



IBM Capstone Final Project: Data Demographic

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OUTLINE



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



- Current Technology Usage
 - Language
 - Database
 - Platform
 - Webframe
- Future Technology Usage
 - Language
 - Database
 - Platform
 - Webframe
- Demographics Survey
 - Country, Age and Gender Difference

INTRODUCTION



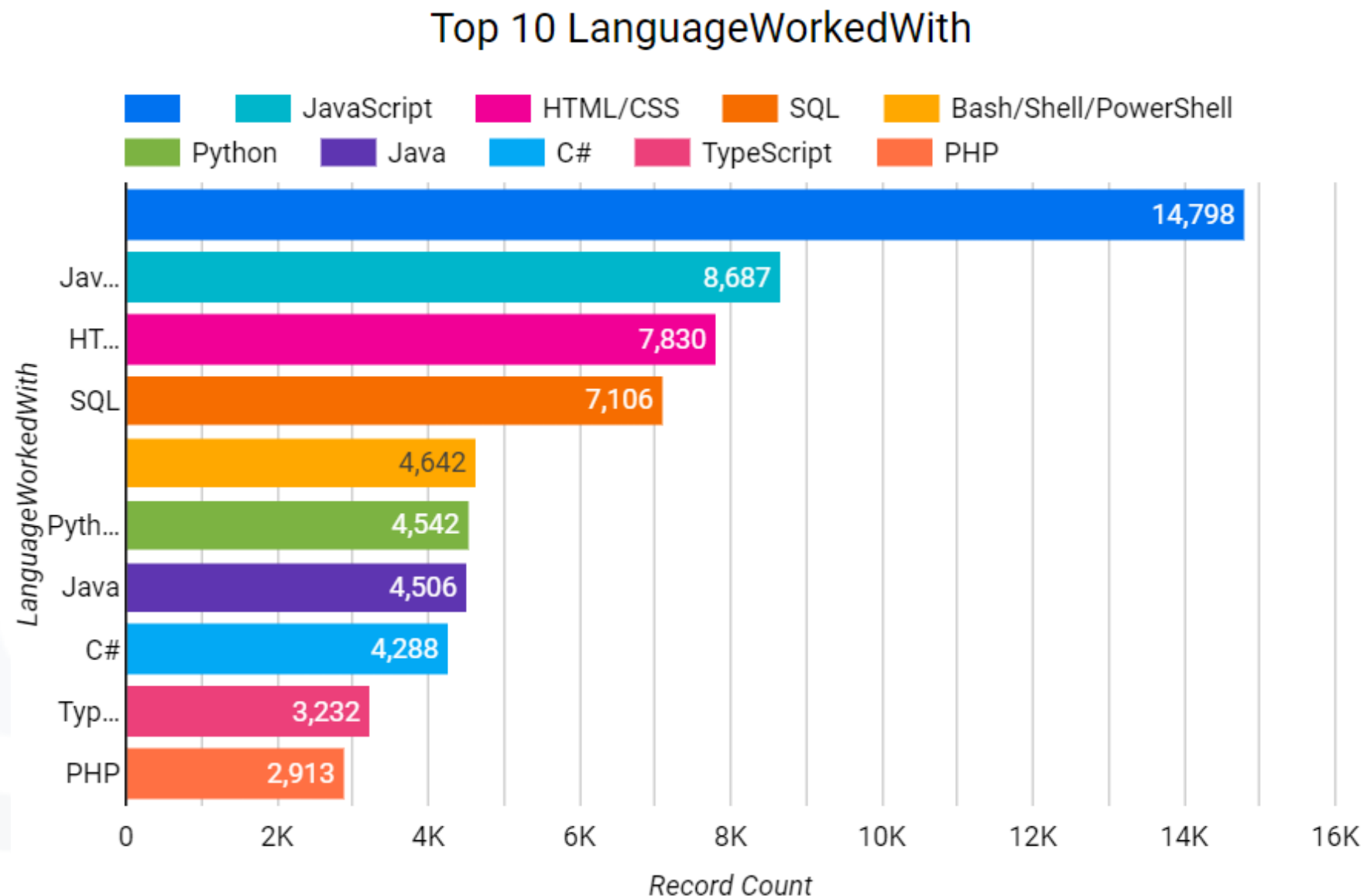
- Analyze technology trend in software and web development among developers around the world
- Purpose of analysis
 - Identify top programming languages, database platform and web frame skills in demand
 - Identify skill requirements for future
 - Identify human resource gap in industry
 - Identify current market demands for each language skills
- Audience for this presentation
 - Programmers
 - IT industry leaders
 - Computer science students

