



Trends in Technology

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OUTLINE



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



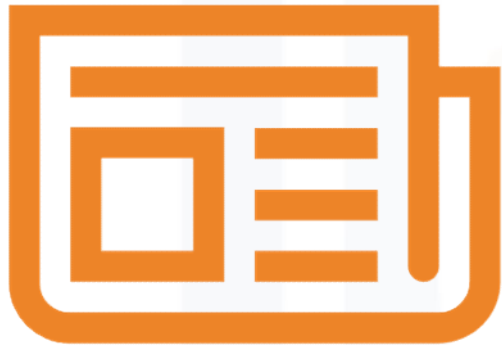
- Overview of current technology adoption among developers
- Emerging trends in future technology preferences
 - Languages and Databases desired for the next year
 - Platforms and frameworks on the rise
- Demographic insights from survey data

INTRODUCTION



- Importance of understanding technology trends in the developer community
- Overview of the dashboard structure and data visualization approach
- Significance of demographic analysis in shaping future strategies
 - Gender distribution insights
 - Geographic representation of respondents

METHODOLOGY

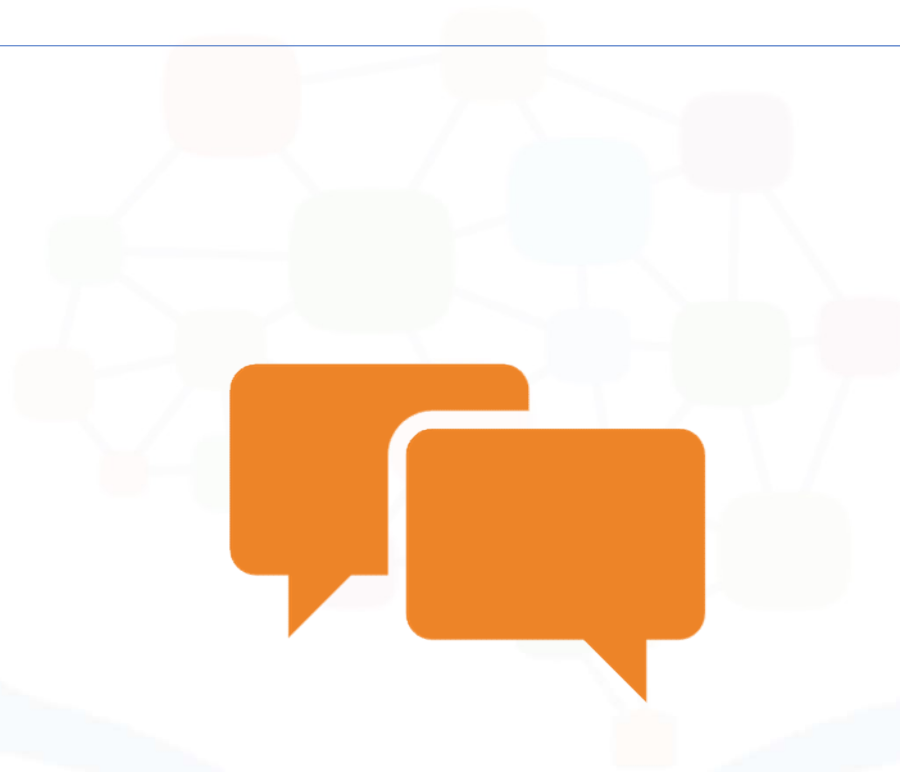


For this assignment, the dataset utilized originates from the Stack Overflow Developer Survey 2019, available under the ODbL (Open Database License) from Stack Overflow's official blog. A modified subset of this dataset was employed to align with specific assignment requirements, as outlined.

- **Software Used:** The analysis and visualization were conducted using IBM Cognos.
- **Techniques Employed:**
 - Descriptive Statistics
 - Data Visualization

These techniques were applied systematically to analyze the dataset, derive insights, and generate visualizations that effectively communicate trends and patterns in developer preferences and demographics.

