



ANALYSIS OF TECHNOLOGY TRENDS

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OUTLINE



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

EXECUTIVE SUMMARY



- **Current Technology Trends**

- Top 5 Programming Languages
- Top 5 Databases
- Usage of Platforms
- Top 5 Web frames

- **Future Technology Trends**

- Top 5 Programming Languages
- Top 5 Databases
- Usage of Platforms
- Top 5 Web frames

- **Demographics**

- Respondent classified by Gender
- Respondent Count for Countries
- Respondent count by Age
- Respondent Count by Gender and classified by Formal Education Level

INTRODUCTION



- **Analyze technology trends in IT industry around the world.**
- **Purpose**
 - Identify the top programming languages, databases, platforms, and web frames currently which are in use.
 - Identify skill requirements for the future.
 - Identify the human resource gap in the industry.
- **This presentation helpful to**
 - Programmers
 - IT industry leaders
 - Computer science students

METHODOLOGY



- **Data Collection (sources)**

- Stack overflow developer 2019 survey
- GitHub job postings
- Programming languages annual salary

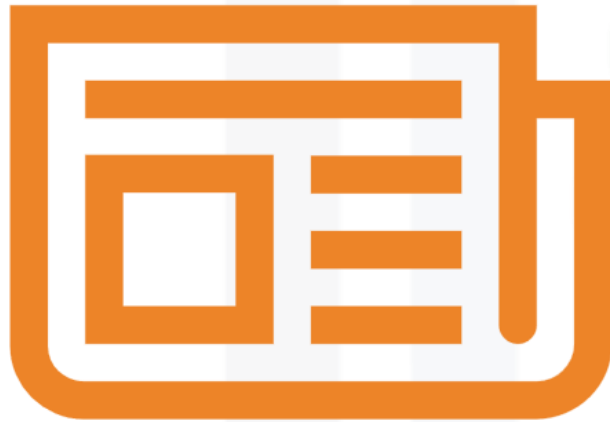
- **Data Collection (methods)**

- Scraping internet websites
- Accessing APIs to collect data
- Exploring Data

- **Data Wrangling**

- Finding Missing Values
- Determine Missing Values
- Finding Duplicates
- Removing Duplicates
- Normalizing Data

METHODOLOGY



- **Exploratory Data Analysis**
 - Distribution
 - Outliers
 - Correlation
- **Data Visualization**
 - Visualizing the Distribution of Data
 - Relationship
 - Composition
 - Comparison
- **Dashboard Creation**
- **Final Presentation**

