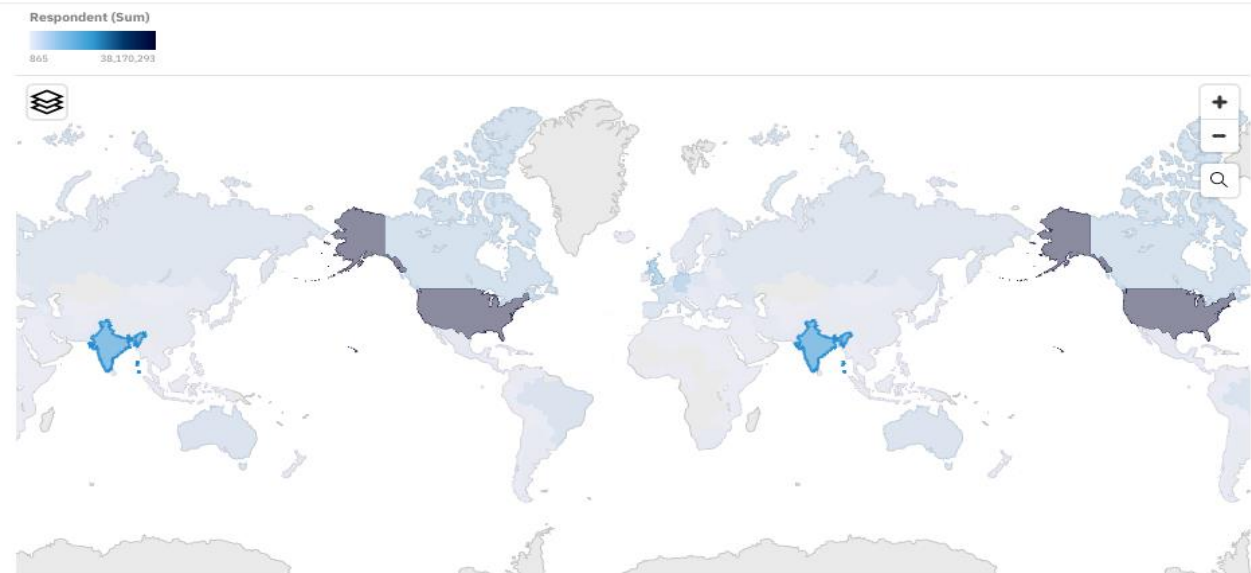
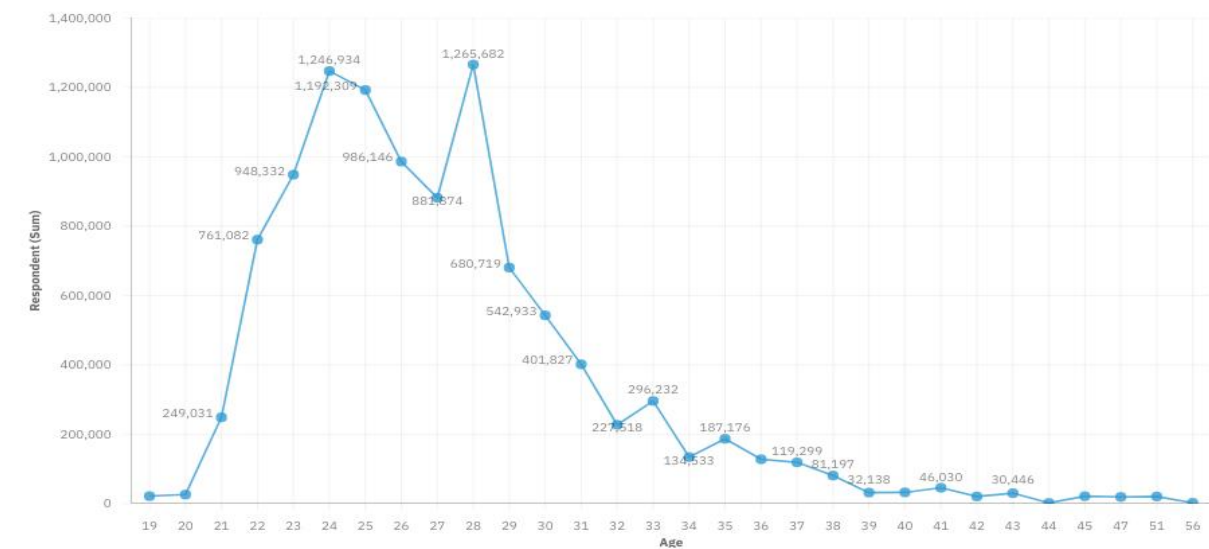


