



ANALYZING EMERGING IT SKILLS

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A Journey Through Stories and Trends

Imagine this: It's a bright morning, and I'm sitting at my desk, scrolling through the latest tech news. As a tech enthusiast, I can't help but wonder about the ever-changing landscape of programming languages and databases. This curiosity led me to delve deep into the Stack Overflow Developer Survey data of 2019 and the anticipated trends for the upcoming year. I discovered that, much like my own journey in tech, JavaScript has remained a steadfast companion for developers. It's the language that powers the dynamic web we interact with daily. But what about Python? It's rise reminded me of a colleague who transitioned from a non-tech background into data science, showcasing the versatility of this language. Then there's TypeScript, a name that started making waves in our team's discussions. I recalled how it introduced static typing to JavaScript, improving code quality and making development a smoother ride.

As I read about the challenges of gender disparity, it struck a chord with me. I remembered a brilliant female developer I met at a tech conference, who defied stereotypes and inspired those around her. Thinking about technology gaps in developing countries, I couldn't help but reflect on a recent documentary I watched. It highlighted how access to technology transformed lives in remote villages, where simple smartphones connected people to a world of opportunities. And finally, the issue of discrimination resonated deeply. I remembered the frustration of a friend who faced age-based discrimination during a job hunt, despite years of experience.

So, as we journey through this presentation, let's explore these stories and statistics together. It's a narrative that mirrors our own tech experiences and those of our global community.

OUTLINE



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

EXECUTIVE SUMMARY



- ✓ The purpose of this report is to analyze emerging IT skills based on the Stack Overflow Developer Survey 2019 data. This analysis aims to provide insights into current technology usage, future technology trends, and respondent demographics.
- ✓ Understanding the demographics of the developer community is essential for talent acquisition and diversity initiatives.
- ✓ This report serves as a foundation for informed decision-making in the ever-evolving field of IT skills development.

INTRODUCTION



- **About :**

This report presents the findings of our analysis of the Stack Overflow Developer Survey 2019 data, which offers valuable insights into the preferences, aspirations, and demographics of developers worldwide.

- **Purpose :**

- In today's fast-paced and ever-evolving technology landscape, staying ahead of the curve is paramount for organizations seeking to remain competitive and innovative.
- As technology continues to drive business transformation, it is crucial to identify and understand emerging IT skills and trends that will shape the future of the industry.
- The ability to adapt to these changes and align skill development strategies with industry demands is a key success factor for IT and consulting services firms.

- **Audience :** Human Resources and IT Head

METHODOLOGY



- **Data Collection:**
 - Data collection involved obtaining the Stack Overflow Developer Survey 2019 dataset. Information was gathered using a combination of Application Programming Interfaces (APIs) and web scraping techniques.
- **Data Preprocessing:**
 - Steps included addressing missing values and handling duplicates to maintain dataset accuracy. Normalization of data was conducted to facilitate meaningful comparisons and calculations.
- **Exploratory Data Analysis (EDA):**
 - EDA techniques were applied to uncover patterns, correlations, and key trends within the dataset. Outliers were identified and assessed for impact on the analysis.
- **Visualizations:**
 - Visualizations played a significant role in presenting the findings effectively. Charts, graphs, and tables were generated.
 - Visualization techniques were employed to convey trends and insights in an accessible manner using IBM Cognos Analytics.
- **Limitations:**
 - Findings are limited to the available dataset and may not represent the entire developer community.