RESULTS

- **Programming Language Trends**

- Insights
- Findings & Implications

- **Database Trends**

- Insights
- Findings & Implications

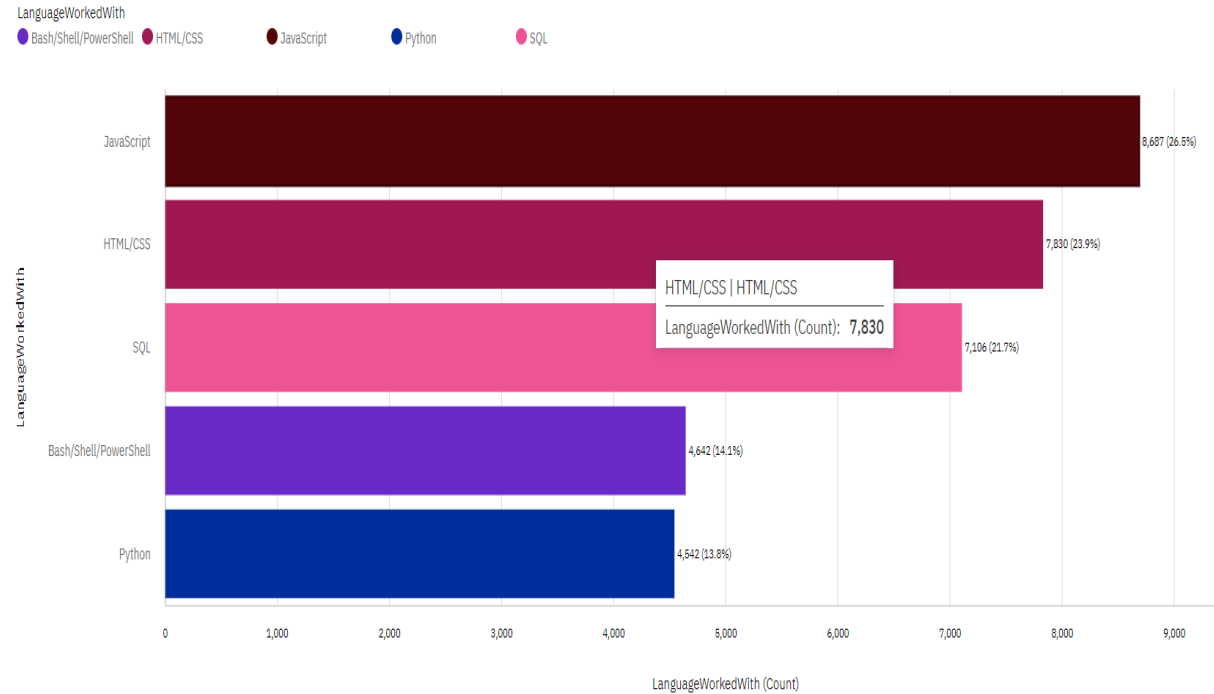
- **Dashboards**

- Current Technology Usage
- Future Technology Trends
- Demographics

PROGRAMMING LANGUAGE TRENDS

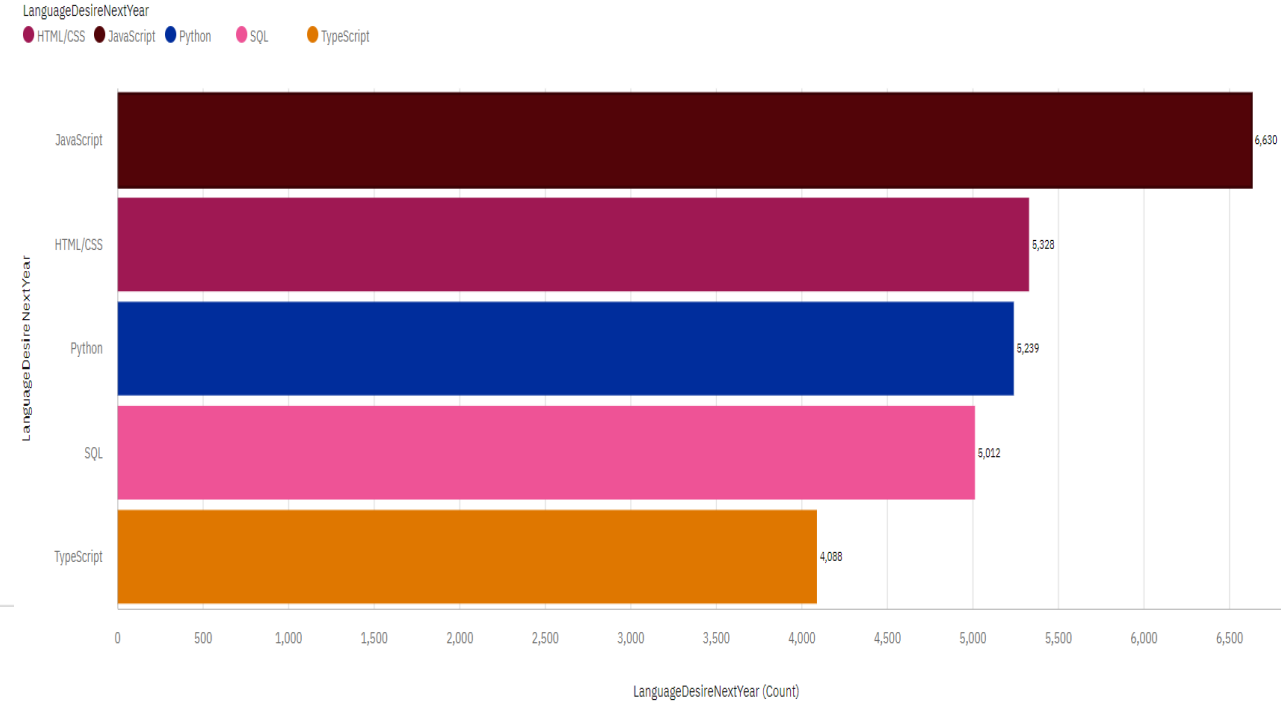
Current Year – Top 5

Top 5 LanguageWorkedWith



Next Year – Top 5

Top 5 LanguageDesireNextYear



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript is the top trending language in the world.
- Python and TypeScript are becoming more and more popular.
- HTML/CSS and SQL still have a great portion in language usage trend.

