Technology trends and Analysis Presentation

Andrew Boutres

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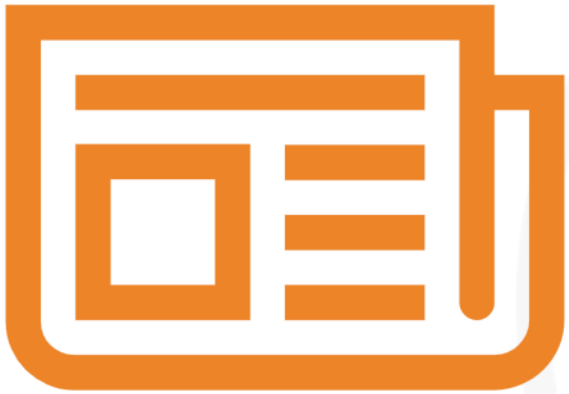
EXECUTIVE SUMMARY

- Top programming languages:
  - **Python, Javascript, Html, CSS, Bash/Shell/PowerShell**
- Top database skills:
  - **My SQL, Microsoft SQL Server,**
  - **Postgre SQL, SQLite, MongoDB**
- Popular platforms:
  - **Windows, Linux, Docker, AWS, Slack**
- Popular Web Frames:
  - **jQuery, Angular/Angular.js, React.js, ASP.NET, Express**
- FutureTechnologyTrend:
  - **Python takes the 3rdrow, followed by SQL and TypeScript**
  - **Redis and Elasticsearch also place in Top 5**
  - **Android is in the Top 5 demanded platforms, the rest remains**
  - **React.js takes the first row and Vue.js is the latest addition as the l**

INTRODUCTION

- Stack Overflow carries out a comprehensive survey that includes participants from around the world who are involved in coding.
- In 2019, nearly 90,000 developers took part in a 20-minute survey.
- The year 2019 marks the ninth consecutive year of survey publication, encompassing a wide range of topics from preferred technologies to career aspirations.
- Let us examine some of the significant discoveries.
- The landscape of programming languages and web frameworks is continuously evolving, driven by technological advancements, industry demands, and developer preferences

METHODOLOGY



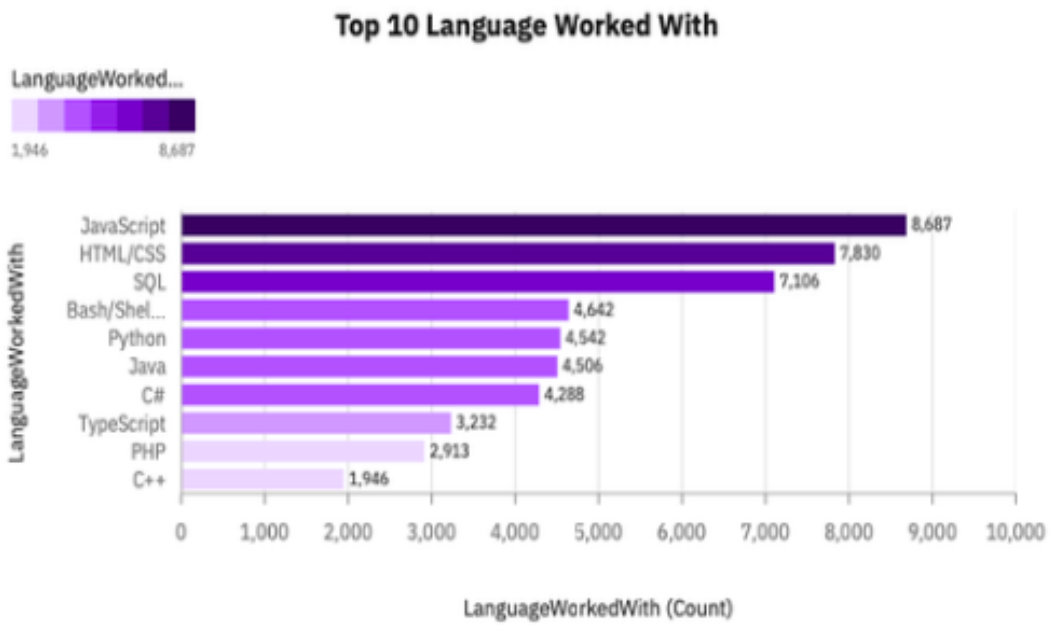
- Data is based on the survey conducted by **Stack Overflow** and involved **88,883 software developers** from **179 countries**.
- Data analysis and visualization was conducted using IBM Cognos Analytics.
- To achieve comprehensible understanding of this dataset, I participated in IBM labs on coursera. This educational experience covered several key topics that are essential such as Web Scraping, Dataset Exploration, Data Wrangling, Exploratory Data Analysis, and Data Visualization

