



IBM Data Analytics Capstone Project – Final Representation

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OUTLINE



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

EXECUTIVE SUMMARY



- Trends in programming languages and databases
- Current Technology Usage
 - Top 10 Languages Worked with
 - Top 10 Database Worked with
 - Platform worked with Word-Cloud
 - Top 10 Web-frame Worked with
- Future Technology Trend
 - Top 10 Languages Desired Next Year
 - Top 10 Database Desired Next Year
 - Top 10 Web-frame Desired Next Year
 - Platform worked with Desired Next Year
- Demographics

INTRODUCTION



- 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



- Collecting Data
 - Stack Overflow Developer 2019 Survey
 - GitHub Job Postings Using API and Web-scraping.
 - Programming Languages Annual Salary Using API and Web-scraping.
- Exploring Data
 - Finding Duplicates & Removing Duplicates.
 - Finding & Imputing Missing Value.
 - Normalizing Data.
 - Handling Outliers.
 - Correlation
- Visualization Data
 - Visualization Distribution, Relation, Composition & Comparison of data.
 - Building Dashboard.

RESULTS

The Results are based on these tables:

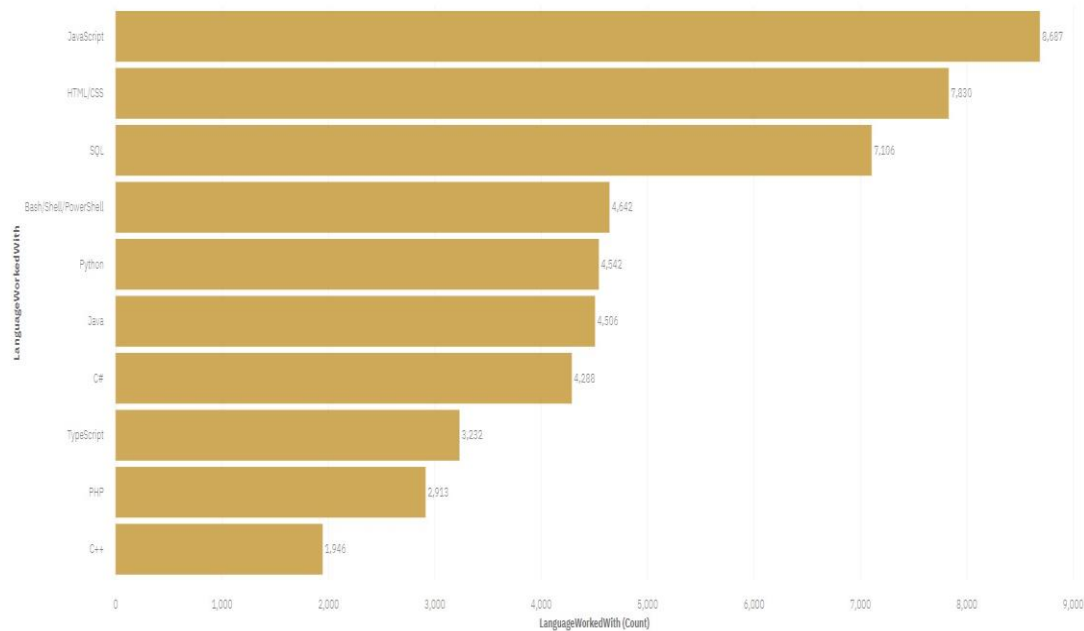
Out[77]:

	Table_Name
0	LanguageWorkedWith
1	LanguageDesireNextYear
2	DatabaseWorkedWith
3	DatabaseDesireNextYear
4	PlatformWorkedWith