DEMOGRAPHICS DASHBOARD

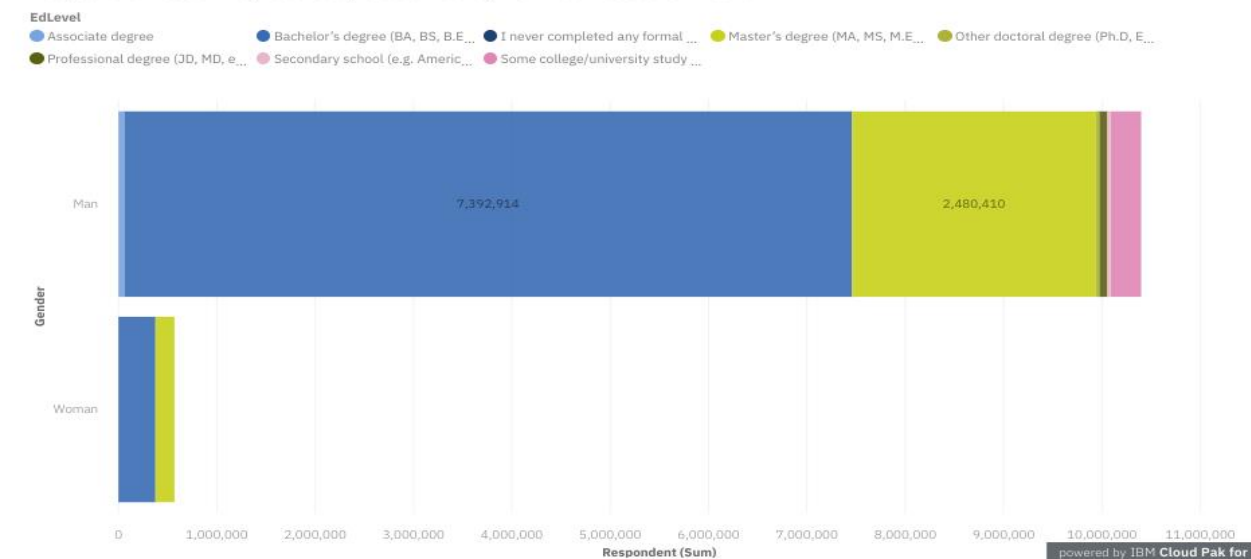
Current Technology Usage Future Technology Trend **Demographics**