METHODOLOGY



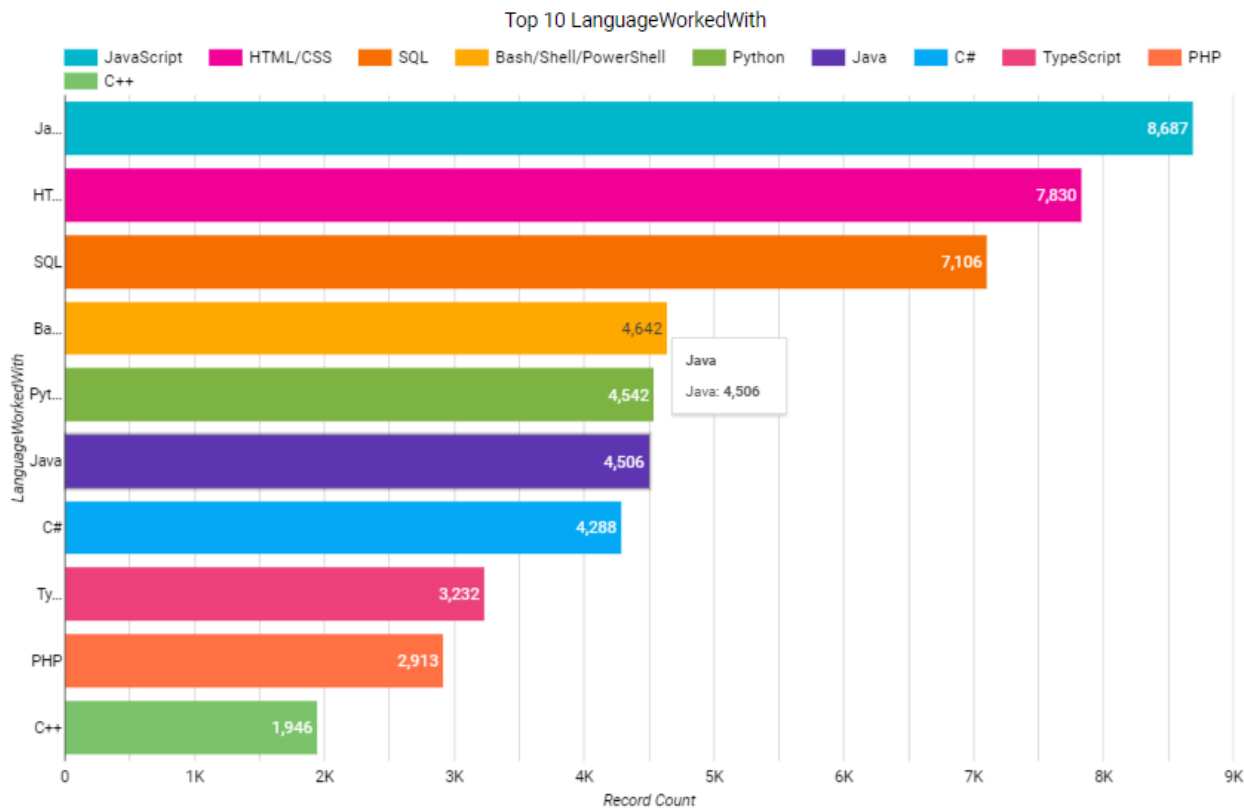
- Data Collection (Sources)
 - Stack overflow developer 2019 survey
 - GitHub job postings
 - Programming languages annual salary
- Data Wrangling
- Data Exploration
- Data Cleaning (Excel)
- Data Visualization
 - Python Matplotlib & Seaborn
 - Google Looker
- Power Point Presentation

