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

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SKILLS NETWORK

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

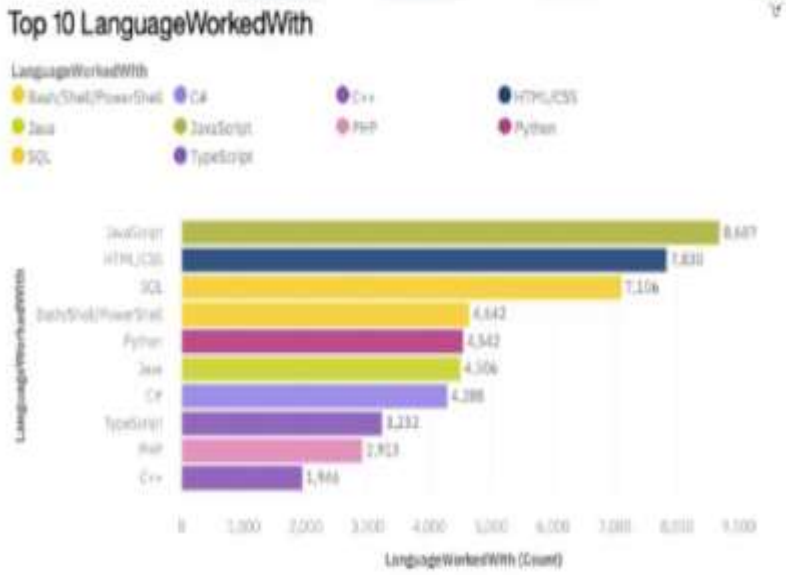
- Sources of Data Collection:
  - Stack Overflow Developer 2019 Survey
  - GitHub Job Postings
  - Programming Languages Annual Salary
- Data Exploration
- Data Cleaning
- Data Visualization
- Presentation

RESULTS

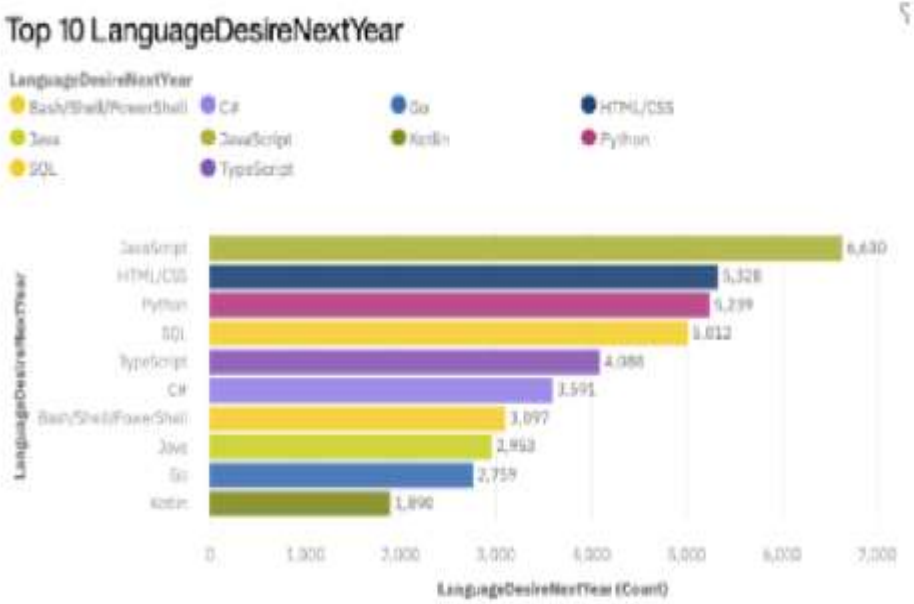
- **Python** overtakes **Java**, becoming the 5th most preferred language with significant growth. It stands as the fastestgrowing major programming language.
- **JavaScript** remains the most used programming language.
- **jQuery** is the most widely used among web frameworks, with **React.js** surpassing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



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PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

