

Tech Survey Analytics: Visualizing Programming Trends, Demographics, and Technology Preferences



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OUTLINE



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EXECUTIVE SUMMARY



- To programming languages in demand:
JavaScript, HTML/CSS, SQL, Bash/Shell/PowerShell, Python
- Top database skills in demand:
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
- Future Technology Trend:
Python takes the third row, 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 last

INTRODUCTION



- **Objective:** Analyzing the Patterns and Trends in Technology Jobs
- **Purpose of the Analysis:**
 - To comprehend the current and future job demands in the technology field.
 - Identifying the leading programming languages in high demand.
 - Recognizing the top databases sought after in the industry.
 - Evaluating the popularity of Integrated Development Environments (IDEs).
- **Target Audience:** Individuals aspiring to pursue careers in the technical field and professionals working in IT departments

METHODOLOGY



- Sources of Data Collection:
 - Stack Overflow Developer 2019 Survey
 - GitHub Job Postings
 - Programming Languages Annual Salary
- Data Exploration
- Data Cleaning
- Data Visualization
- Presentation

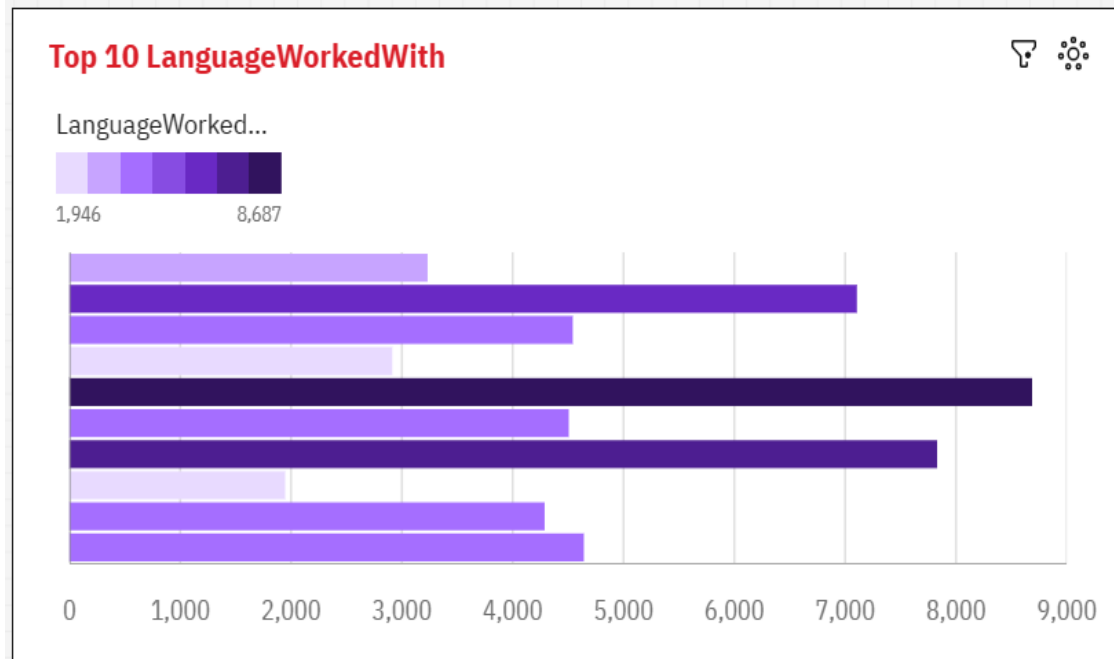
RESULTS



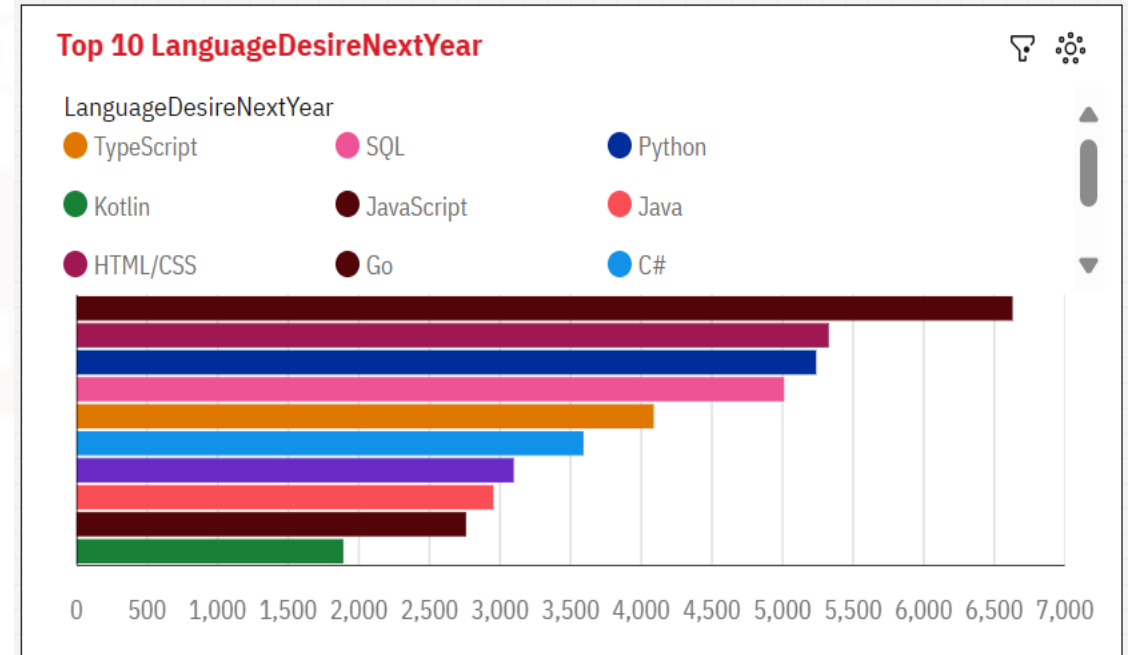
- **Python** overtakes **Java**, becoming the 5th most preferred language with significant growth. It stands as the fastestgrowing major programming language.
- **JavaScript** remains the most used programming language.
- **jQuery** is the most widely used among web frameworks, with **React.js** surpassing Angular in developer usage this year.
- 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.

PROGRAMMING LANGUAGE TRENDS

CURRENT YEAR



NEXT YEAR



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

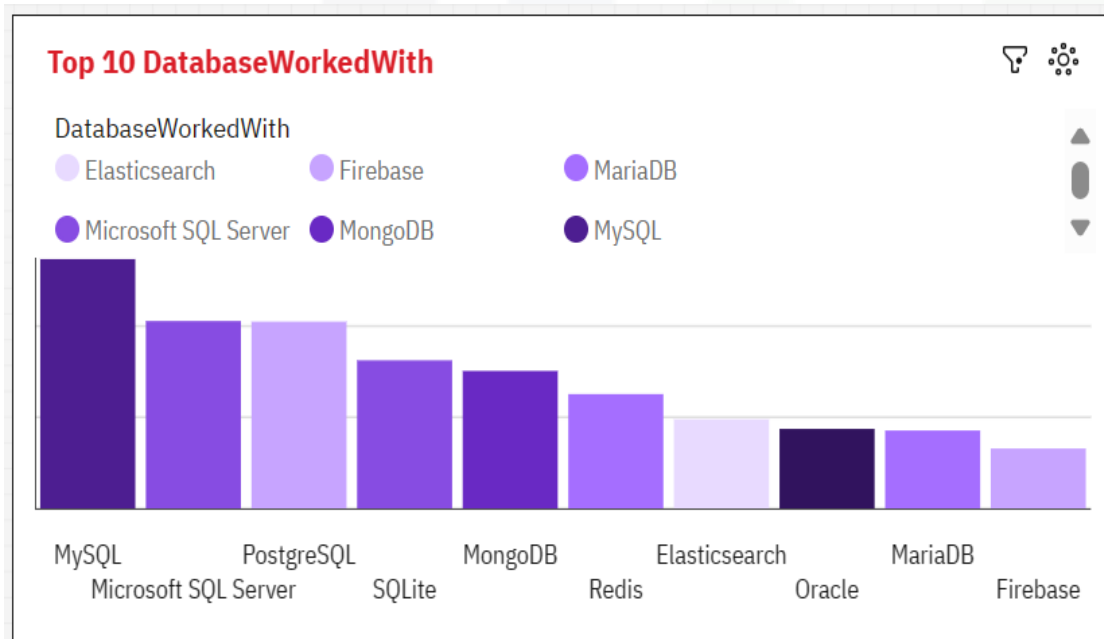
- JavaScript, HTML/CSS, and SQL are the top three programming languages for this year.
- Python and TypeScript are expected to gain popularity in the coming year.
- PowerShell will experience a decline in demand in the next year.