Implications

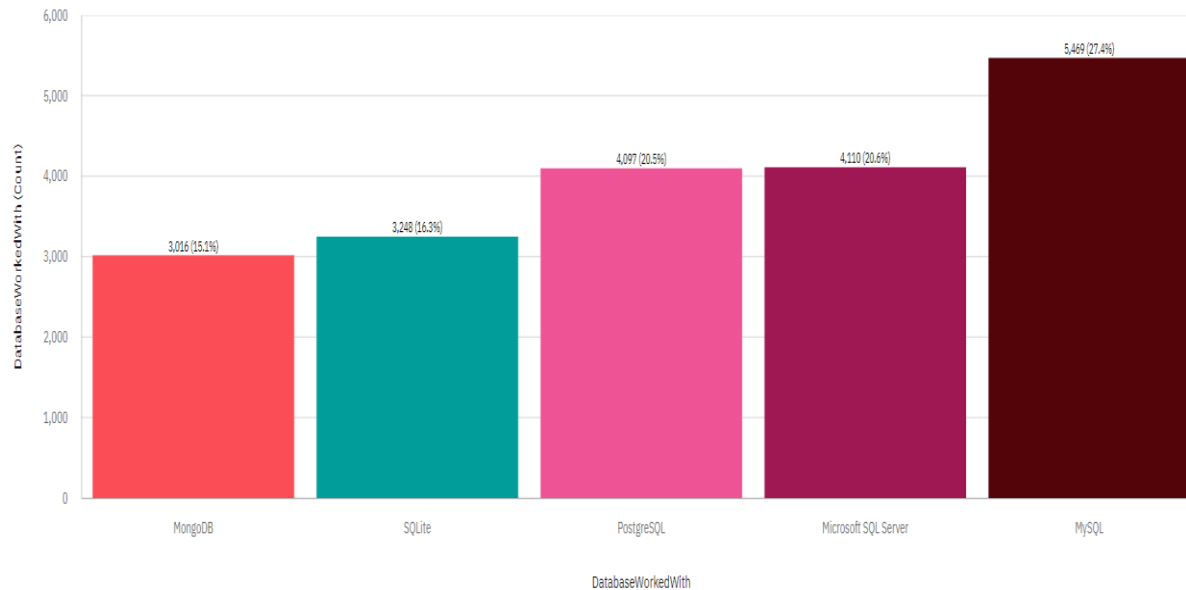
- Web developments and Web developers are still in high demand.
- JavaScript and TypeScript are crucial to learning for developers.
- Python is the new trending language, especially popular in AI fields.

DATABASE TRENDS

Current Year – Top 5

Top 5 DatabaseWorkedWith

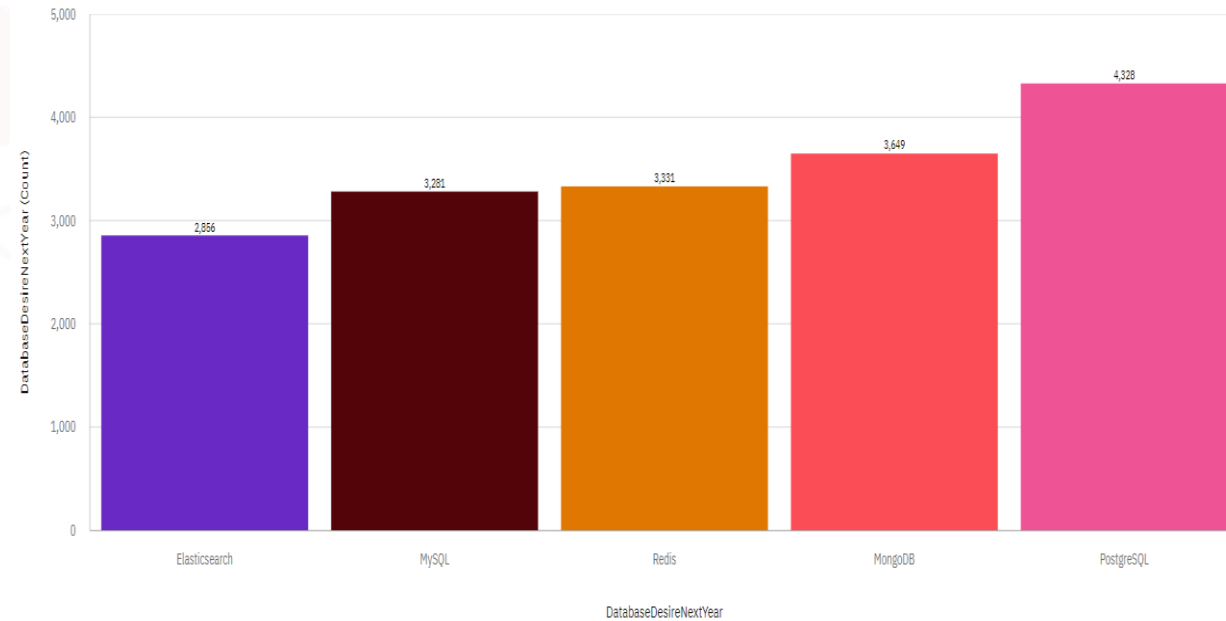
DatabaseWorkedWith
● Microsoft SQL Server ● MongoDB ● MySQL ● PostgreSQL ● SQLite