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

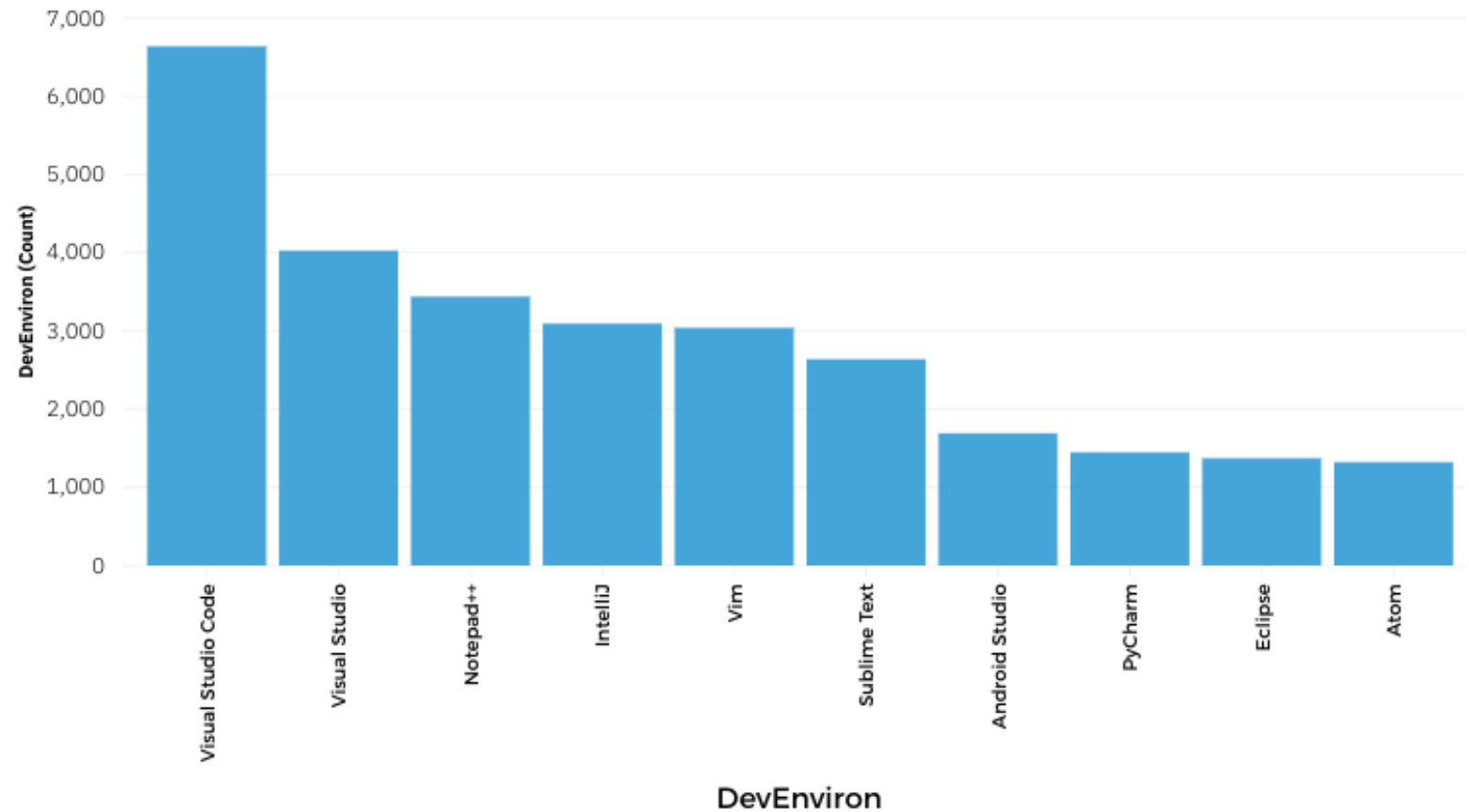


- Data collected from developer survey was examined
- Findings into various insights of languages most desired by developers
- The Findings should still be relevant to developers and will need to continually upgrade to stay competitive as the trend changes
- Gender representation will need to be addressed

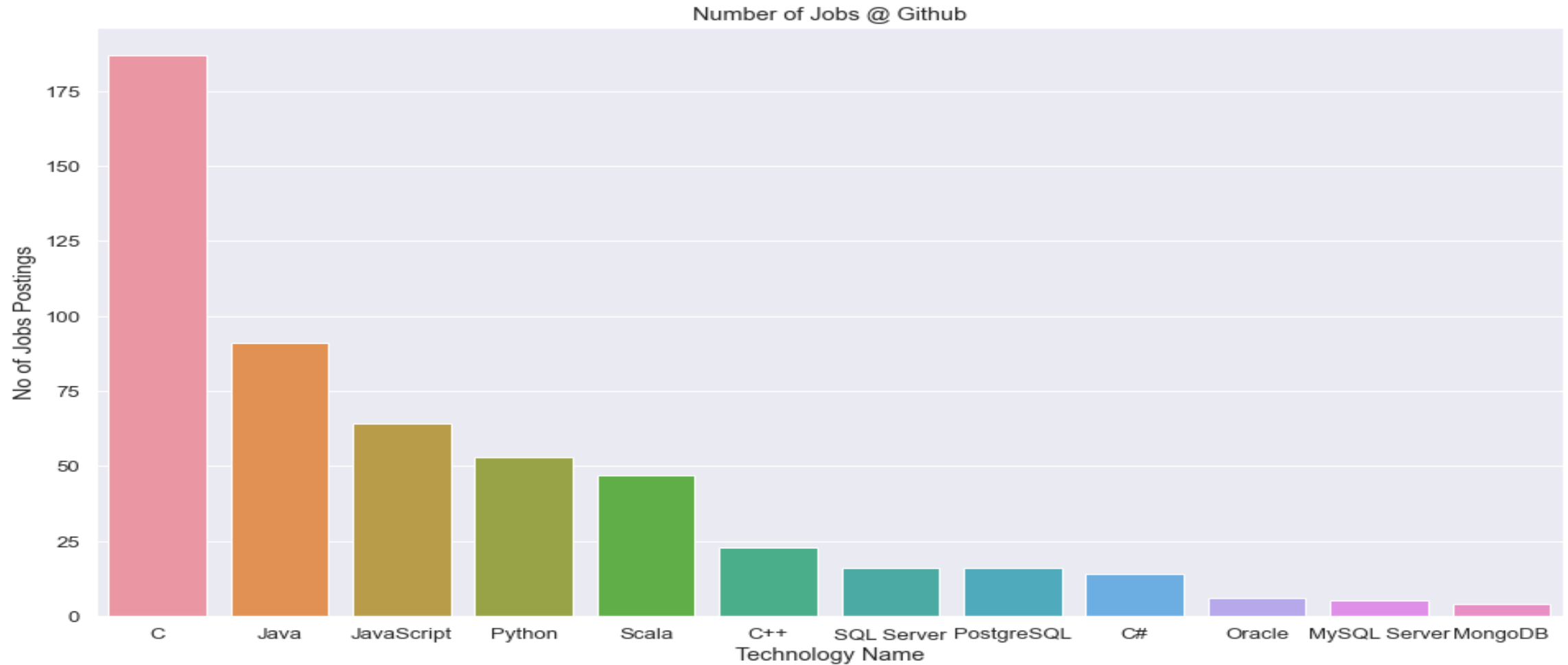
APPENDIX



Top 10 Development Environments



GITHUB JOB POSTINGS



POPULAR LANGUAGES BY SALARY