Implications

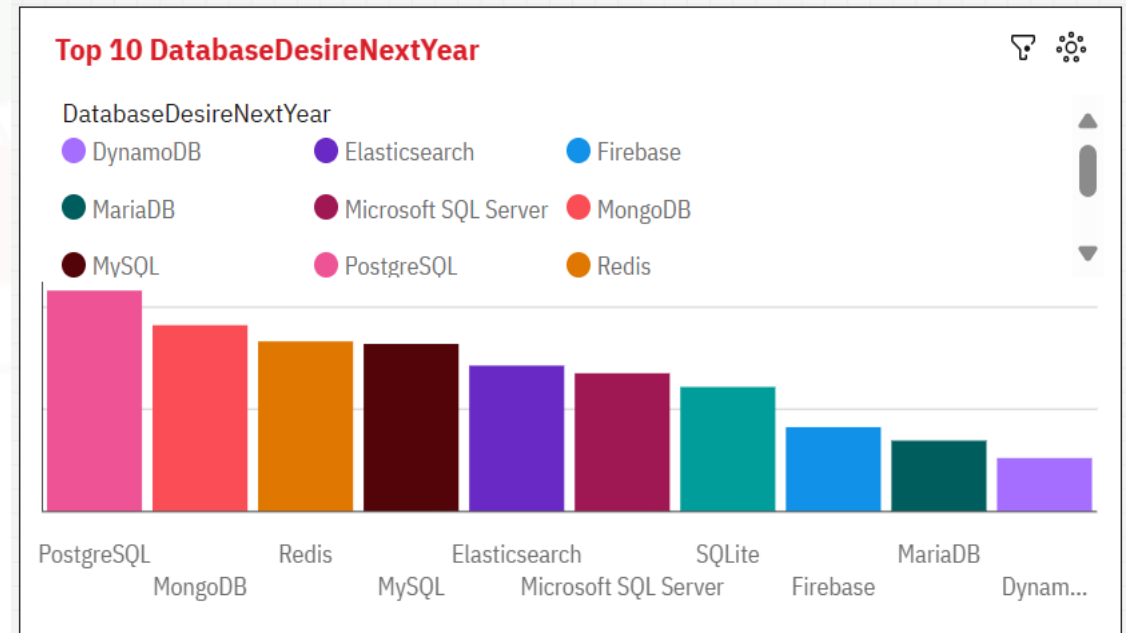
- Web development continues to be in high demand, reinforcing the importance of JavaScript, HTML/CSS, and SQL skills.
- Companies still rely on SQL for managing Big Data technologies.
- With the increasing demand for AI and ML, Python remains the best choice for those looking to specialize in these fields.

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL is the most popular database.
- Microsoft SQL closely follows as the second most popular choice.
- MongoDB and Redis are emerging as favorites among users.
- Elasticsearch is a newcomer gaining attention.

Implications

- Open-source databases continue to be the preferred choice for companies, with MySQL leading the way.
- NoSQL databases like MongoDB and Redis will have a significant impact on storing non-relational data.
- Redis's support for abstract data types offers versatility and flexibility in data storage.
- Elasticsearch provides pre-tuned search capabilities for websites, apps, and ecommerce stores, enhancing user experience and efficiency in data retrieval.