Next Year – Top 5

Top 5 DatabaseDesireNextYear

DatabaseDesireNextYear
● Elasticsearch ● MongoDB ● MySQL ● PostgreSQL ● Redis



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL is the most popular database.
- There are still a lot of companies using Microsoft SQL Server.
- MongoDB and Redis are the most favorable NoSQL database.

Implications

- Open-source databases like MySQL are still preferable.
- Software development and Big Data technology still require SQL.
- NoSQL databases will make an impact on relational databases.

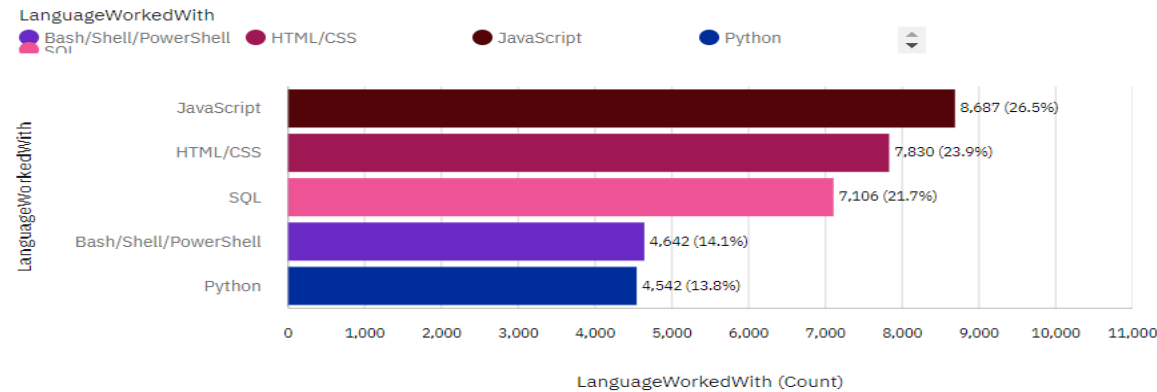
DASHBOARD - LINK



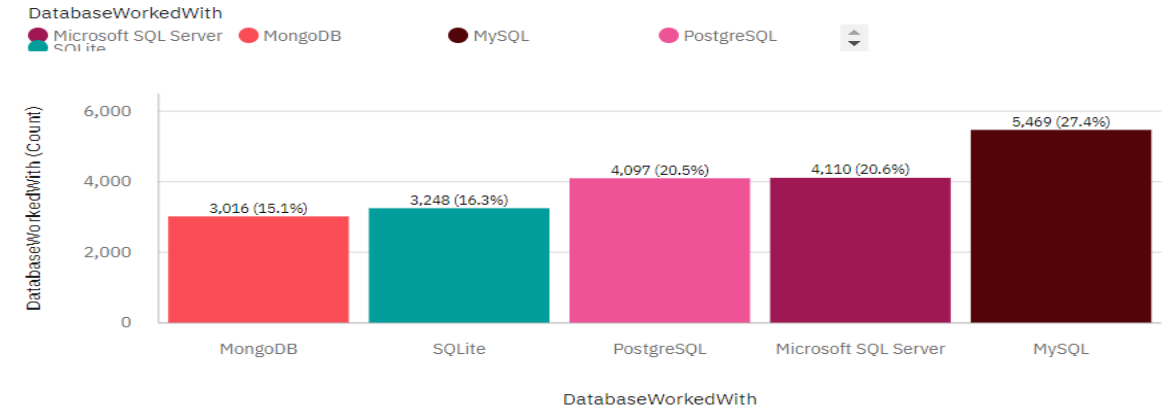
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DASHBOARD – CURRENT TECHNOLOGY USAGE