RESULTS

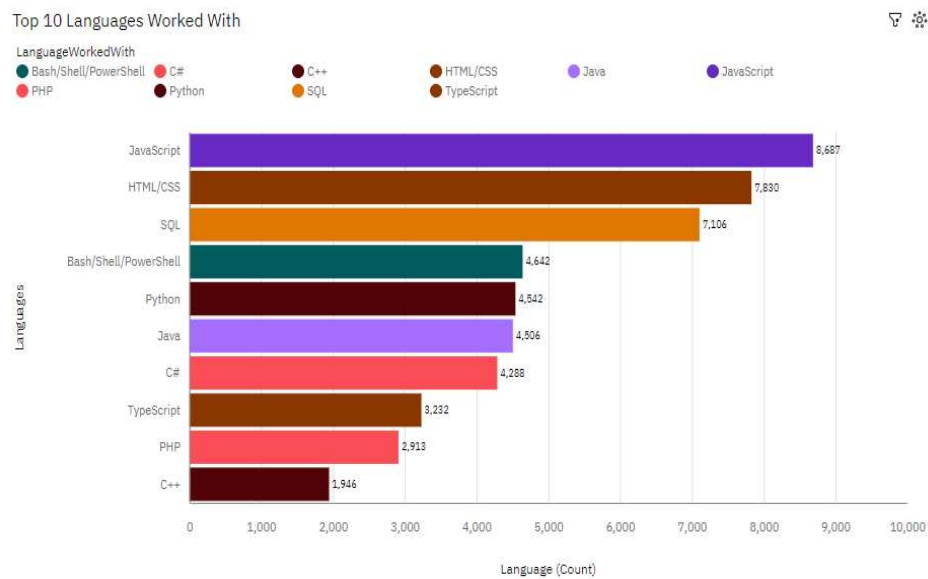


IBM Developer

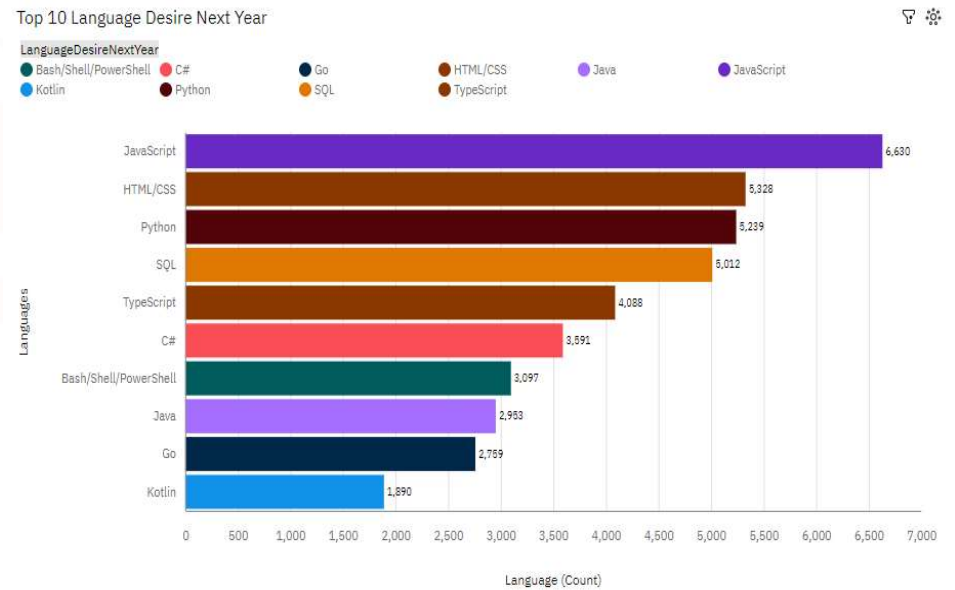
SKILLS NETWORK 

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS – FINDINGS & IMPLICATIONS

Findings

- **JavaScript Continues to Lead:** JavaScript remains the most widely used programming language among developers, maintaining its dominant position in the tech landscape.
- **Python's Rapid Growth:** Python is identified as the fastest-growing programming language, reflecting its increasing popularity and widespread adoption across various domains.
- **Rising Interest in TypeScript:** There is a significant and growing interest in TypeScript, indicating its rising prominence and acceptance within the developer community.