DASHBOARD



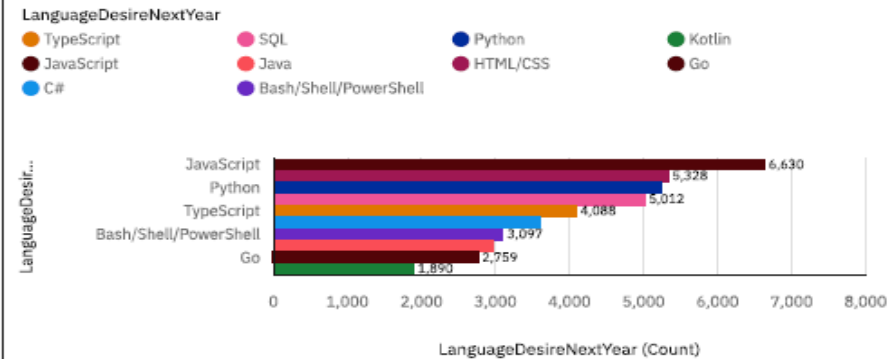
You can find the Dashboard link below:

<https://github.com/krishnabharathy/Capstone-Project/blob/main/Building%20a%20dashboard%20with%20IBM%20Cognos%20Analytics.pdf>

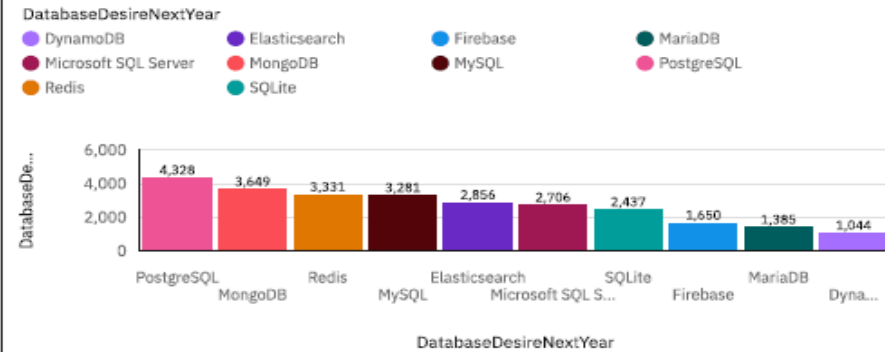
FUTURE TECHNOLOGY TREND DASHBOARD

Future Technology Trend

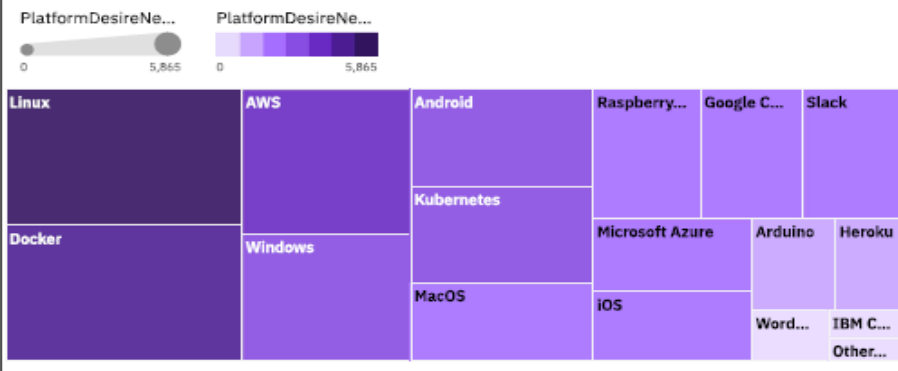
Top 10 LanguageDesireNextYear



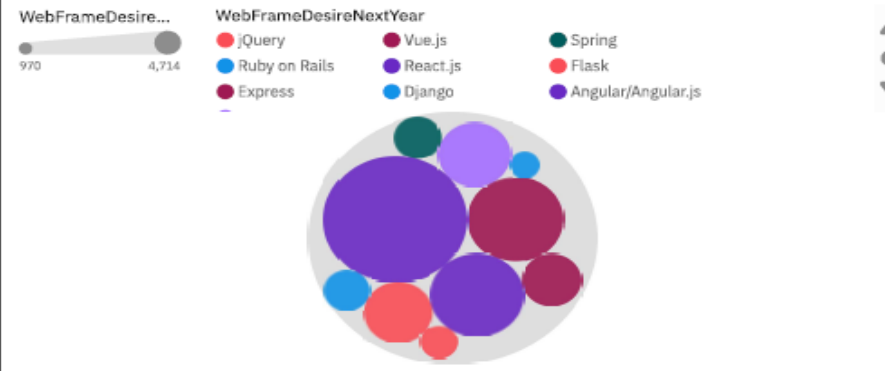
Top 10 DatabaseDesireNextYear



PlatformDesireNextYear

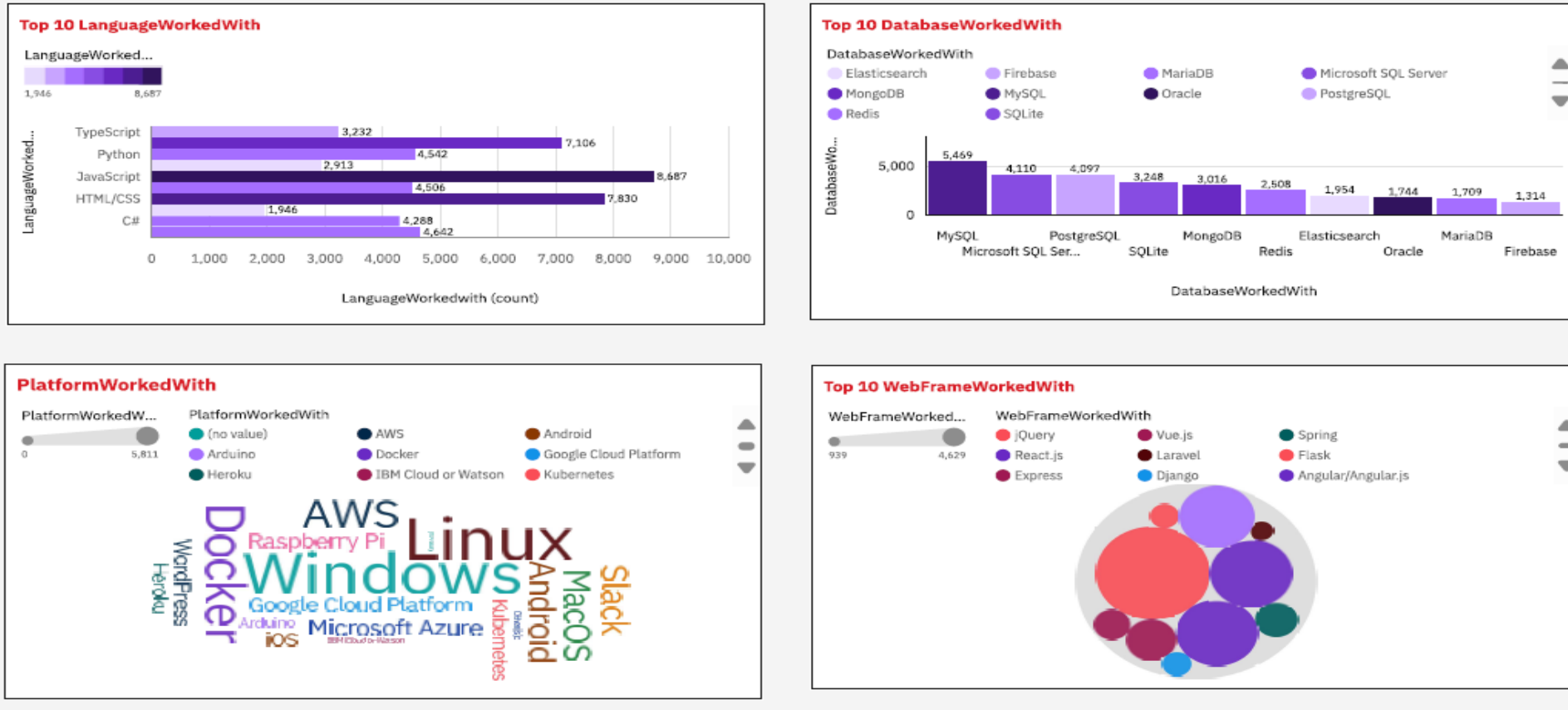


Top 10 WebFrameDesireNextYear



CURRENT TECHNOLOGY USAGE DASHBOARD

Current Technology Usage

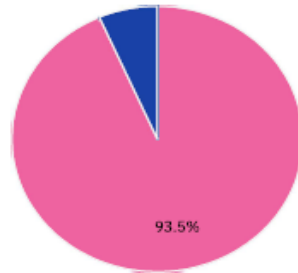


DEMOGRAPHICS

Demographics

Respondent classified by Gender

Gender
● Man
● Woman

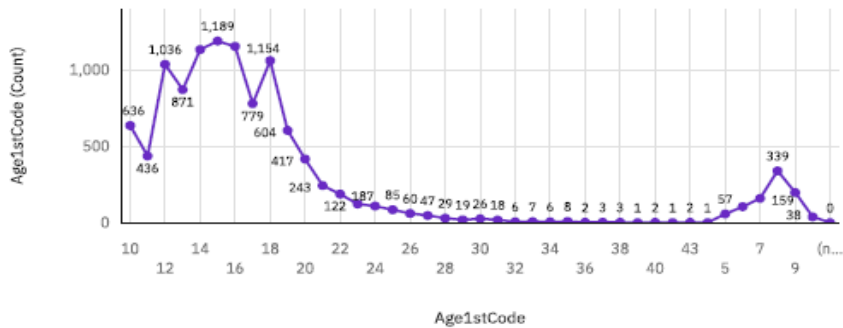