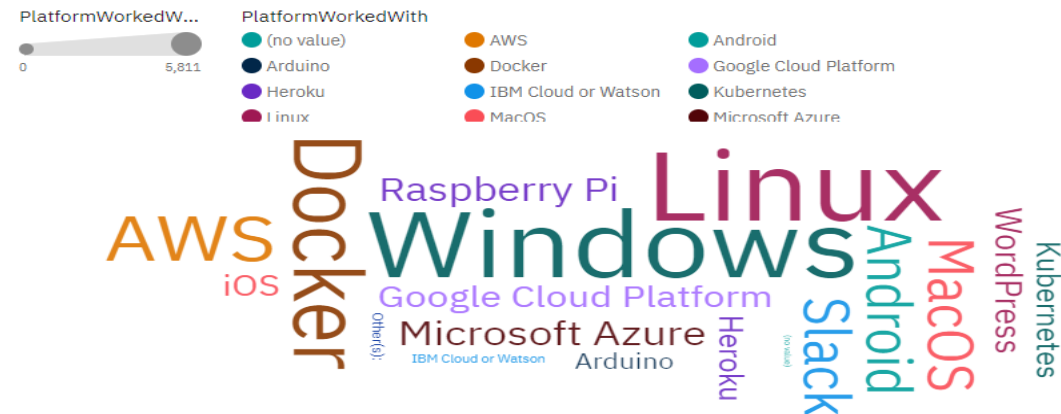
Top 5 LanguageWorkedWith



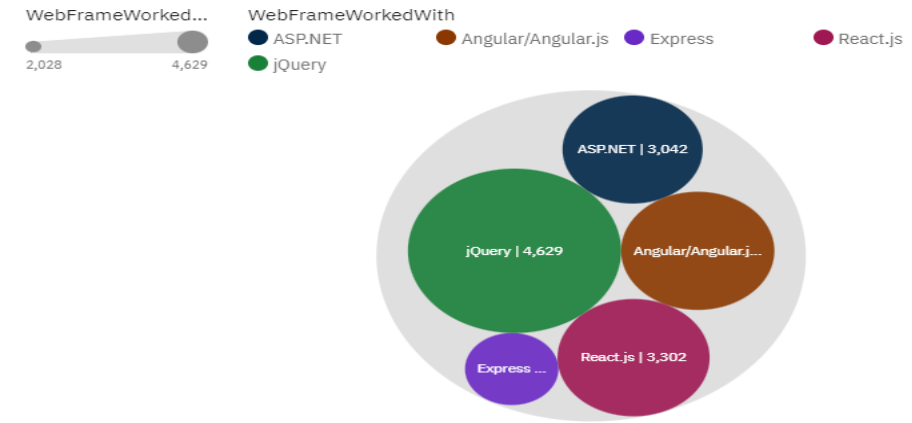
Top 5 DatabaseWorkedWith



PlatformWorkedWith

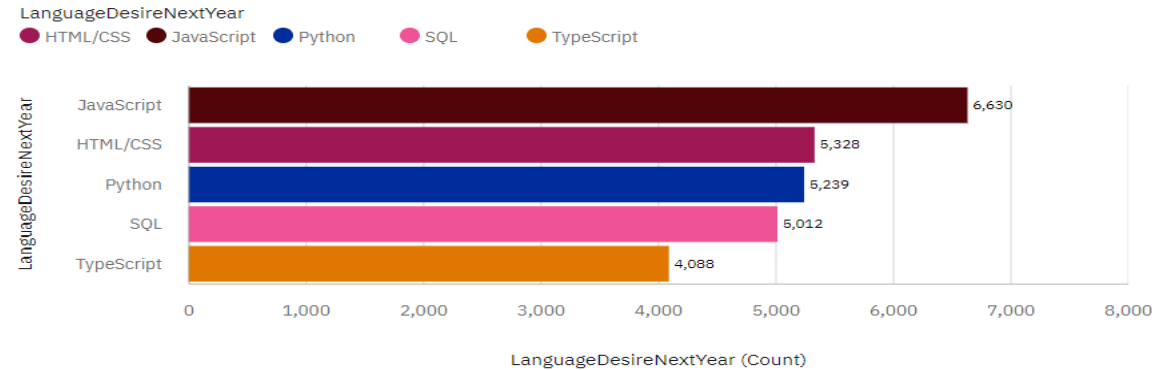


Top 5 WebFrameWorkedWith

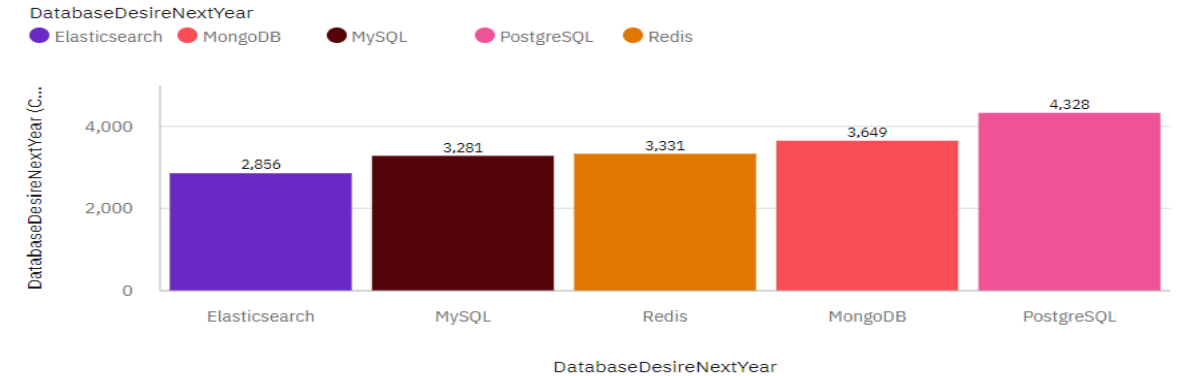


DASHBOARD – FUTURE TECHNOLOGY TRENDS

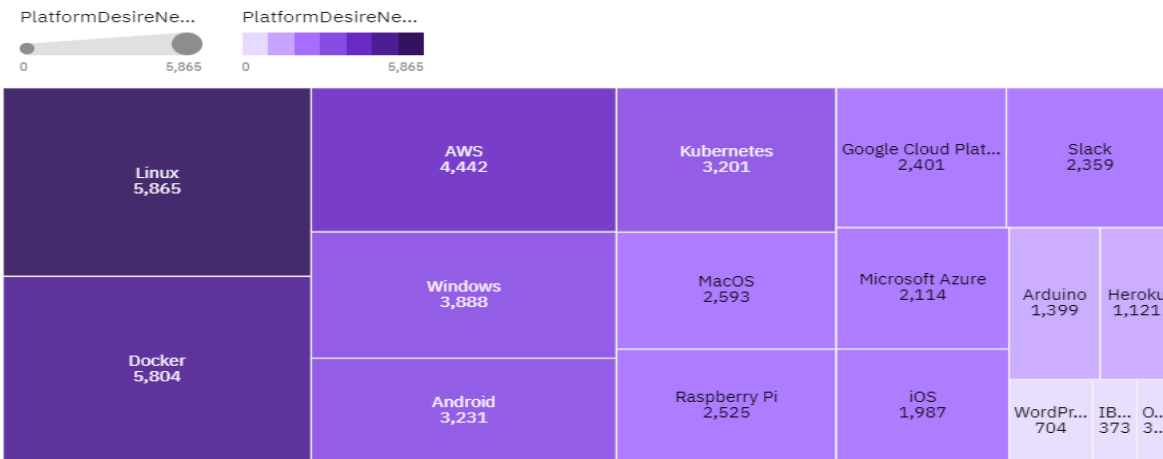
Top 5 LanguageDesireNextYear



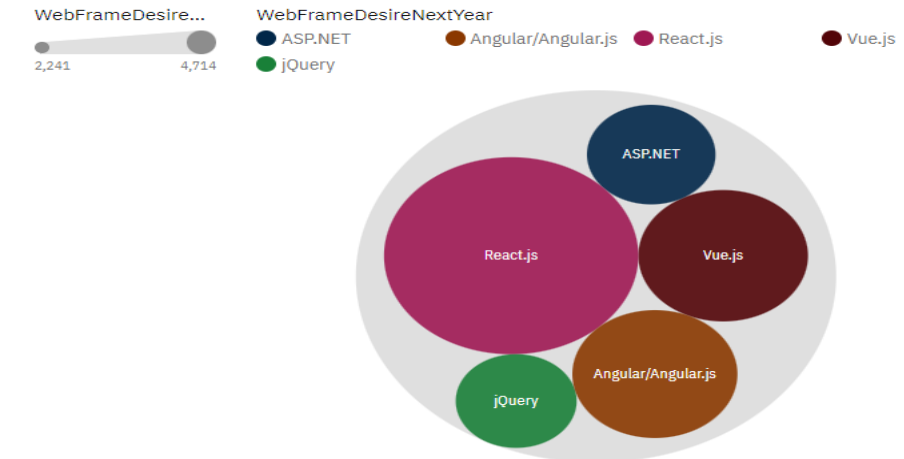