RESULTS

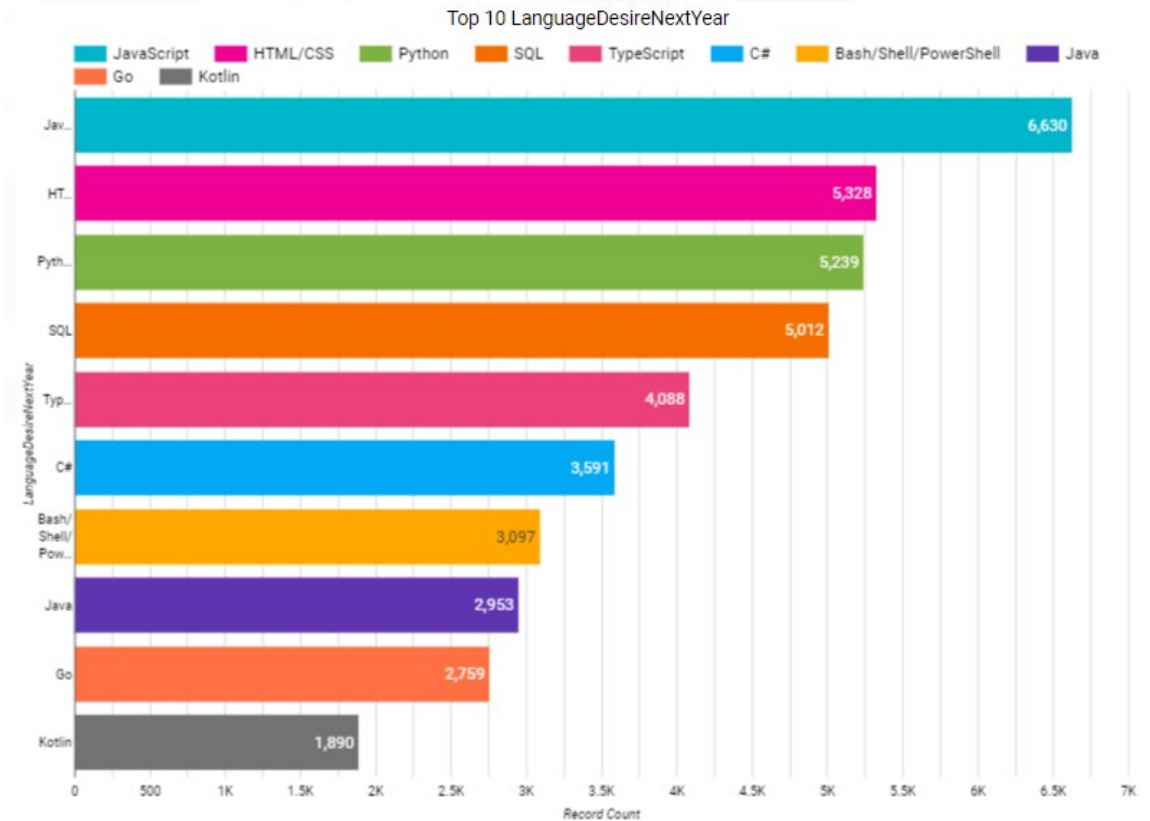


PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript now is the most popular language
- Python and TypeScript are becoming more popular forthcoming year
- HTML and SQL still has a great portion in language usage trend

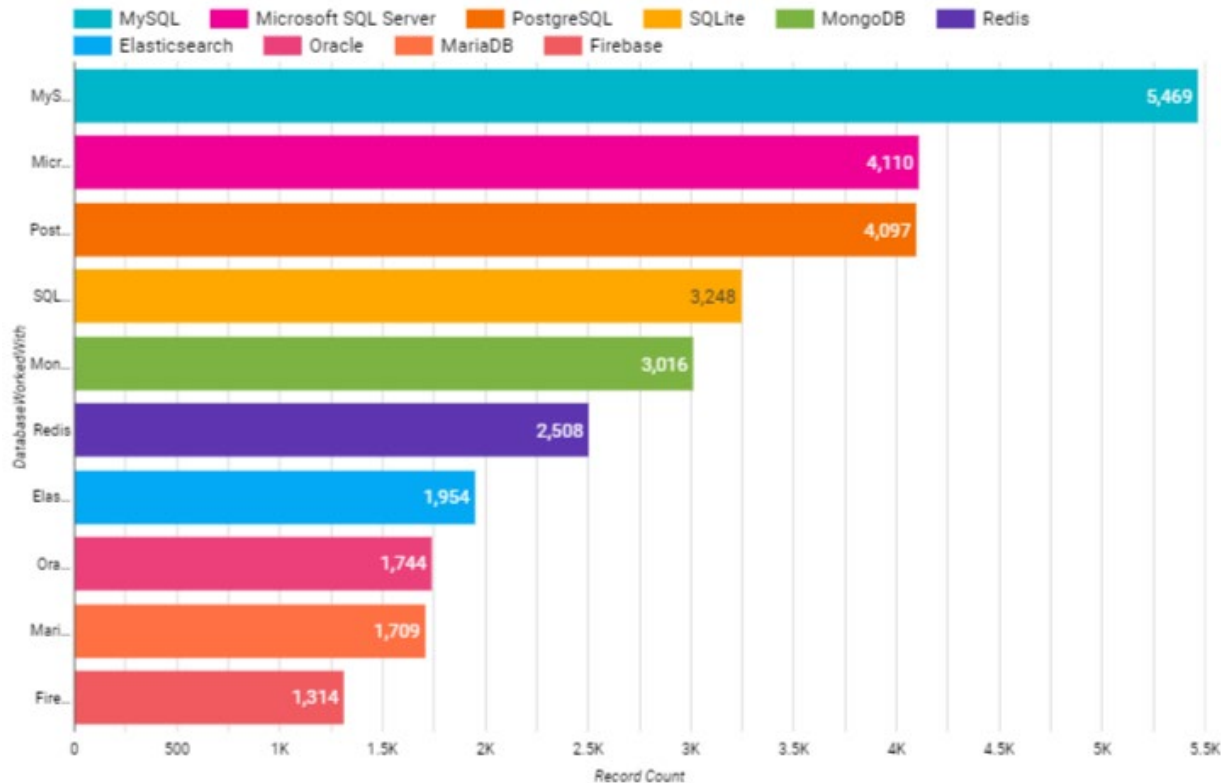
Implications

- Web developments and web developers are still in high demands
- JavaScript and TypeScript are crucial to learn for developers
- Python is the new emerging language trend especially in AI