PROGRAMMING LANGUAGE TRENDS

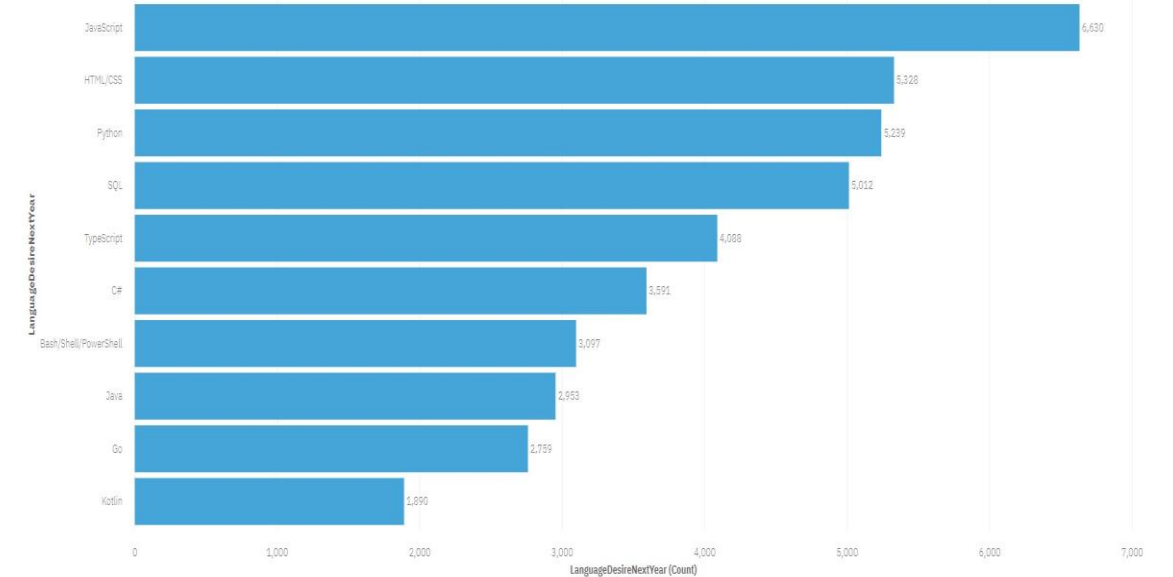
Current Year

Top 10 LanguageWorkedWith



Next Year

Top 10 LanguageDesireNextYear



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript, HTML/CSS, SQL are top 3 this year
- Web Assembly comes as least popular for current years and VBA appears least choice for next year
- Python and Typescript becoming popular next year

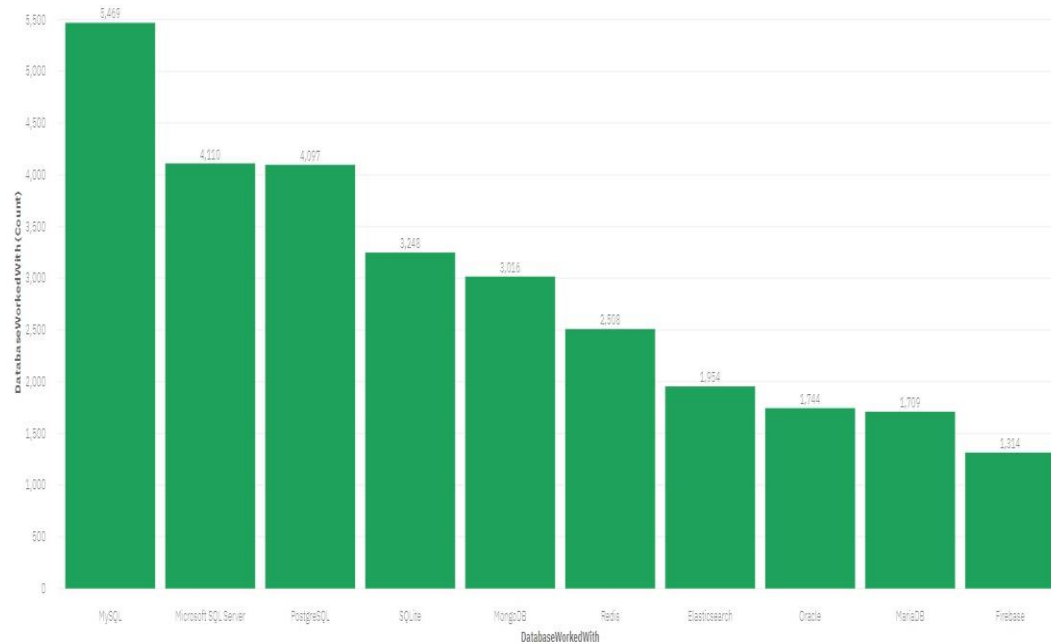
Implications

- Web Assembly and VBA has been replaced by other programming languages at most places.
- Java-script is becoming the new upcoming popular demanding programming language among users
- With AI and ML in rising demand, Python is best choice