Top 5 DatabaseDesireNextYear



Count of PlatformDesireNextYear



Top 5 WebFrameDesireNextYear

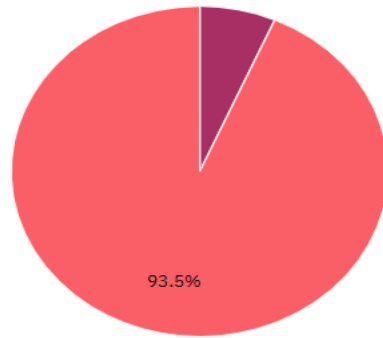


DASHBOARD - DEMOGRAPHICS

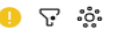
Respondent classified by Gender



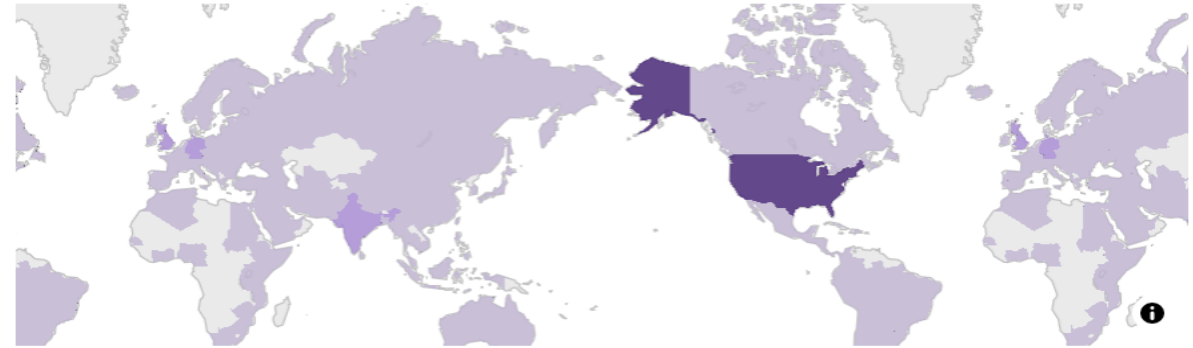
Gender
● Woman ● Man



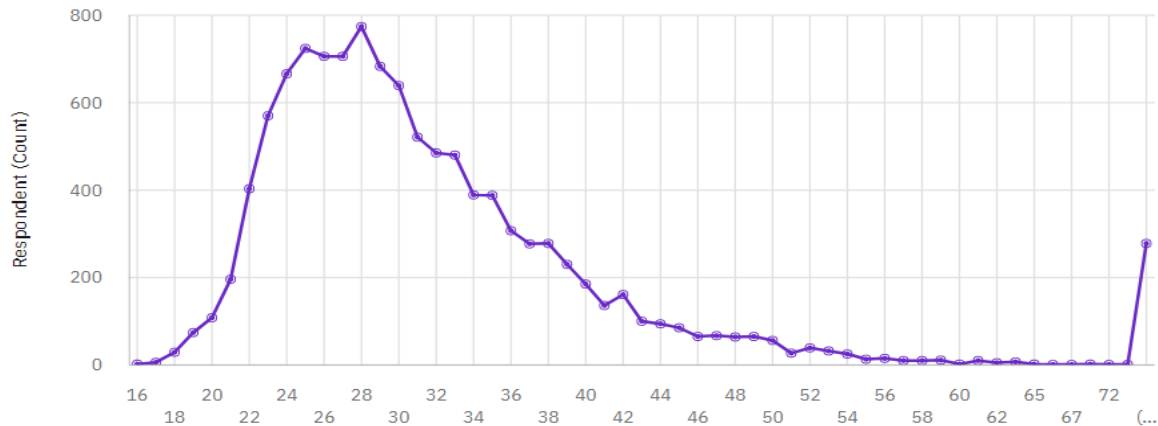
Respondent Count for Countries



Country (Count) Respondent (Count)
1 3,058 1 3,058