RESULTS

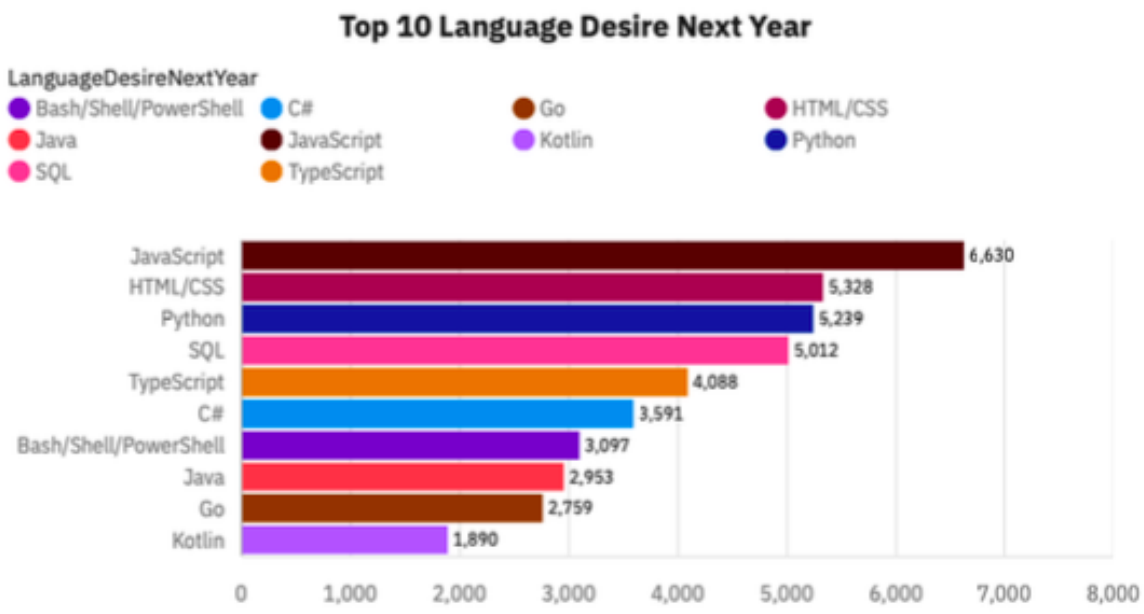
- **jQuery** is the most widely used among web frameworks, with **React.js** surpassing **Angular** in developer usage this year.
- **JavaScript** remains the most used programming language
- Globally, men represent approximately **90%** of respondents, with higher female representation among students than professional developers in regions like the US, India, and the UK.
- Around 3/4 of professional developers globally hold at least a **bachelor's degree,** aligning with past findings.
- 3/4 of survey respondents in professional developer roles are **under 35 years old**.
- **Python** overtakes **Java**, becoming the 5th most preferred language with significant growth. It stands as the fastest-growing major programming language.

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



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PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

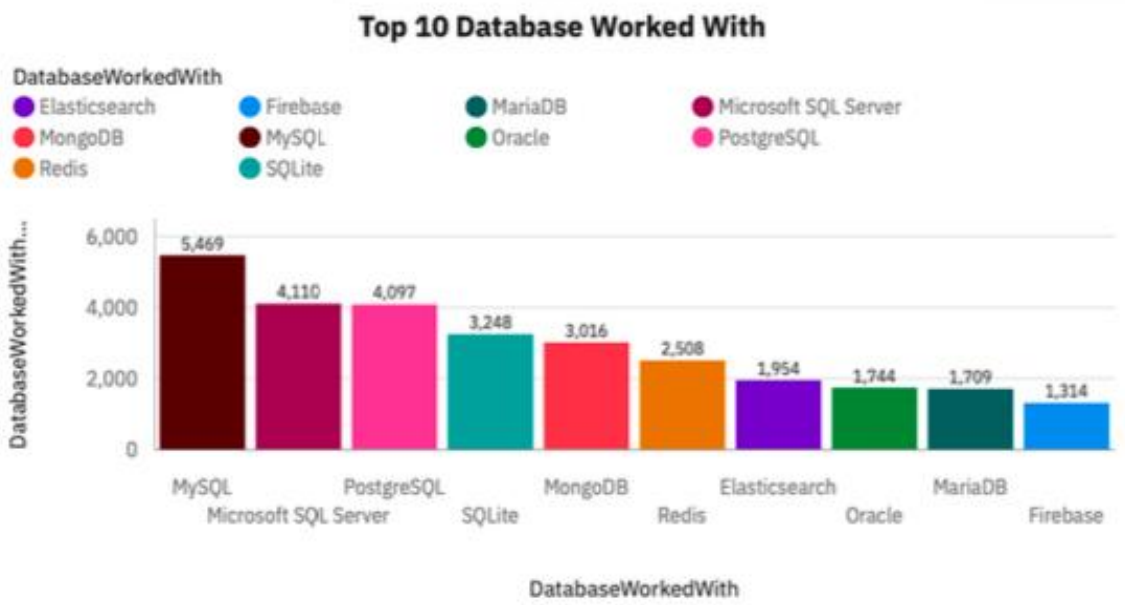
- **JavaScript** and **HTML/CSS** emerge as the most used programming languages among all respondents
- **SQL** also maintains a significant presence.
- **Python** just edged out **Java** in overall ranking.