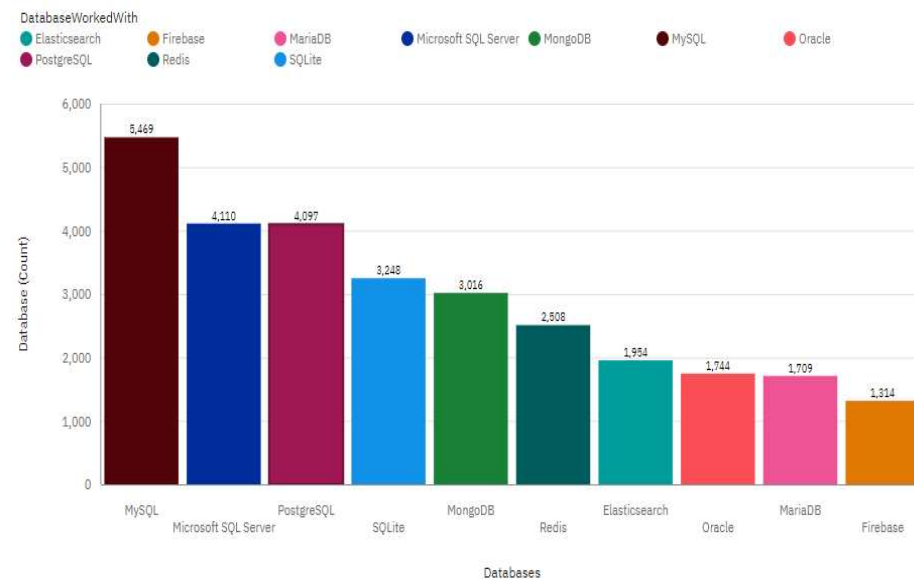
Implications

- **JavaScript and TypeScript Dynamics:** The strong interest in TypeScript suggests a potential trend of developers transitioning from JavaScript to TypeScript, seeking its enhanced features and type safety.
- **Skill Development and Training:** Organizations may need to invest in training and development programs focused on TypeScript and Python to keep their development teams proficient with these in-demand languages.
- **Strategic Technology Decisions:** Companies should consider the popularity and growth trends of these languages when making strategic decisions about technology stacks, ensuring they remain competitive and can attract top talent.

DATABASE TRENDS

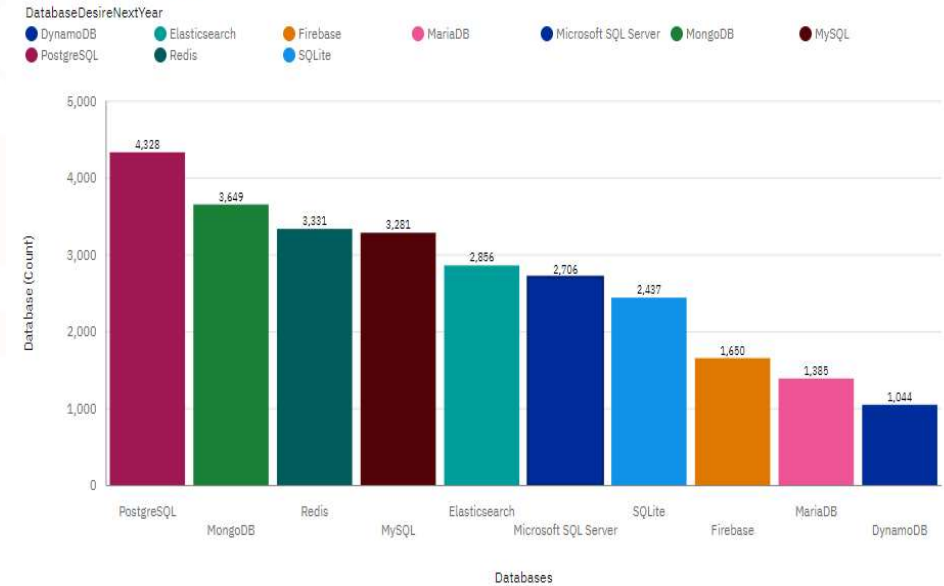
Current Year

Top 10 Database Worked With



Next Year

Top 10 Database Desire Next Year



DATABASE TRENDS – FINDINGS & IMPLICATIONS

Findings

- **MySQL as the Most Used Database:** MySQL continues to be the most widely used database among developers, maintaining its leading position in database technology.
- **Decreased Interest in Microsoft SQL Server and SQLite:** There is a noticeable lack of interest in Microsoft SQL Server and SQLite, suggesting a decline in their popularity and usage.
- **Growing Interest in PostgreSQL and MongoDB:** There is an increasing interest in PostgreSQL and MongoDB, indicating a shift towards these databases due to their advanced features and flexibility.