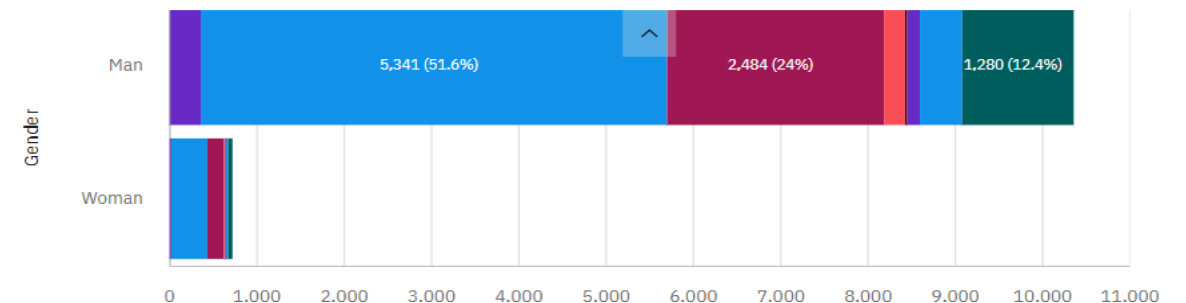
Respondent count by Age



Respondent Count by Gender, classified by Formal Education Level



EdLevel
● Associate degree ● Bachelor's degree (BA, BS, B.Eng., ...) ● Master's degree (MA, MS, M.Eng., ...) ● Other doctoral degree (Ph.D, Ed.D....) ● Primary/elementary school ● Professional degree (JD, MD, etc.) ● Secondary school (e.g. American ... ● Some college/university study wit...