DATABASE TRENDS

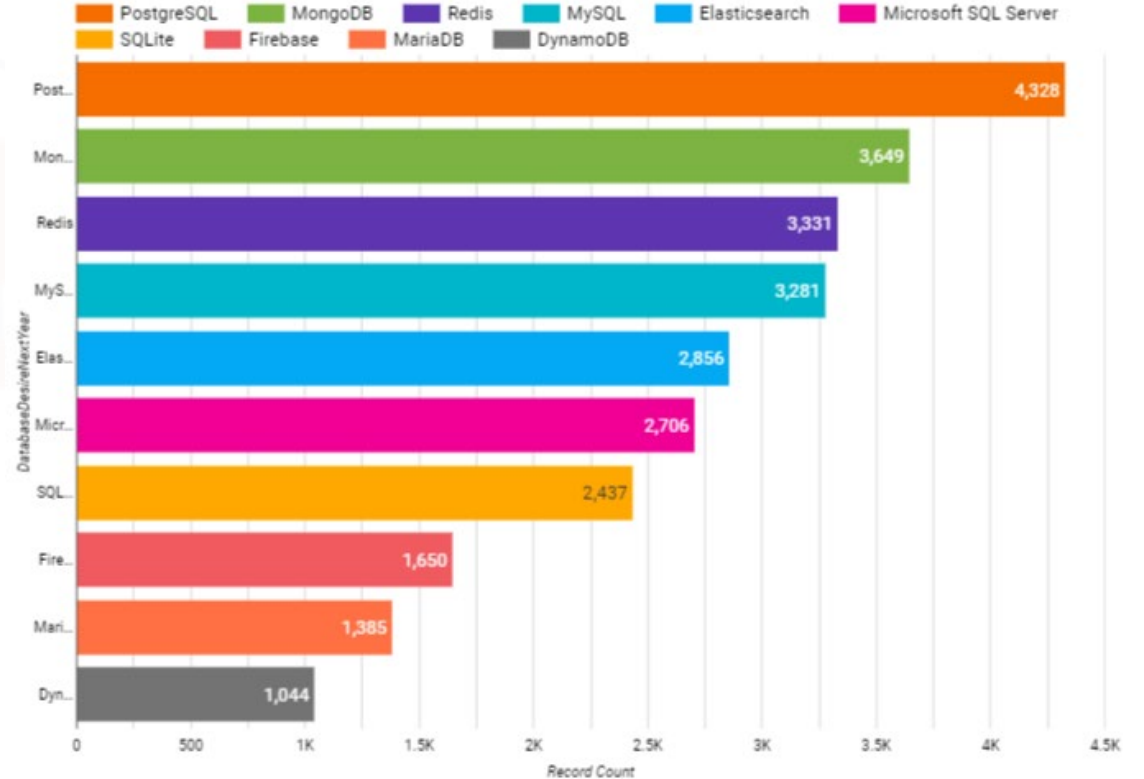
Current Year

Top 10 DatabaseWorkedWith



Next Year

Top 10 DatabaseDesireNextYear



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL is the most popular database
- There is still big portion of companies using Microsoft SQL server
- MongoDB and Redis are the most favorable NoSQL database

Implications

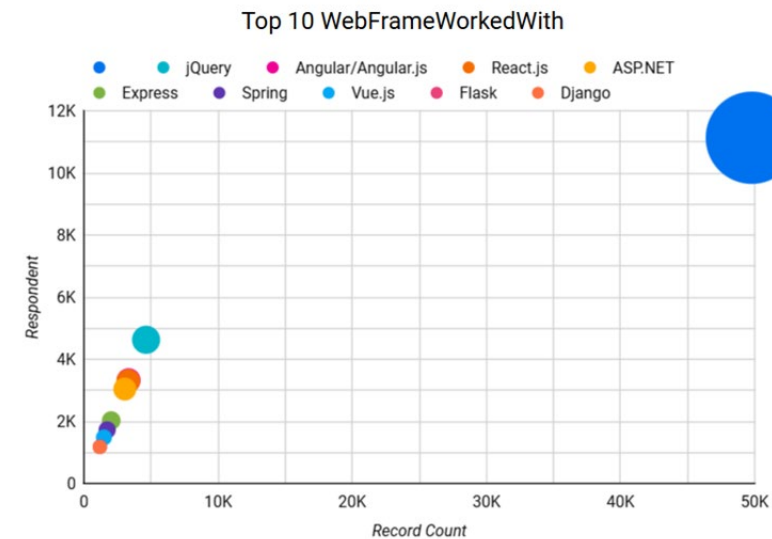
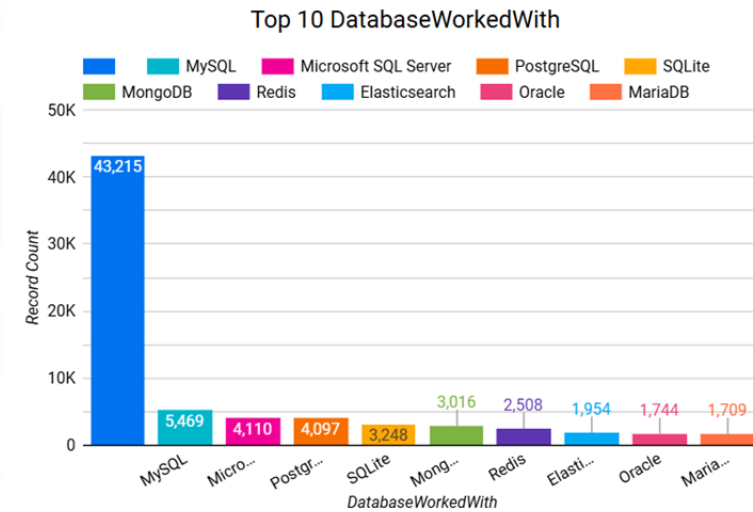
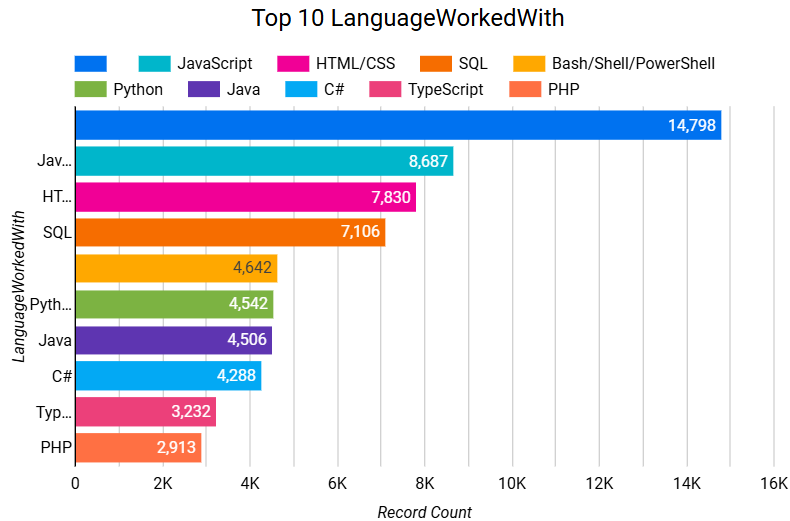
- Open-source database like MySQL are still preferable
- Software development and Big Data technology still requires SQL
- NoSQL databases will make an impact for relational database