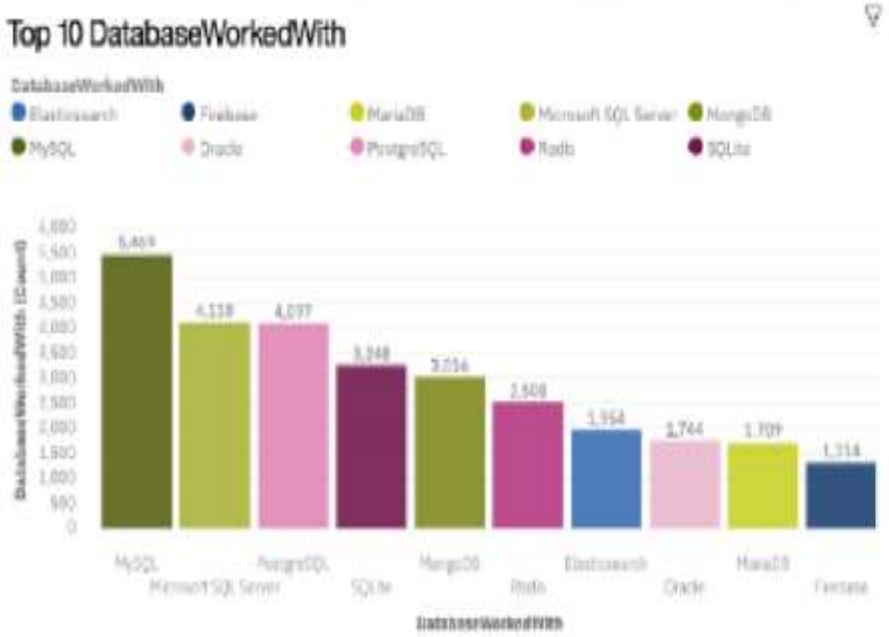
- JavaScript, HTML/CSS, and SQL are the top three programming languages for this year.
- Python and TypeScript are expected to gain popularity in the coming year.
- PowerShell will experience a decline in demand in the next year.

Implications

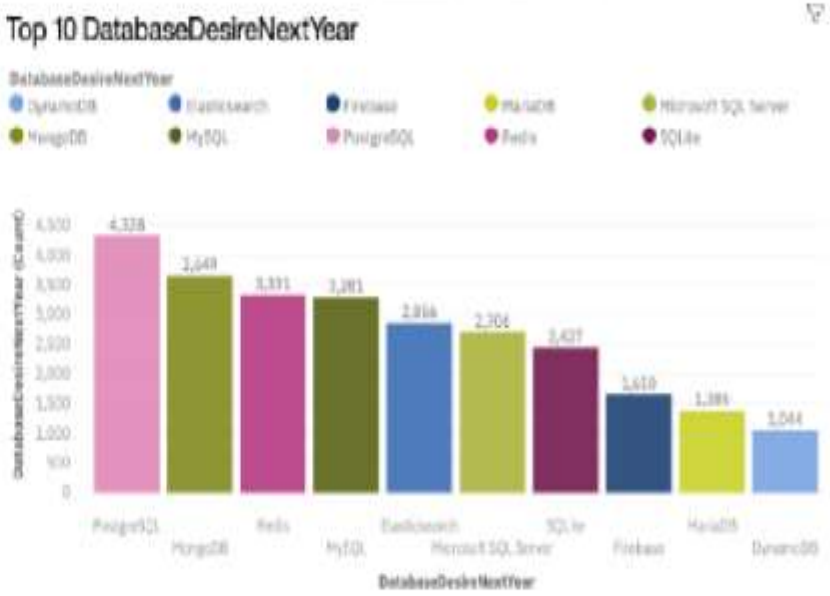
- Web development continues to be in high demand, reinforcing the importance of JavaScript, HTML/CSS, and SQL skills.
- Companies still rely on SQL for managing Big Data technologies.
- With the increasing demand for AI and ML, Python remains the best choice for those looking to specialize in these fields.