DATABASE TRENDS

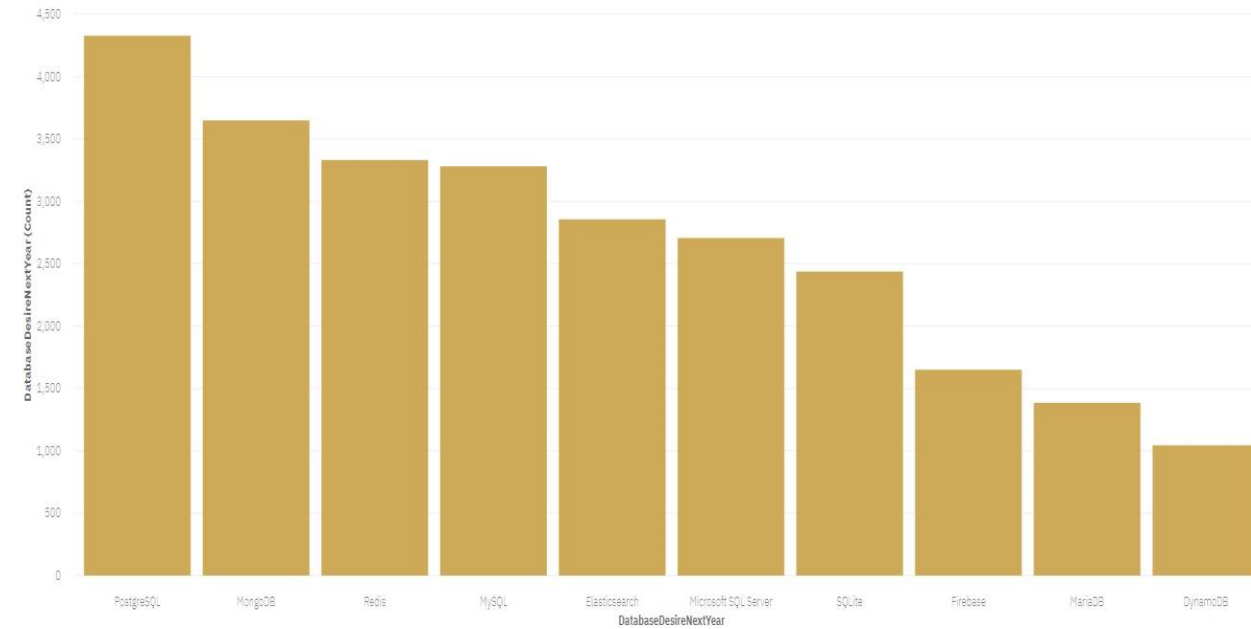
Current Year

Top 10 DatabaseWorkedWith



Next Year

Top 10 DatabaseDesireNextYear



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings (insights)

- MySQL most popular Behind Microsoft SQL
- Elasticsearch, Redis & MongoDB comes out to show progressive trends in upcoming years whereas MySQL shows declining trend as compared to current-next years charts

Implications (What's comes Next)

- PostgreSQL is becoming the new upcoming popular desired database skills among users replacing MySQL
- Open-source databases are still preferable in companies
- NoSQL databases will make an impact for storing non-relational data