Implications

- The dominance of **JavaScript** and **HTML/CSS** underscores their indispensability in modern web development, highlighting the importance of mastering them for developers.
- The high usage of **SQL** emphasizes the critical role of data management and querying in modern software applications, across both web and non-web environments.
- The rise of **Python** might also reflect its versatility and ease of use, attracting developers across various domains from data science to software development.

DATABASE TRENDS

Current Year



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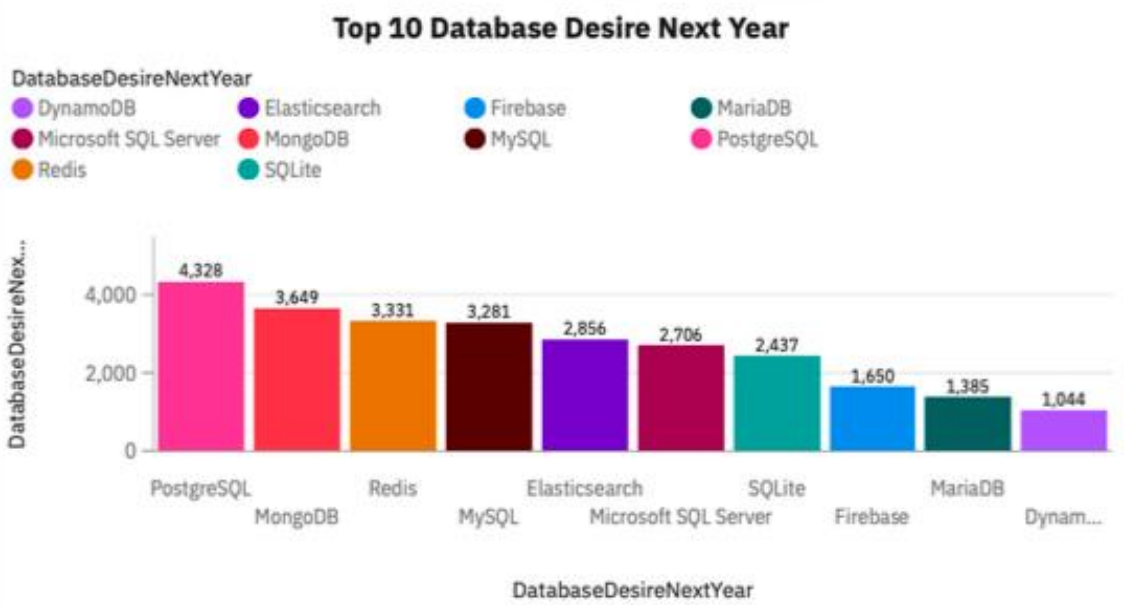


DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- **MySQL** leads as the most used DBMS among all respondents.
- **PostgreSQL** and **Microsoft SQL Server** follow closely behind **MySQL.**
- **MongoDB** ranks as the top **NoSQL** database.