DASHBOARD



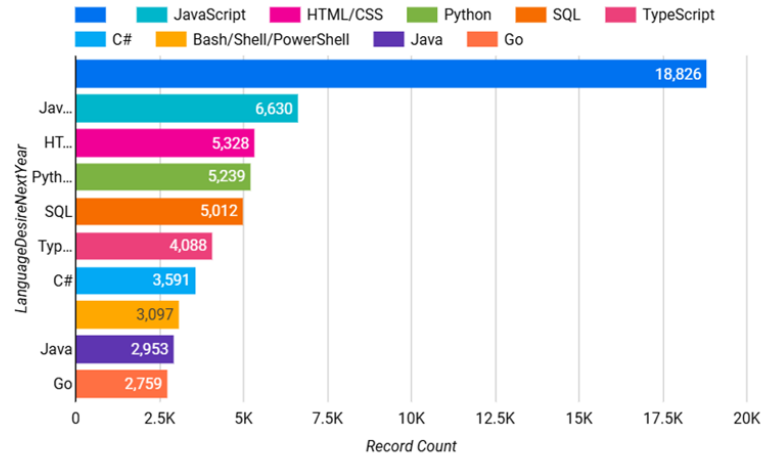
Please refer to following link for Github
<[nasrey87/IBM-Data-Analyst-Project](https://github.com/nasrey87/IBM-Data-Analyst-Project)>

DASHBOARD 1 (CURRENT TECHNOLOGY USAGE)

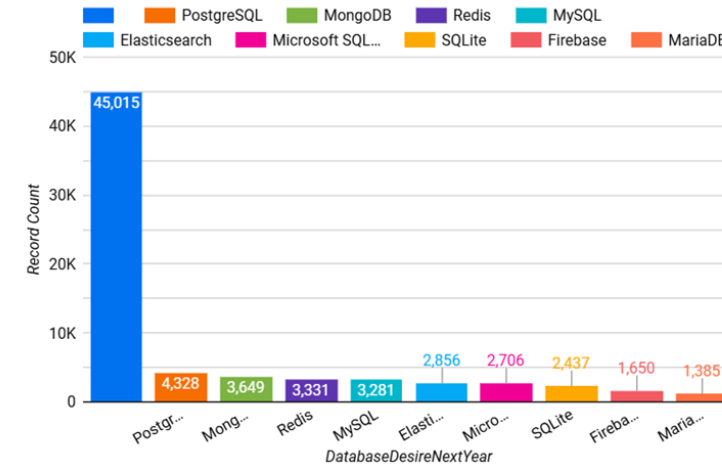


DASHBOARD 2 (FUTURE TECHNOLOGY USAGE)