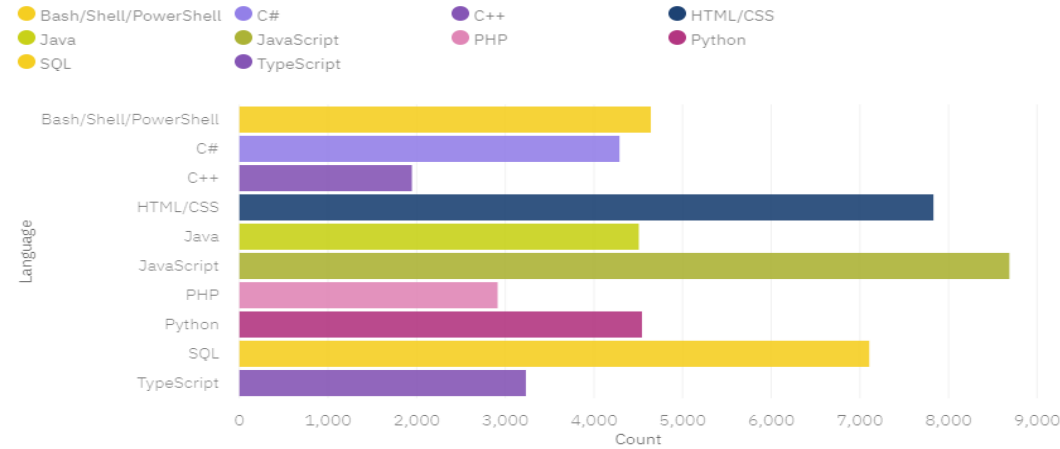
DASHBOARD



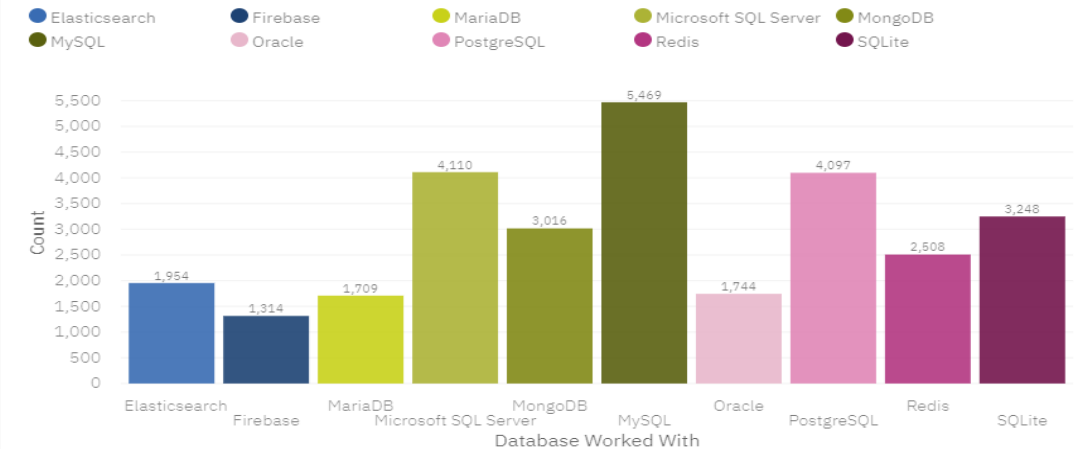
[DASHBOARD Link](#)