Implications

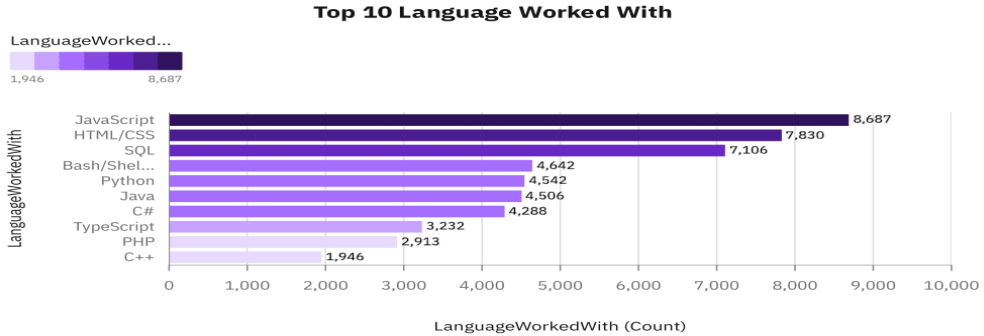
- The popularity of **MySQL**, **PostgreSQL**, and **Microsoft SQL Server** underscores the importance of relational databases in various applications.
- The high usage of **MongoDB** reflects the growing trend towards **NoSQL** databases, driven by the need for flexible data models and scalability, particularly in modern web and mobile applications.
- The diverse range of database systems utilized by developers indicates the importance of selecting the right tool for the job, considering factors such as data structure, scalability, and performance requirements.

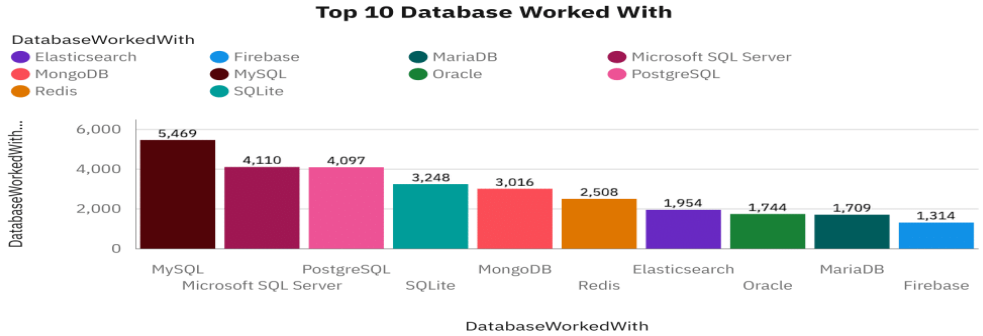
DASHBOARD

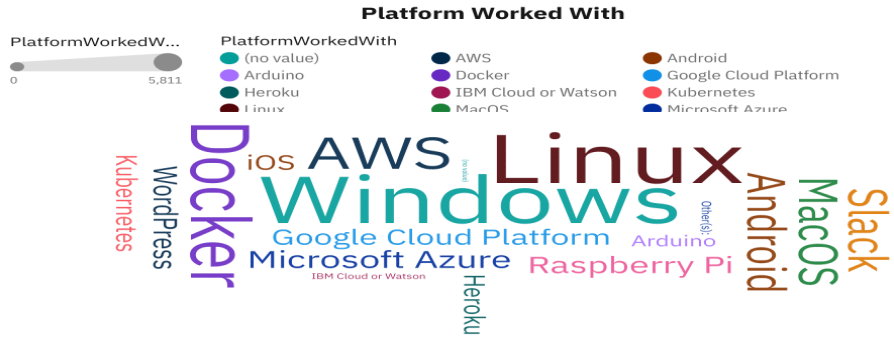
https://github.com/ThisisDrew1/IBM-DATA-ANALYST-PROFESSIONAL-CERTIFICATE