Implications

- **Market Shift Away from Microsoft SQL Server and SQLite:** The declining interest in Microsoft SQL Server and SQLite implies they are losing market share, potentially impacting their long-term viability and support in the industry.
- **Establishment of PostgreSQL and MongoDB:** The growing popularity of PostgreSQL and MongoDB signifies their establishment as major players in the database market, prompting organizations to consider adopting these databases for their robust capabilities and scalability.
- **Strategic Planning for Database Adoption:** Companies should re-evaluate their database strategies, considering the rising trends of PostgreSQL and MongoDB to ensure they leverage the best technology for their needs, and remain competitive in a rapidly evolving tech landscape.

DASHBOARD

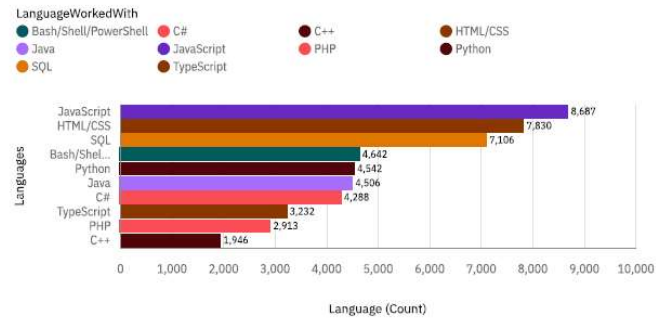


<https://github.com/Pereira-DouglasHenrique/IBM-Data-Analyst-Capstone-Project/blob/bff70e32805d0ac11328c33b60dfc81add932ee1/Final%20Dashboard.pdf>