DASHBOARD TAB 1

Top 10 Programming Languages



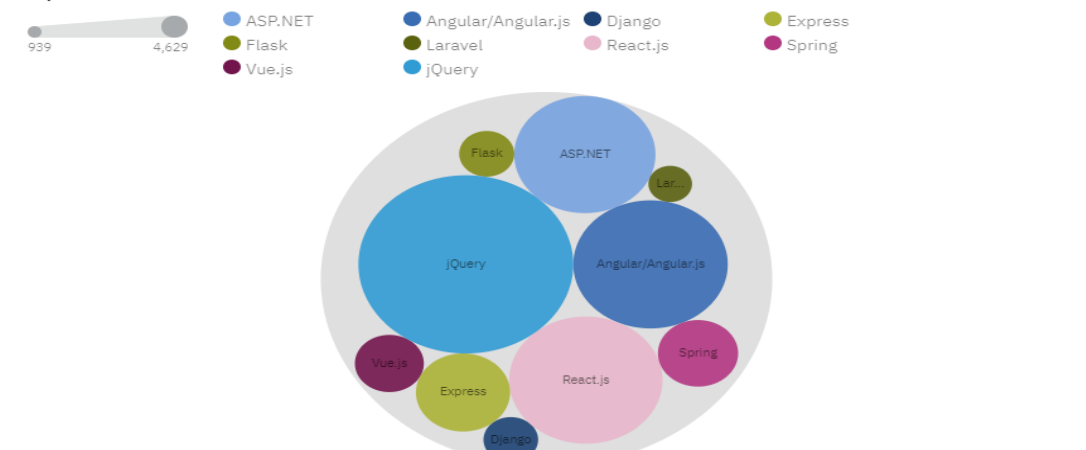
Top 10 Databases



Preferred Work Platform

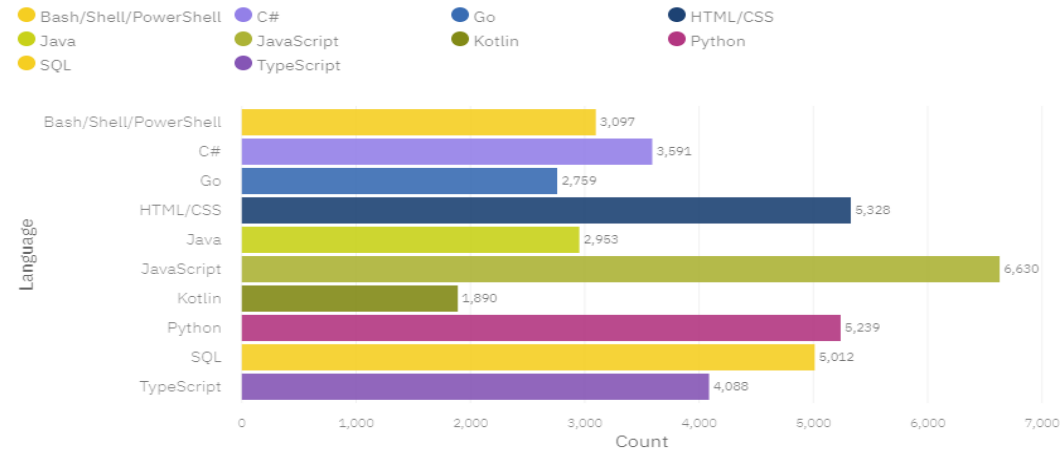


Top 10 Web Frames Worked With

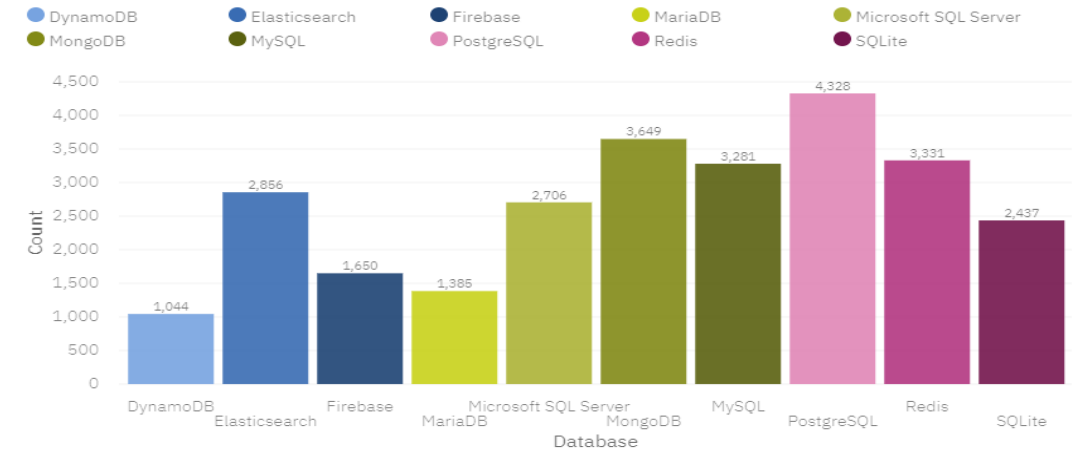


DASHBOARD TAB 2

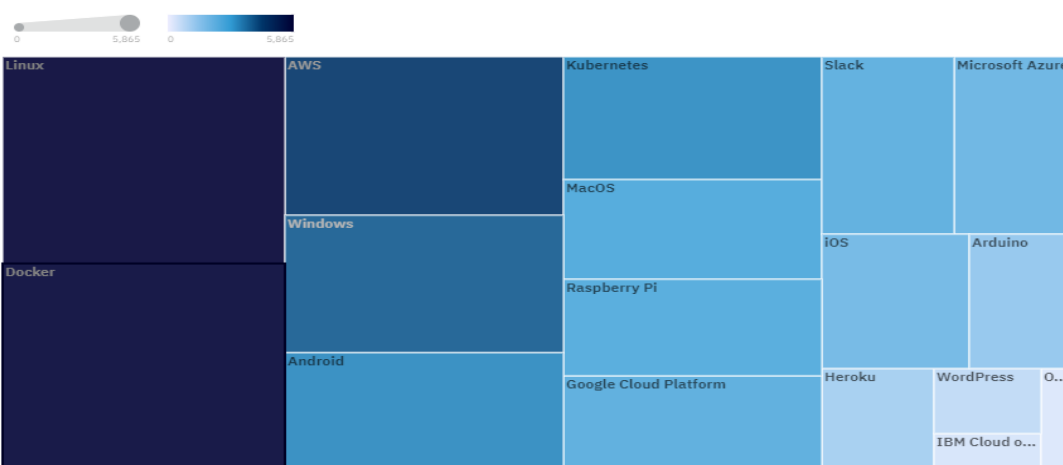
Top 10 Languages Desired to Learn



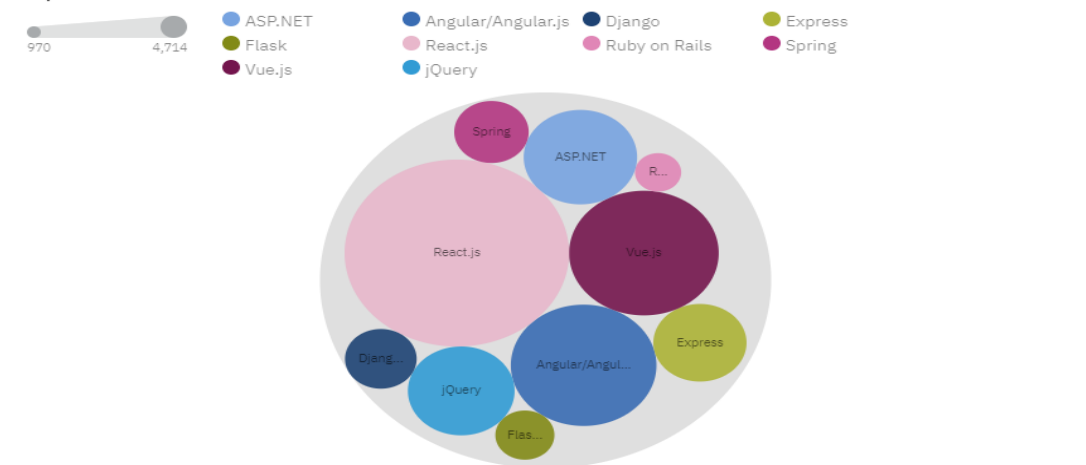