DATABASE TRENDS

Current Year



Next Year



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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

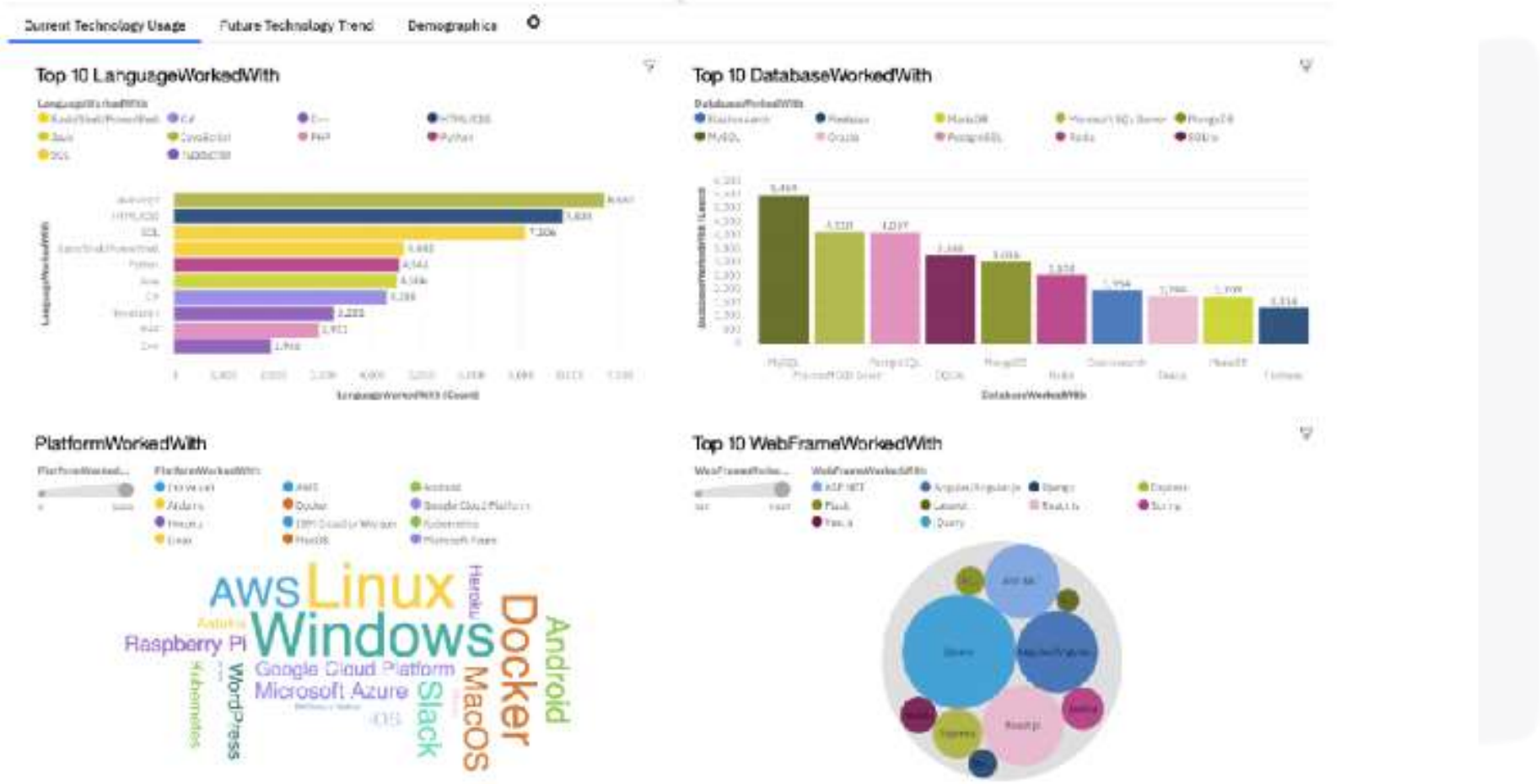
- Open-source databases continue to be the preferred choice for companies, with MySQL leading the way.
- NoSQL databases like MongoDB and Redis will have a significant impact on storing non-relational data.
- Redis's support for abstract data types offers versatility and flexibility in data storage.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