Respondent Count for Countries

Country (Count)
1 3,058

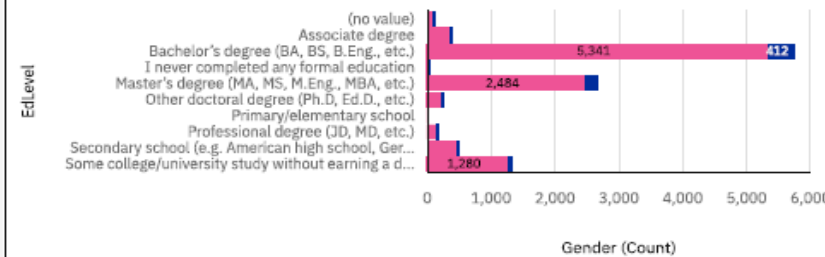


Respondent Count by Age



Respondent Count by Gender, classified by Formal Education Level

Gender
● Man
● Woman



DISCUSSION



- The dominance of JavaScript and HTML/CSS and the adoption of MySQL as the leading database management system
- Highlights the central role of web development in the programming landscape
- Opens up discussions on the significance of client-side scripting and styling, trends in web development frameworks, and the evolving nature of web technologies

OVERALL FINDINGS & IMPLICATIONS

Findings

- Technology rapidly evolves each year.
- Technology concentration in countries like USA and India.
- Gender gap persists in technology jobs.
- Growing popularity of platforms like Docker and AWS.

Implications

- Companies must be adaptable to cope with fast-paced technological changes.
- Efforts needed to distribute technology advancements to less developed countries.
- Gender disparity influences job hiring practices.
- A shift towards faster app deployments and increased reliance on cloud services in the future.

CONCLUSION



- The findings underscore the dynamic nature of the programming landscape and the critical role of technology in driving innovation across industries.
- As developers navigate this ever-changing terrain,
 - a keen understanding of diverse programming languages
 - database systems becomes essential to meet the demands of modern applications
 - ensure optimal outcomes in software development projects.