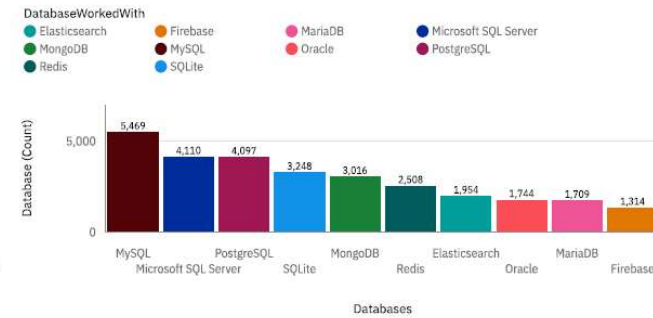
DASHBOARD TAB 1

Current Technology Usage

Top 10 Languages Worked With



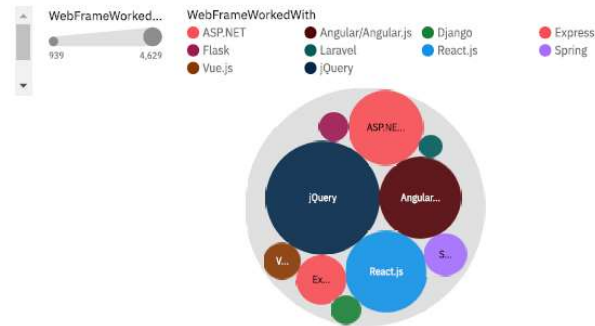
Top 10 Database Worked With



Platform Worked With



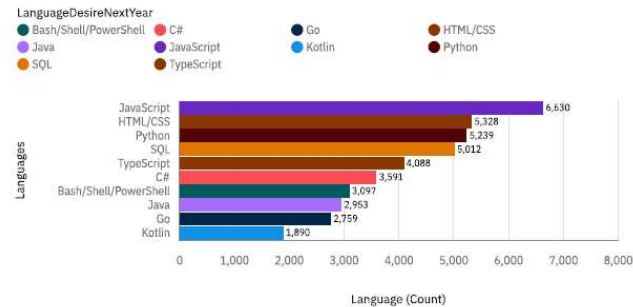
Top 10 Web Frame Worked With



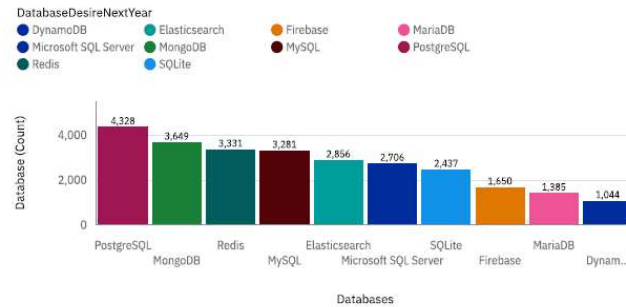
DASHBOARD TAB 2

Future Technology Trend

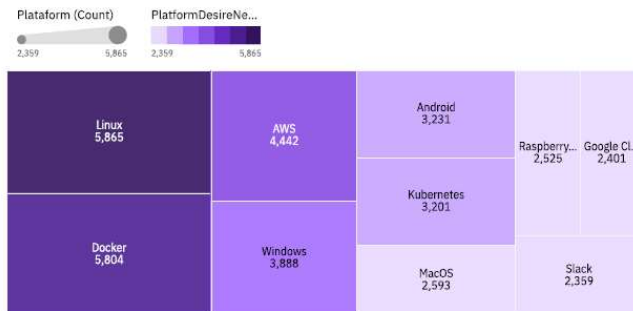
Top 10 Language Desire Next Year



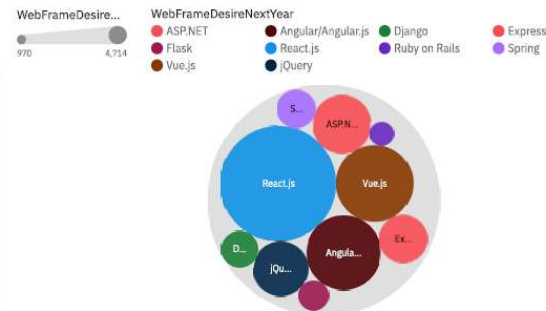
Top 10 Database Desire Next Year



Top 10 Platform Desire Next Year



Top 10 Web Frame Desire Next Year

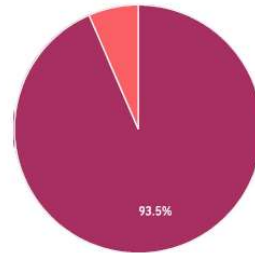


DASHBOARD TAB 3

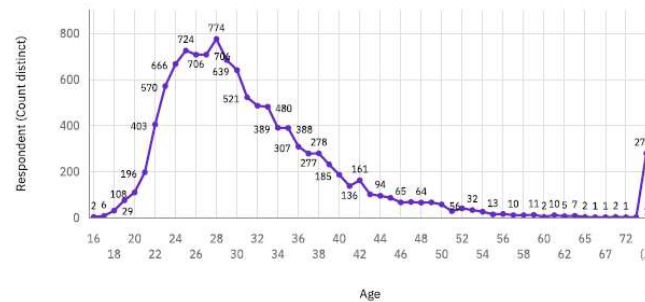
Demographics

Respondent classified by Gender

Gender
● Man ● Woman



Respondent by Age

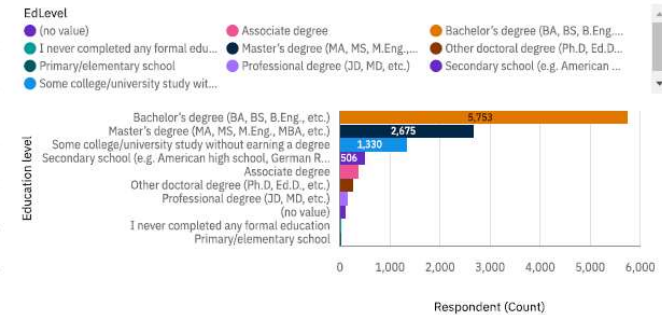


Respondent Count for Countries

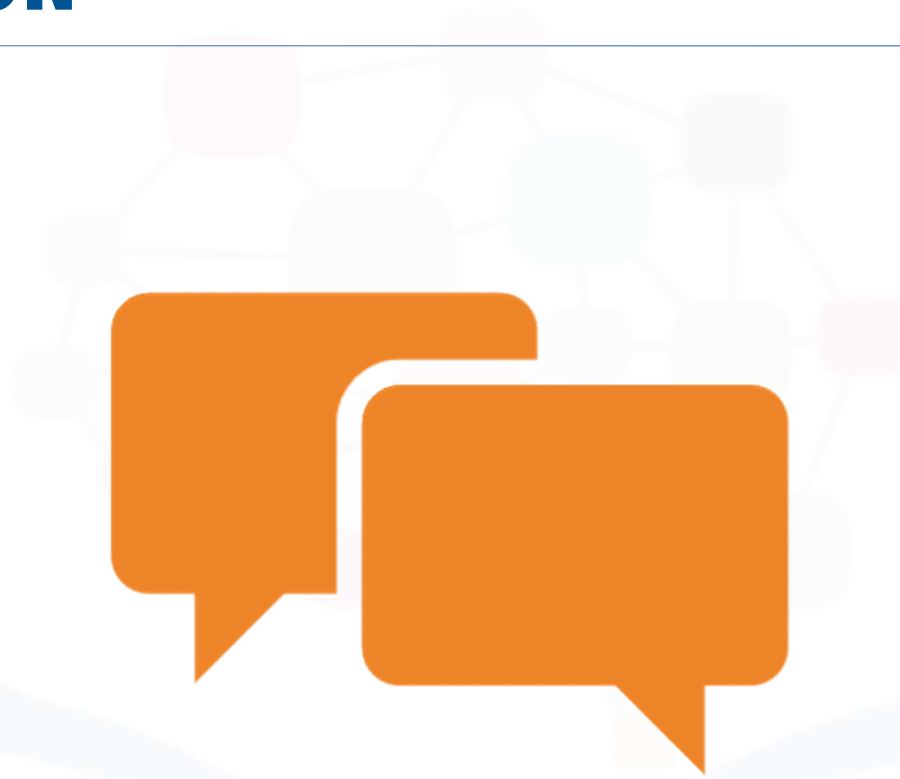
Respondent (Count)
1 3,058



Respondents classified by Education Level



DISCUSSION



OVERALL FINDINGS & IMPLICATIONS

Findings

- **JavaScript and TypeScript Usage:** JavaScript remains widely used, while TypeScript is rapidly gaining popularity among developers.
- **Demographic Profile:** Over 90% of developers are young males, highlighting a significant gender imbalance in the industry.
- **Geographic Distribution:** A majority of developers are located in developed countries, indicating a global polarization in the distribution of developer talent.

Implications