Top 10 Databases Desired to Learn



Platform Desired to Learn



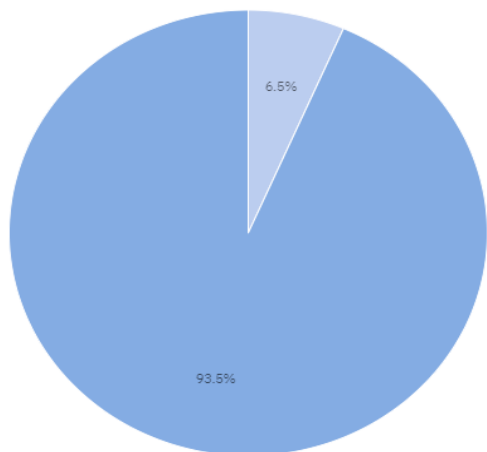
Top 10 Web Frames Desired to Learn



DASHBOARD TAB 3

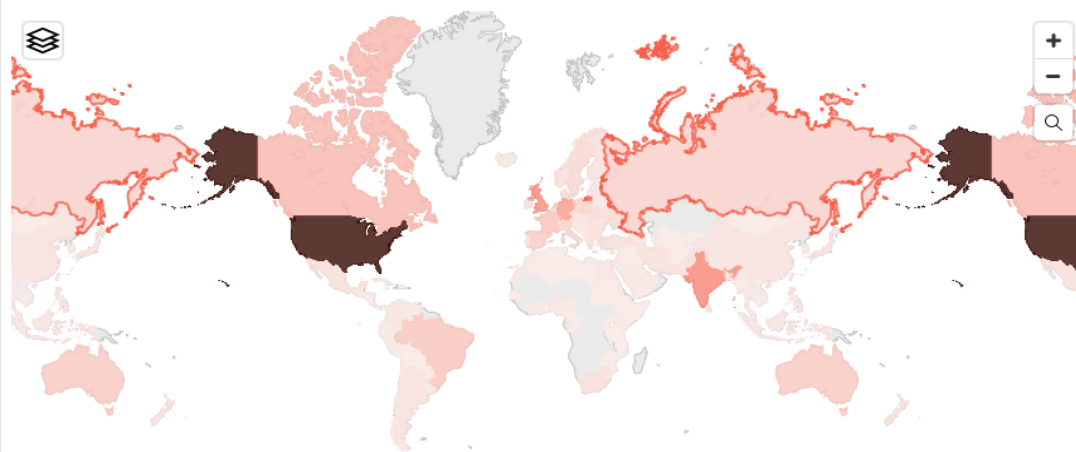
Respondent Classified by Gender

Gender
● Woman ● Man

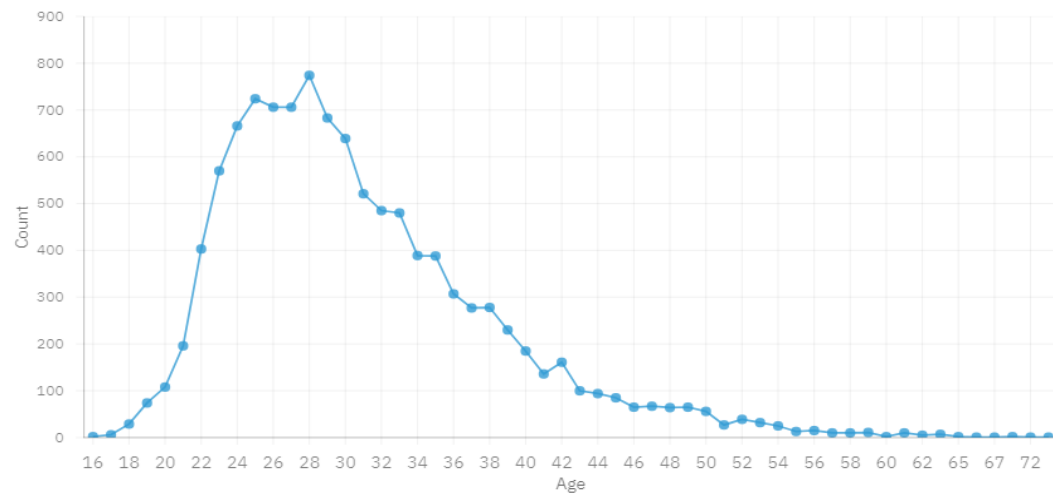


Respondent Count by Country

Respondent (Cou...
1 3,000