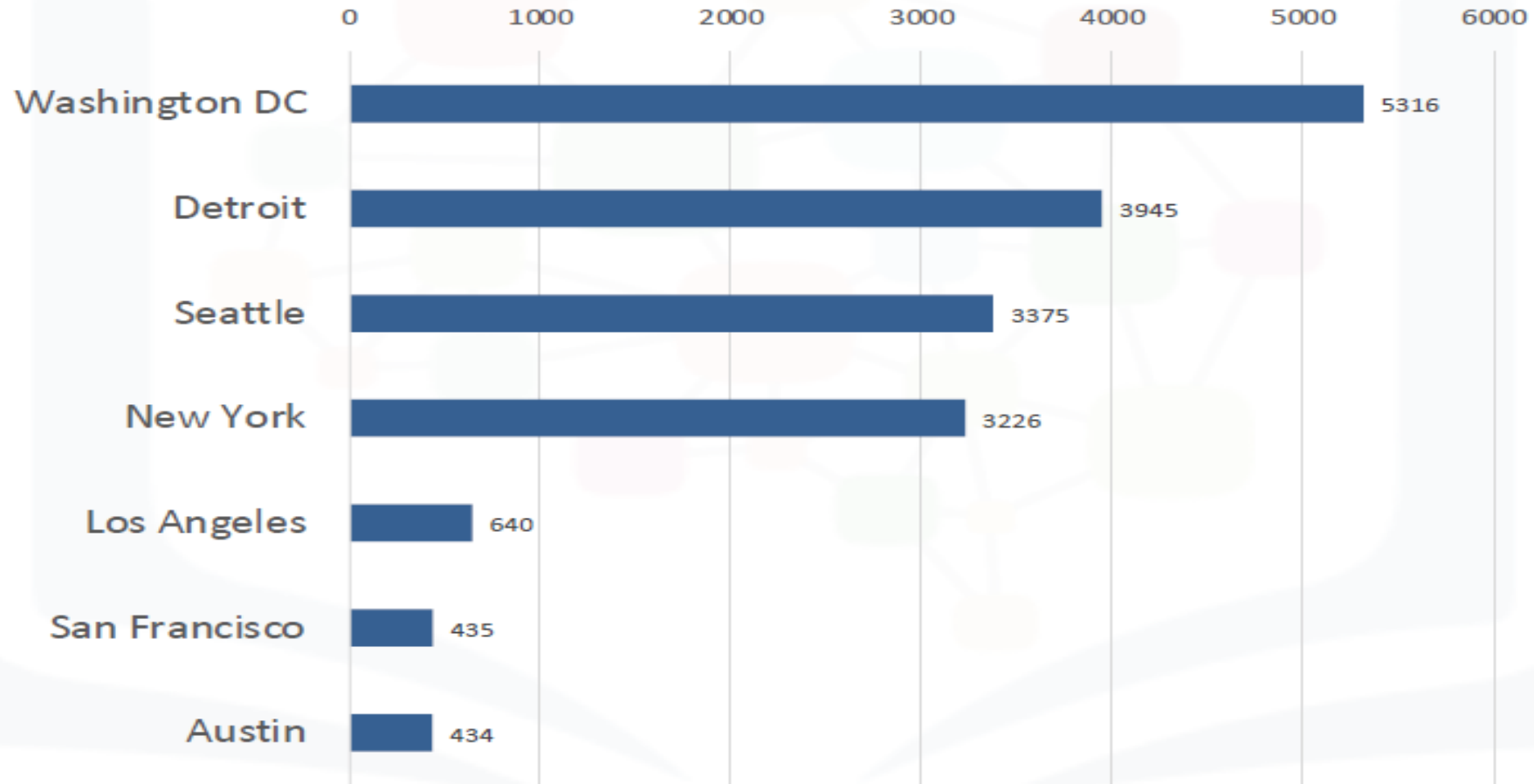
APPENDIX



Job Postings Chart

Popular Languages Chart

JOB POSTINGS



POPULAR LANGUAGES