DASHBOARD

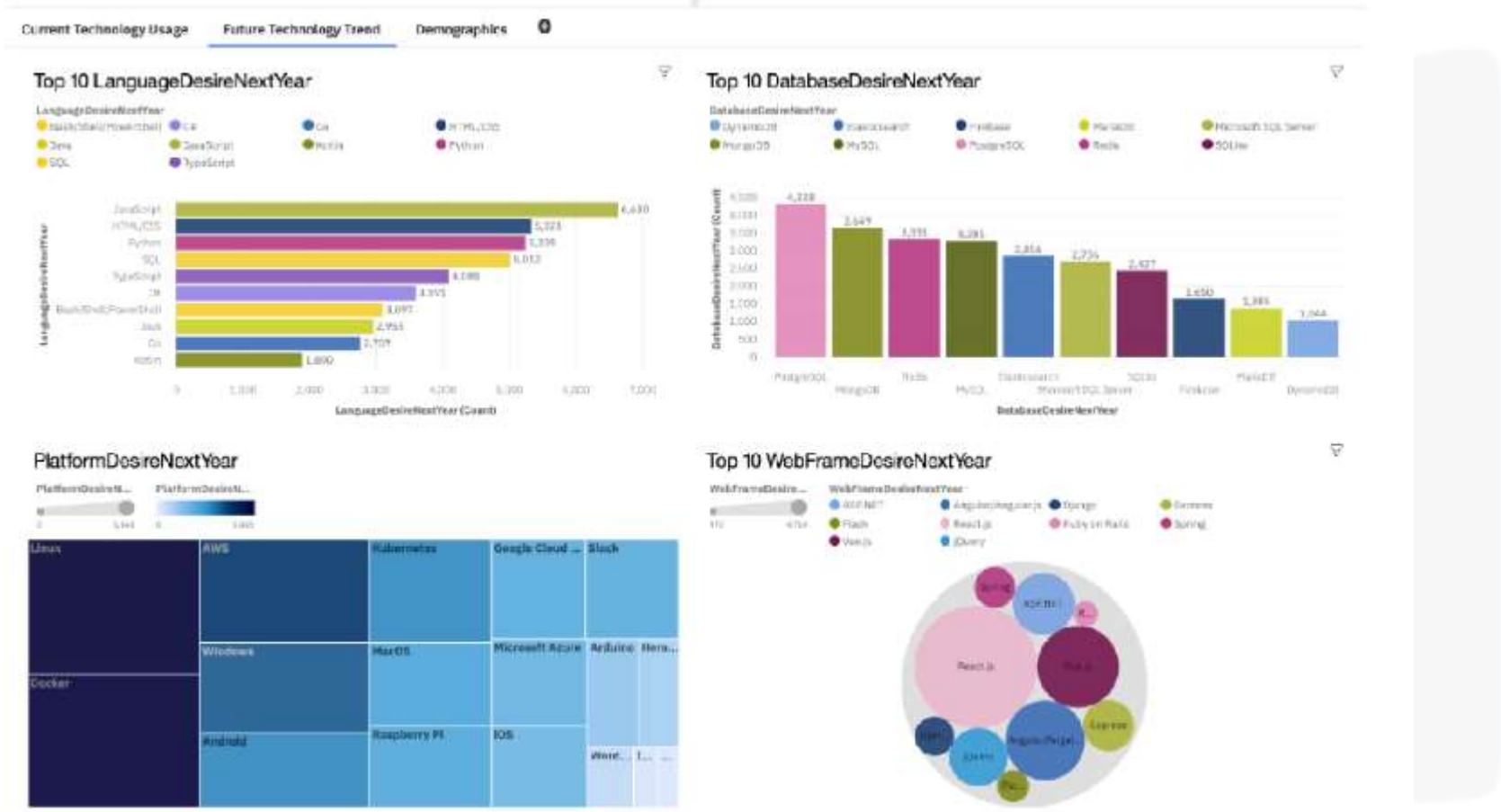
You can find the Dashboard link below:

https://github.com/komalrastog/Capstone-project-Python-Data-Analytics-/blob/main/Dashboard%20Through%20IBM%20Cognos.pdf

FUTURE TECHNOLOGY TREND DASHBOARD



CURRENT TECHNOLOGY USAGE DASHBOARD



DEMOGRAPHICS

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.