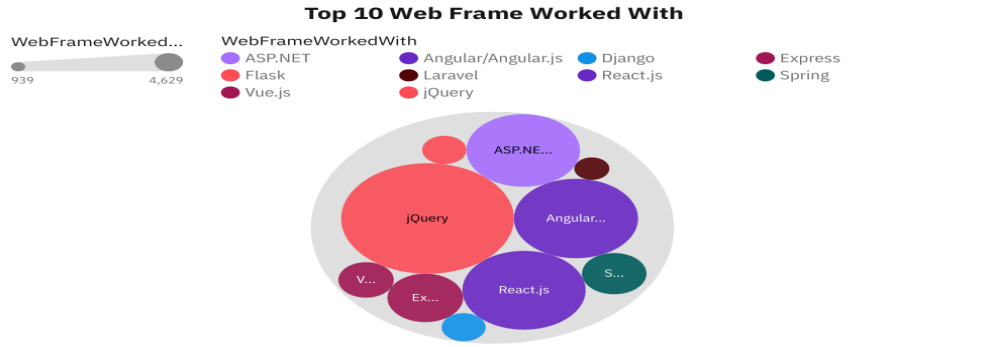
DASHBOARD TAB 1

Current Technology Usage









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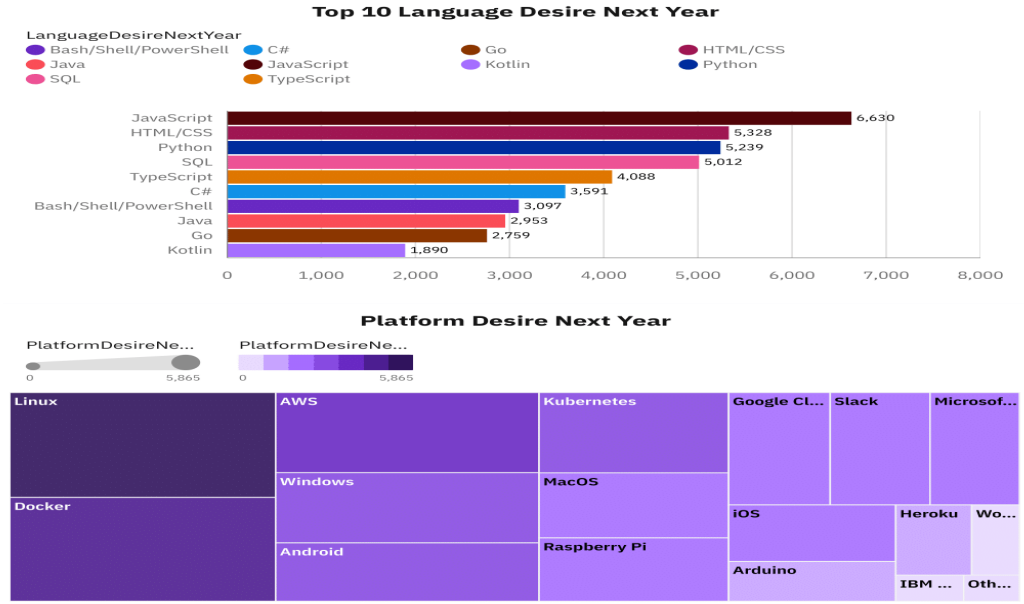
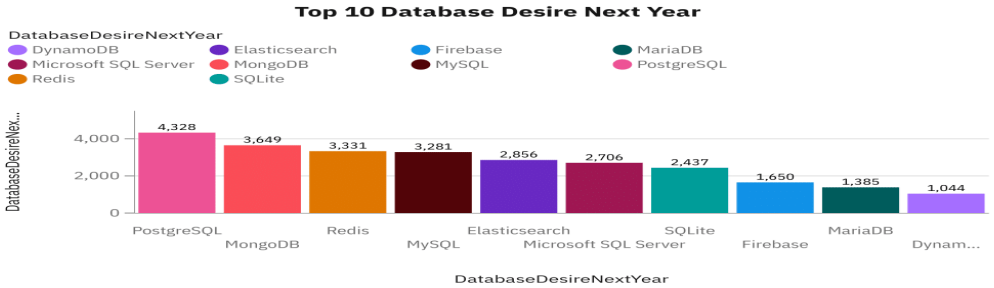
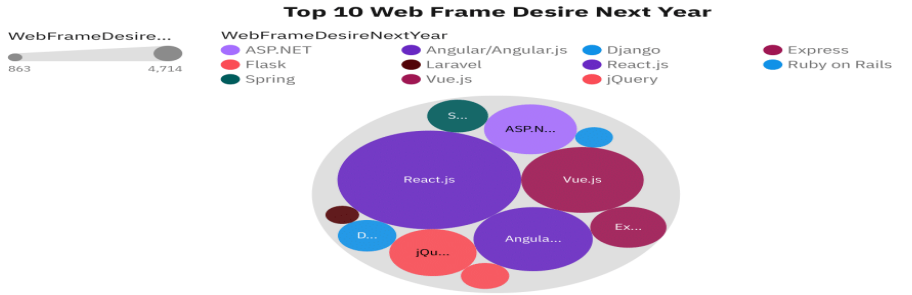
DASHBOARD TAB 2