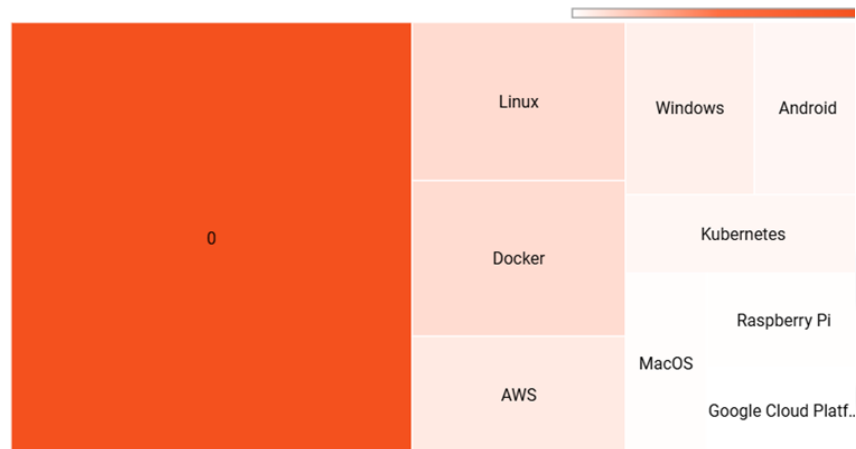
Top 10 LanguageDesireNextYear



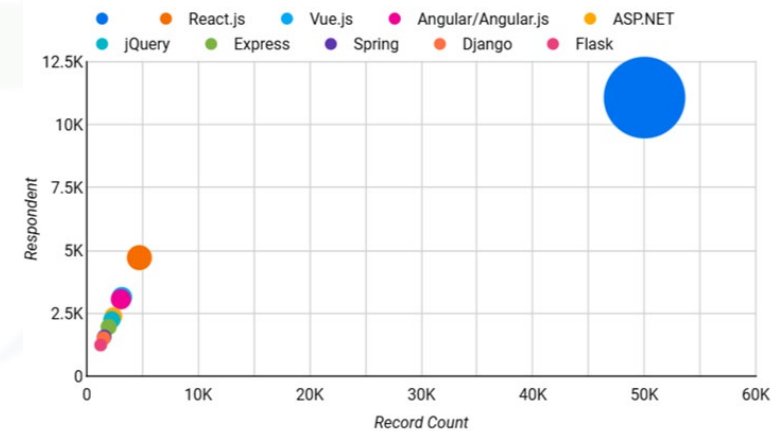
Top 10 DatabaseWorkedWith



PlatformDesireNextYear

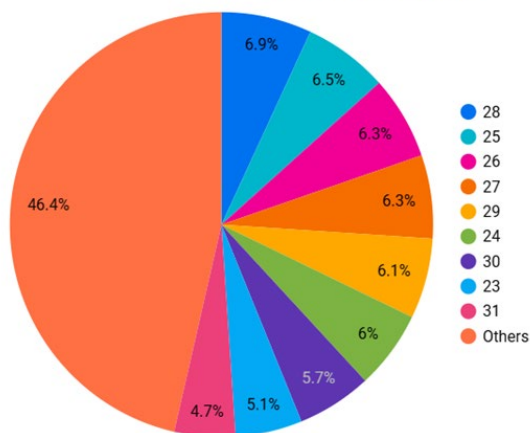


Top 10 WebFrameDesireNextYear

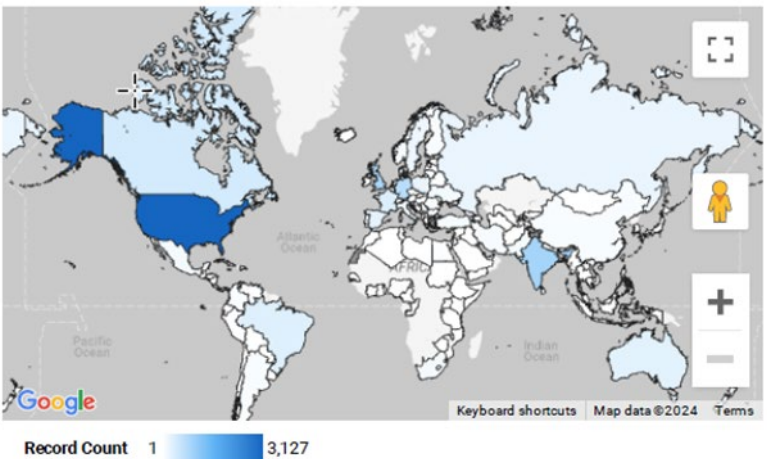


DASHBOARD 3 (DEMOGRAPHICS)