DISCUSSION



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

OVERALL FINDINGS & IMPLICATIONS

Findings

- Technology trends change 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 an equal chance to be exposed to new technology.
- Gender and Age should not be one of the concerns or benefits of Employment.

CONCLUSION



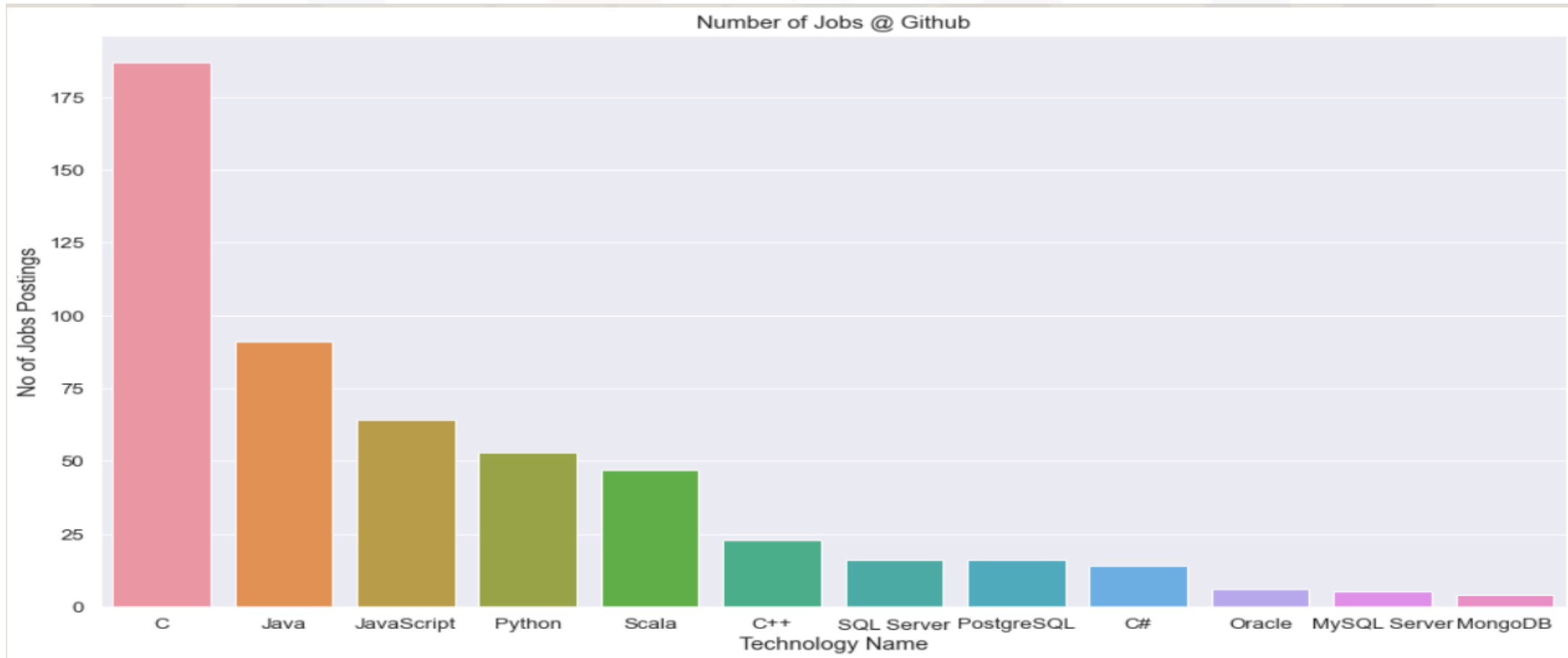
- The top programming languages in demand.
- The top database skills in demand.
- The popular IDEs.
- Demographics Trends.
- Gender and Education.
- Programming Languages Trends and Salary Trends

APPENDIX



- Include any relevant additional charts, or tables that you may have created during the analysis phase.

JOB POSTINGS



POPULAR LANGUAGES