- **Growing Influence of JavaScript and TypeScript:** The increasing popularity of JavaScript and TypeScript suggests that frameworks and libraries based on these languages will continue to gain followers, influencing the future direction of web development.
- **Need for Diversity and Inclusion:** The significant gender and geographic disparities highlight the need for initiatives focused on promoting diversity and inclusion within the developer community. Efforts to attract and support underrepresented groups could help address this imbalance.
- **Education and Skill Development:** The predominance of young developers, many without postgraduate studies, suggests a focus on practical skills and continuous learning over formal education. Companies and educational institutions should emphasize accessible, high-quality training programs to meet the evolving needs of the tech industry.

CONCLUSION

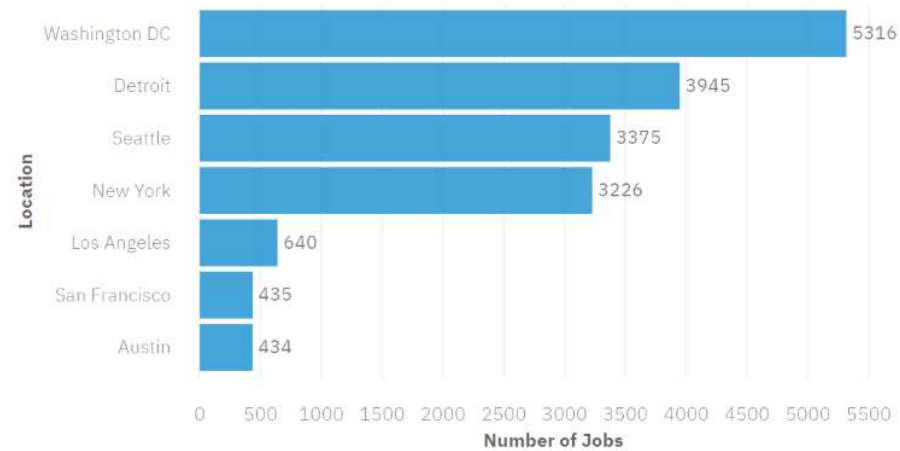


Our analysis reveals clear trends in the developer community, highlighting the widespread use of JavaScript and the growing popularity of TypeScript and Python. MySQL remains the dominant database, while interest in PostgreSQL and MongoDB is increasing. The demographic data shows a significant gender imbalance and a concentration of developers in developed countries. These findings underscore the need for strategic investment in training for emerging technologies and efforts to promote diversity and inclusion within the industry. Addressing these issues can foster a more equitable and innovative global tech landscape.

APPENDIX



JOB POSTINGS



POPULAR LANGUAGES