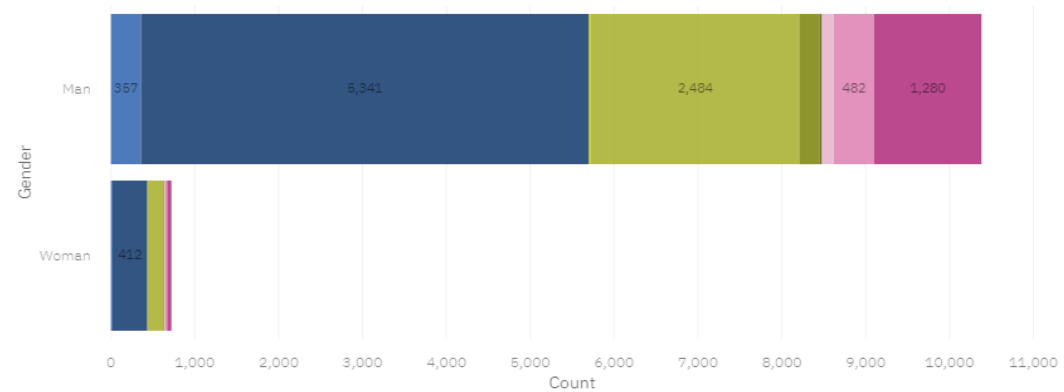


Respondent Count by Age



Respondent Count by Gender, Classified by Formal Education level

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



DISCUSSION



OVERALL FINDINGS & IMPLICATIONS

Findings

- Fast changing technology every year
- Platforms like Docker and AWS are growing
- The upcoming trend for databases is non-relational databases mostly