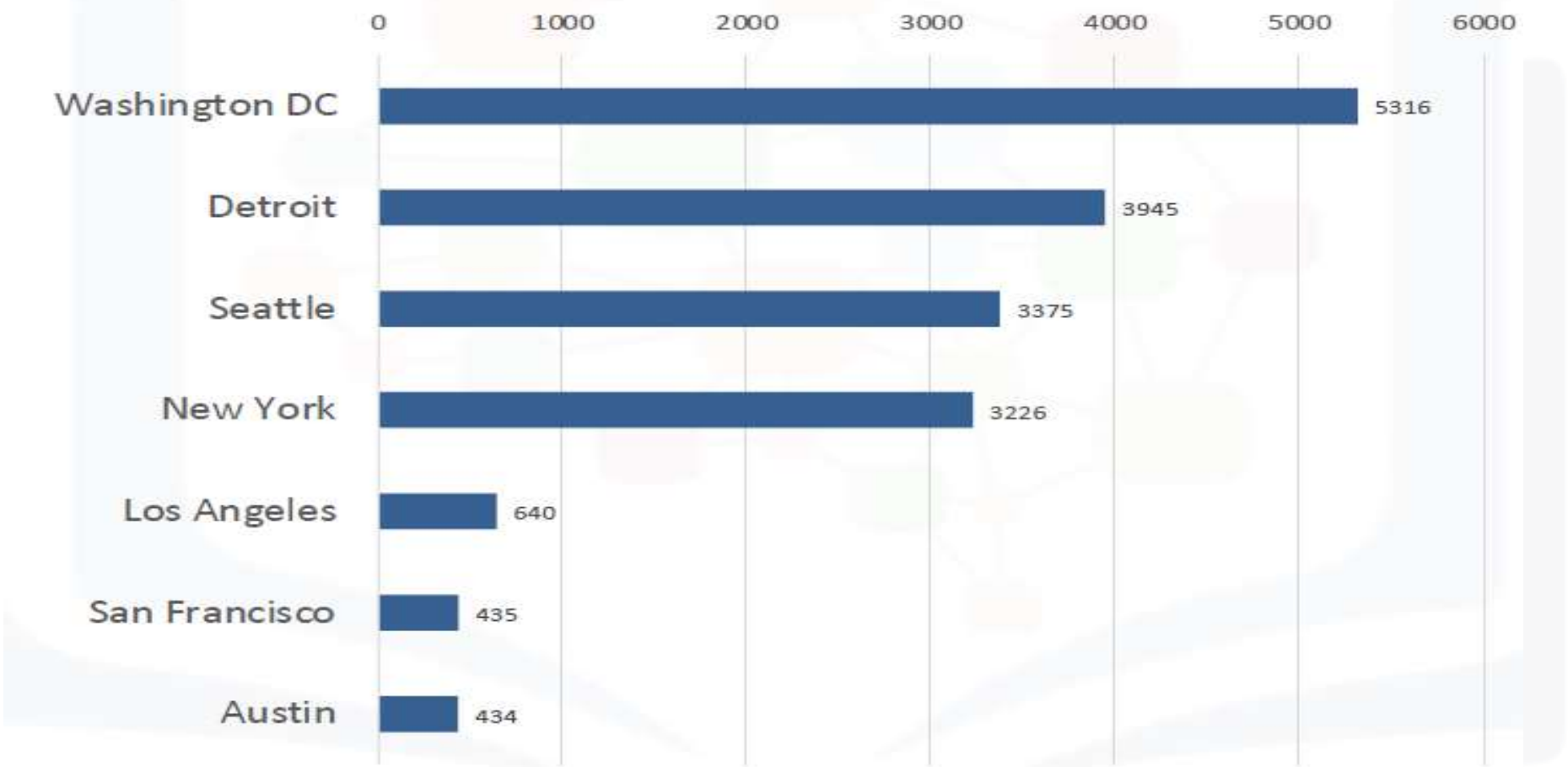
- As developers navigate this ever-changing terrain,
  - a keen understanding of diverse programming languages
  - database systems becomes essential to meet the demands of modern applications
  - ensure optimal outcomes in software development projects.

APPENDIX

Job Postings Chart

Popular Languages Chart

JOB POSTINGS



POPULAR LANGUAGES