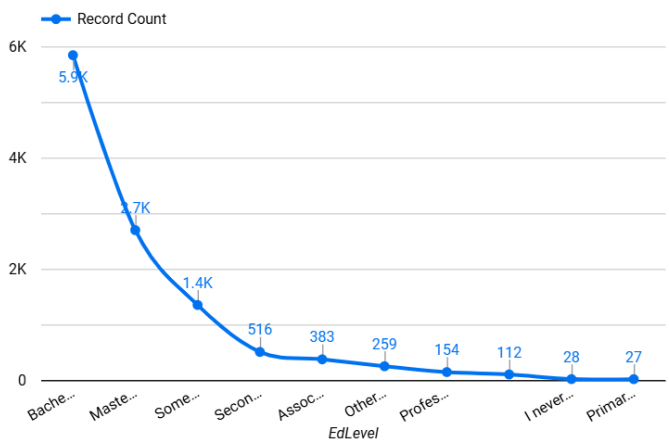
Respondents by Age



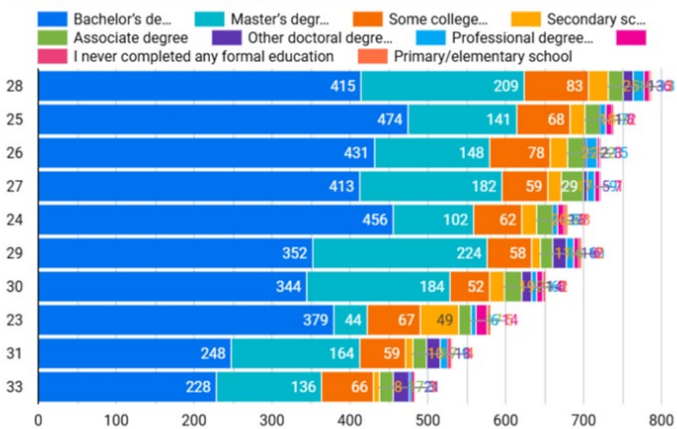
Respondent Count for Countries




Respondent Distribution by Education Level



Respondent Count by Age, classified by Formal Education Level



DISCUSSION

- 
- Technology Usage Trend Now and Future
 - Gender Age and Education Discrimination in IT industry

OVERALL FINDINGS & IMPLICATIONS

Findings

- Technology trends changes every year
- USA is the top technology country
- There are extreme gender and age discrimination
- Docker and AWS are the most popular platform

Implications

- Programmers should always follow the latest technology trends
- More countries should have the equal chance to be exposed to new technology
- Gender and age should not be one of the concerns or benefits of employment

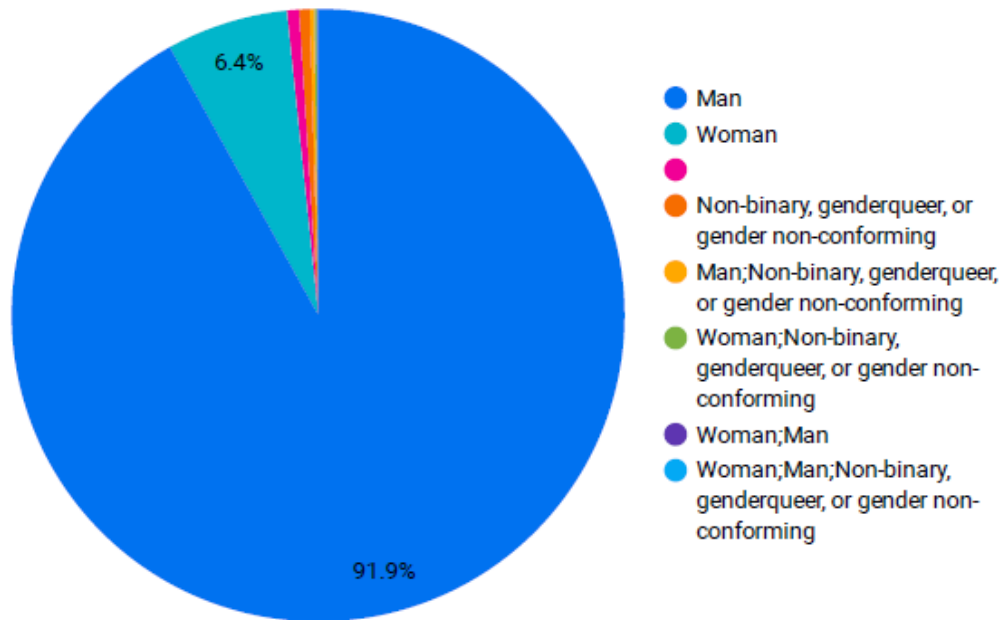
CONCLUSION



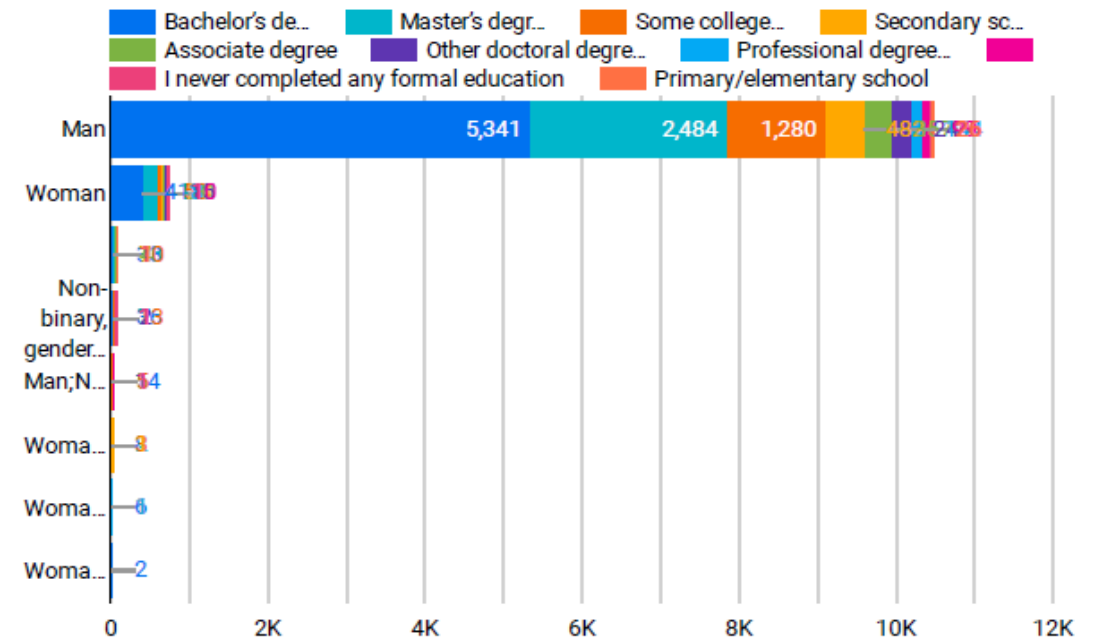
- Technology Trends
- Programming Languages, Database, Platform and Web Frame trends
- Demographic Trends
- Gender, Age and Education relation
- Programming Languages trends and Salary trends