Implications

- People are looking for big data because it seem to have great future
- People are looking for advanced programming languages with easy learning in focus
- Companies need to be flexible and adjust to rapid changes

CONCLUSION

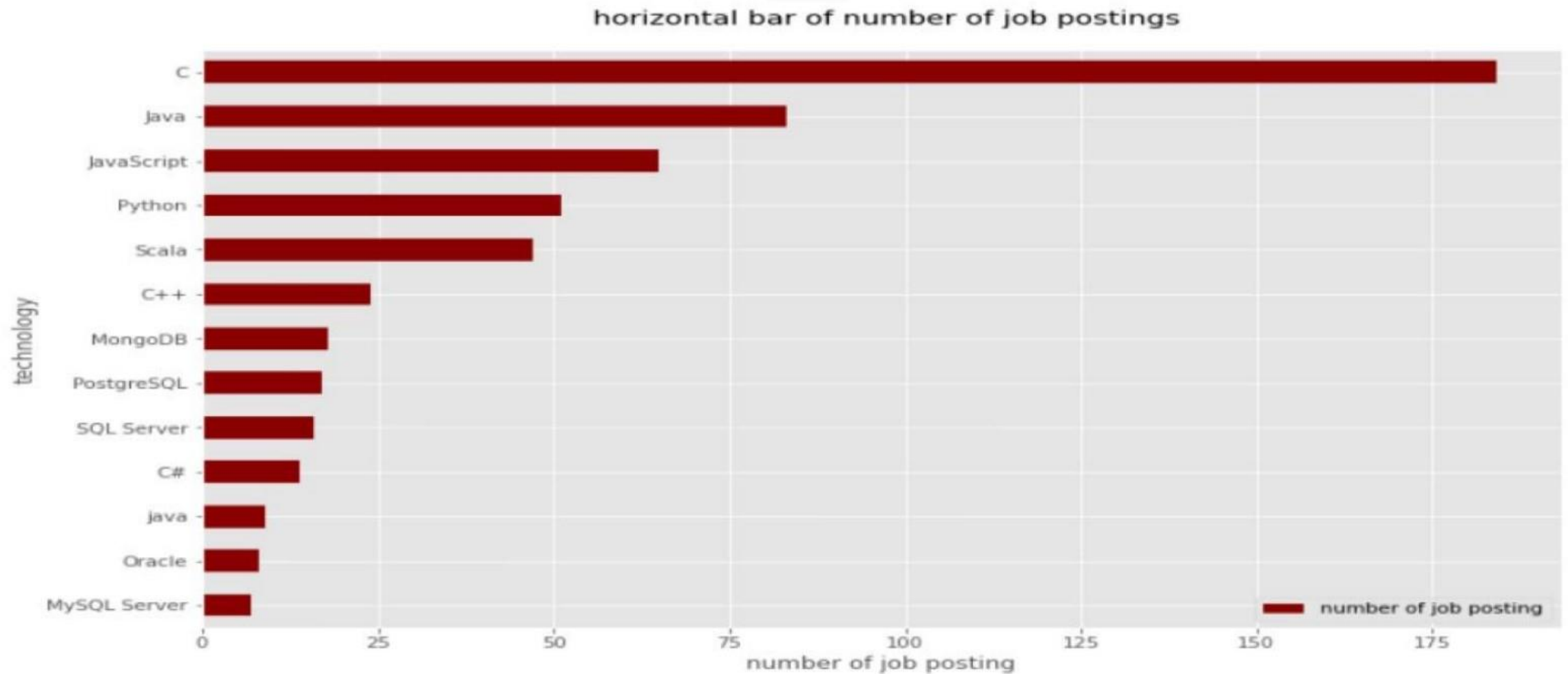


- The top programming language in demand Present & Future is Java-script.
- The top database skills in demand Present - MySQL , Future - PostgreSQL.
- Popular Platform Present - Windows , Future - Linux Docker
- The top Web-frame in Demand Present - jQuery , Future - React.js

APPENDIX



JOB POSTINGS



POPULAR LANGUAGES