Future Technology Trend

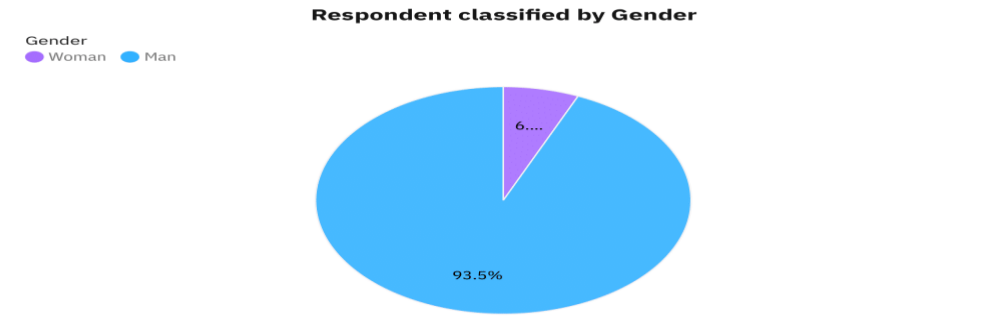


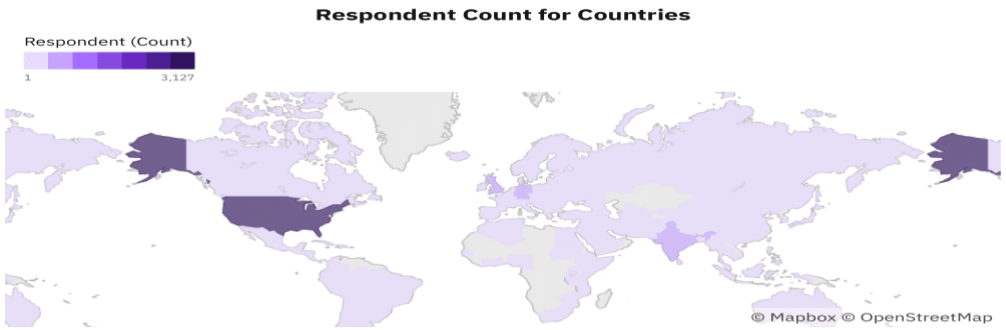


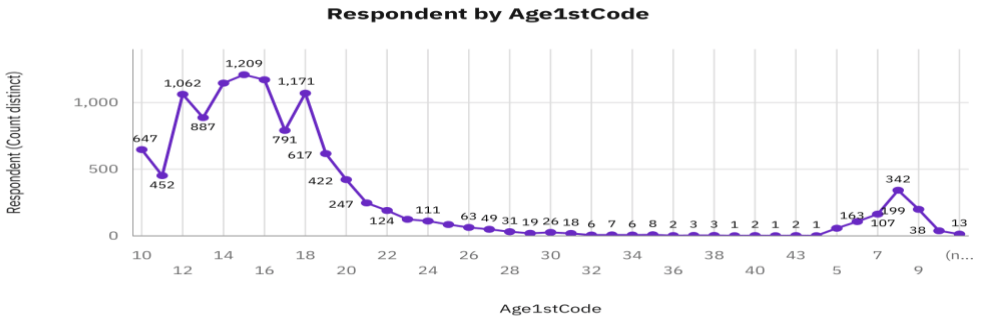


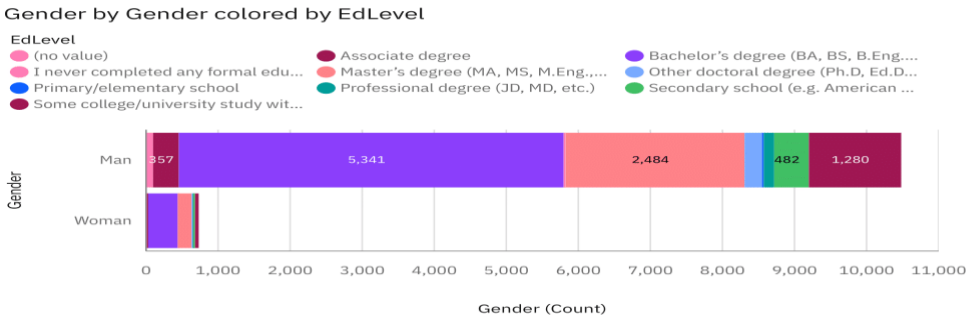
DASHBOARD TAB 3

Demographics









DISCUSSION

- Highlights the central role of **web development** in the programming landscape
- The prevalence of **JavaScript** and **HTML/CSS**, along with the widespread use of **MySQL** as the primary database management system.
- This opens up discussions regarding the importance of client-side scripting and styling, current trends in web development frameworks, and the continuously evolving landscape of web technologies.