APPENDIX

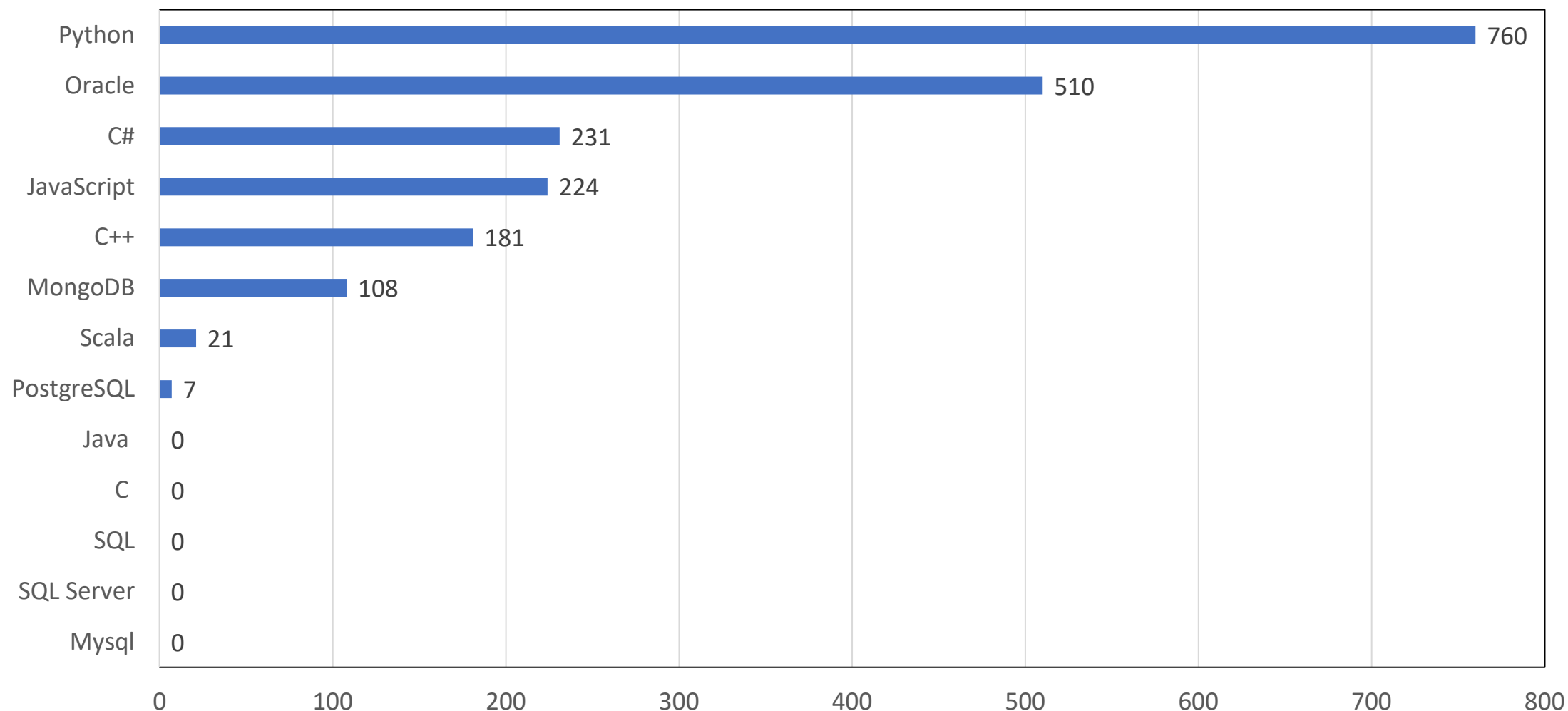
Respondent classified by Gender



Respondent Count by Gender, classified by Formal Education Level



JOB POSTINGS



POPULAR LANGUAGES