OVERALL FINDINGS & IMPLICATIONS

- Findings
  - Technology Trends: The dominance of JavaScript and HTML/CSS underscores the importance of staying updated with technology trends in web development.
  - Data Management: The prevalence of **MySQL, PostgreSQL**, and **Microsoft SQL** Server highlights the critical role of effective data management in software development,
  - Diversity of Tools: The diverse range of programming languages and database systems utilized by developers underscores the importance of understanding the strengths and weaknesses of different tools.
- Implications
  - The widespread use of MySQL, PostgreSQL, and Microsoft SQL Server highlights the significance of relational databases across different application.
  - The high usage of **MongoDB** reflects the growing trend towards **NoSQL** databases, driven by the need for flexible data models and scalability, particularly in modern web and mobile applications.
  - Industry standardization in technologies like **JavaScript** and **MySQL** enhances collaboration and interoperability within the developer community due to their widespread adoption and proven reliability.

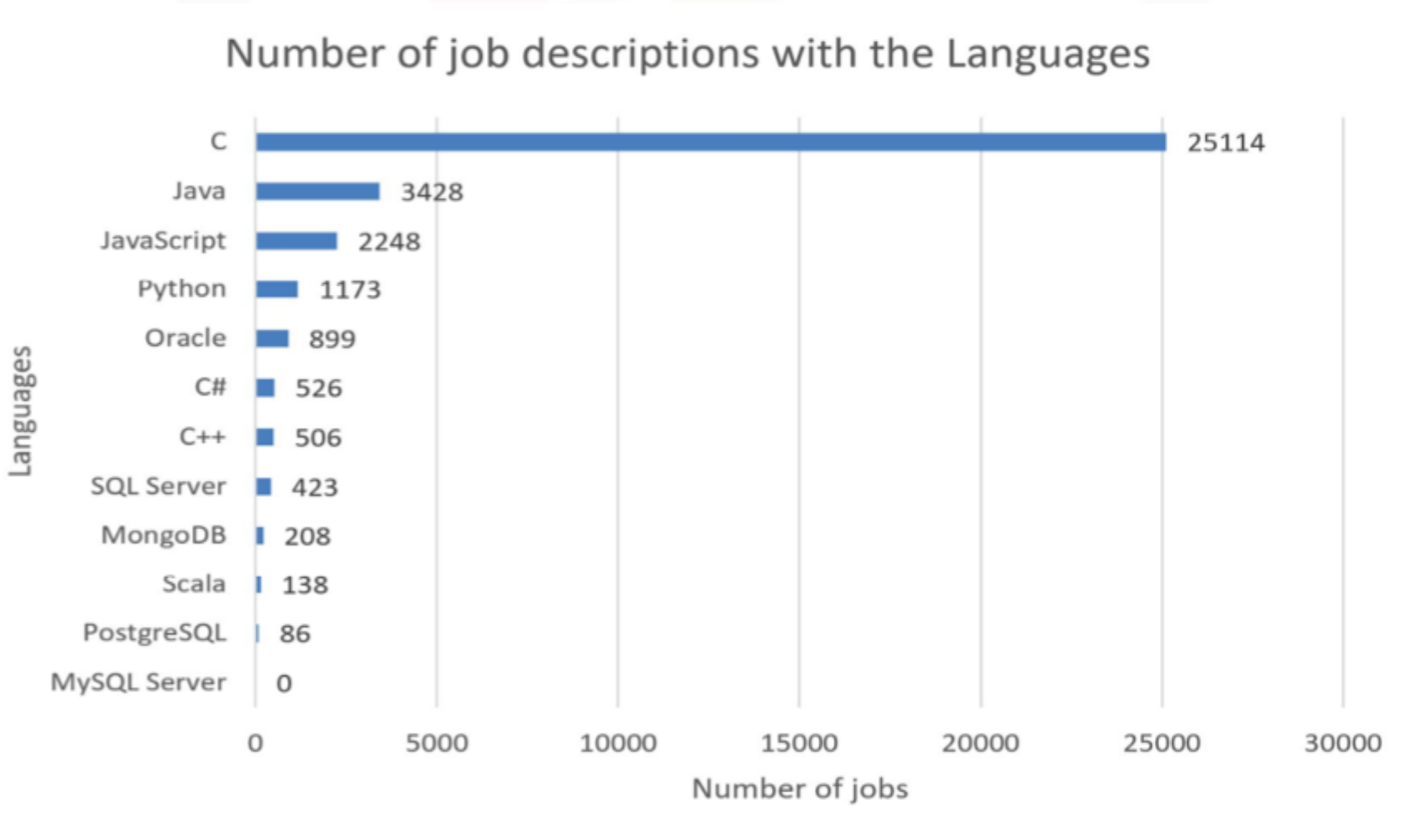
CONCLUSION

- Technology plays an important role in driving innovation across businesses
- Developers must navigate an ever-changing terrain of programming languages and database systems
- A comprehensive understanding of diverse programming languages is essential to meet the demands of industries and ensure great outcome of the software developments
- The results highlight the ever-changing characteristics of the programming environment.

APPENDIX

- A: Job Posting Chart
- B: Popular Languages Chart

JOB POSTINGS



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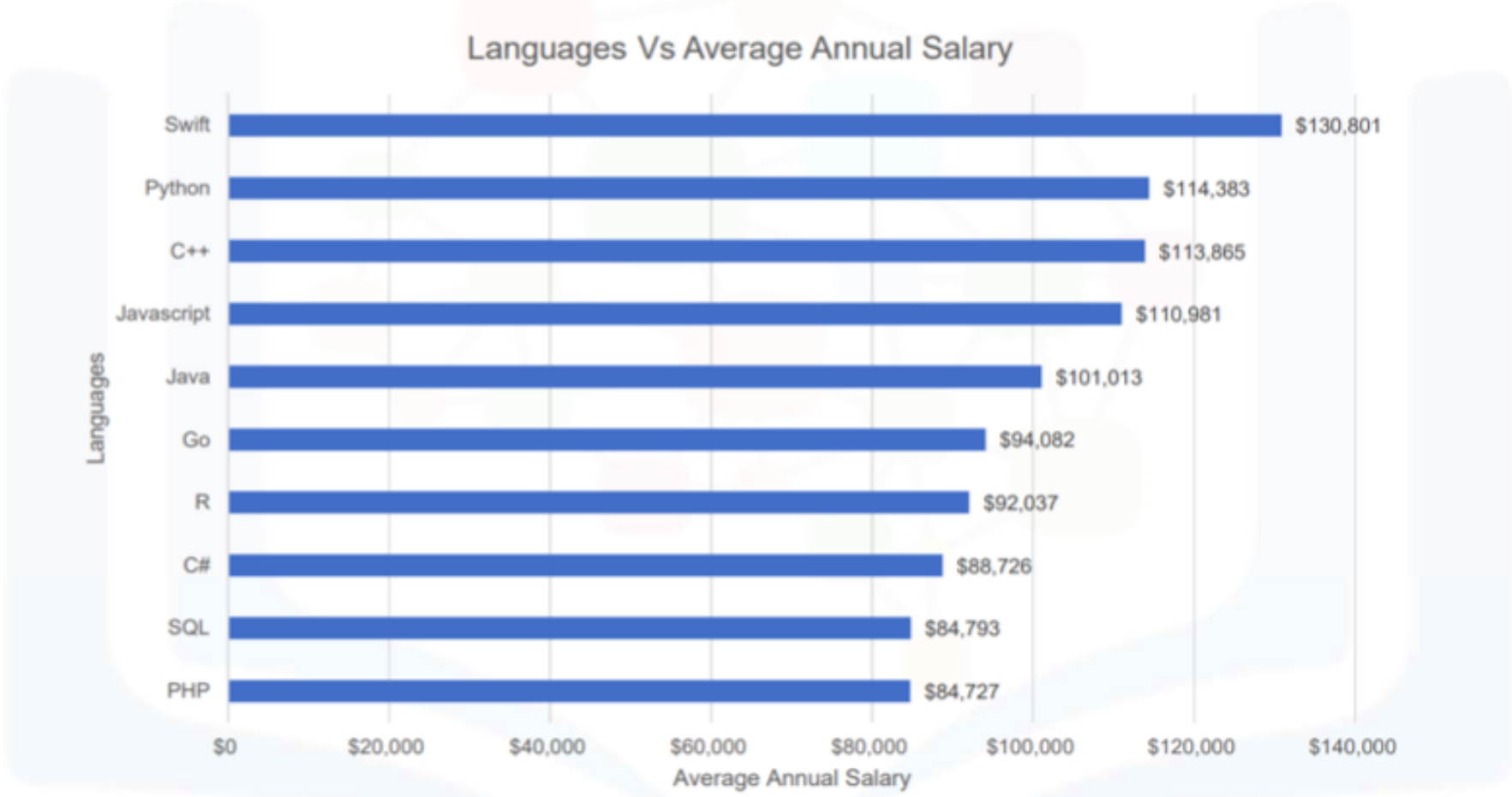
POPULAR LANGUAGES