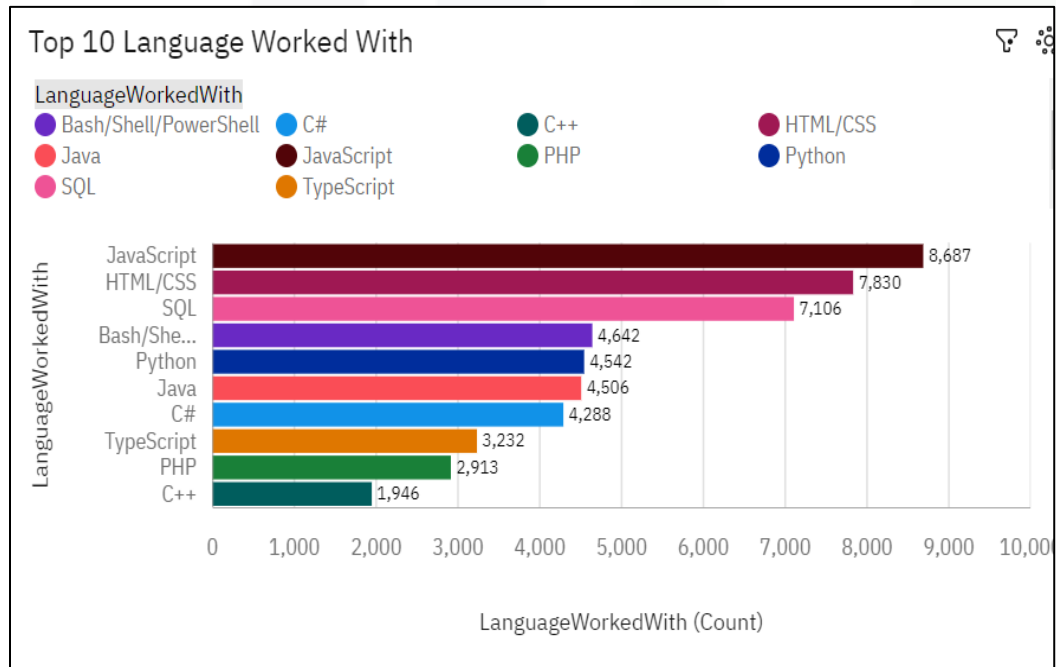
RESULTS

The results of the analysis of Stack Overflow Developer Survey 2019 data provide valuable insights into the current technology landscape, emerging trends, and the demographics of the global developer community.

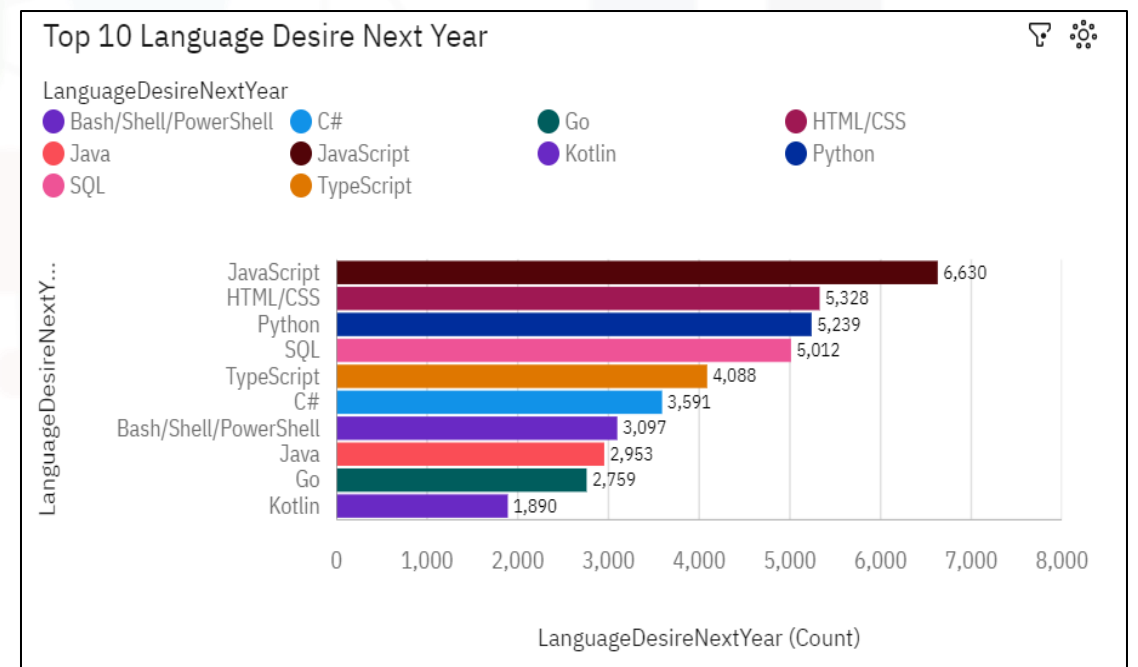
	Respondent	LanguageWorkedWith	LanguageDesireNextYear	DatabaseWorkedWith	DatabaseDesireNextYear	PlatformWorkedWith
0	4	C	C	MySQL	MySQL	Linux
1	4	C++	C#	SQLite	SQLite	Windows
2	4	C#	JavaScript	NaN	NaN	NaN
3	4	Python	SQL	NaN	NaN	NaN
4	4	SQL	NaN	NaN	NaN	NaN
...
74584	25142	Go	Python	NaN	NaN	NaN
74585	25142	HTML/CSS	R	NaN	NaN	NaN
74586	25142	PHP	NaN	NaN	NaN	NaN
74587	25142	Python	NaN	NaN	NaN	NaN
74588	25142	R	NaN	NaN	NaN	NaN

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

FINDINGS

- JavaScript emerges as the most widely used programming language
- Python and TypeScript are gaining traction, with a notable increase in popularity.
- PowerShell's cross-platform capabilities make it versatile for tasks such as automation and scripting across different operating systems

IMPLICATIONS

- Organizations should prioritize JavaScript and Python training programs to equip their teams with essential skills
- Python's growing popularity indicates its versatility and applicability across various domains, including data science and machine learning
- A slight decline in sql suggests a potential trend toward alternative database technologies or NoSQL solutions

**Can you guess which
programming language is
the most versatile ?**

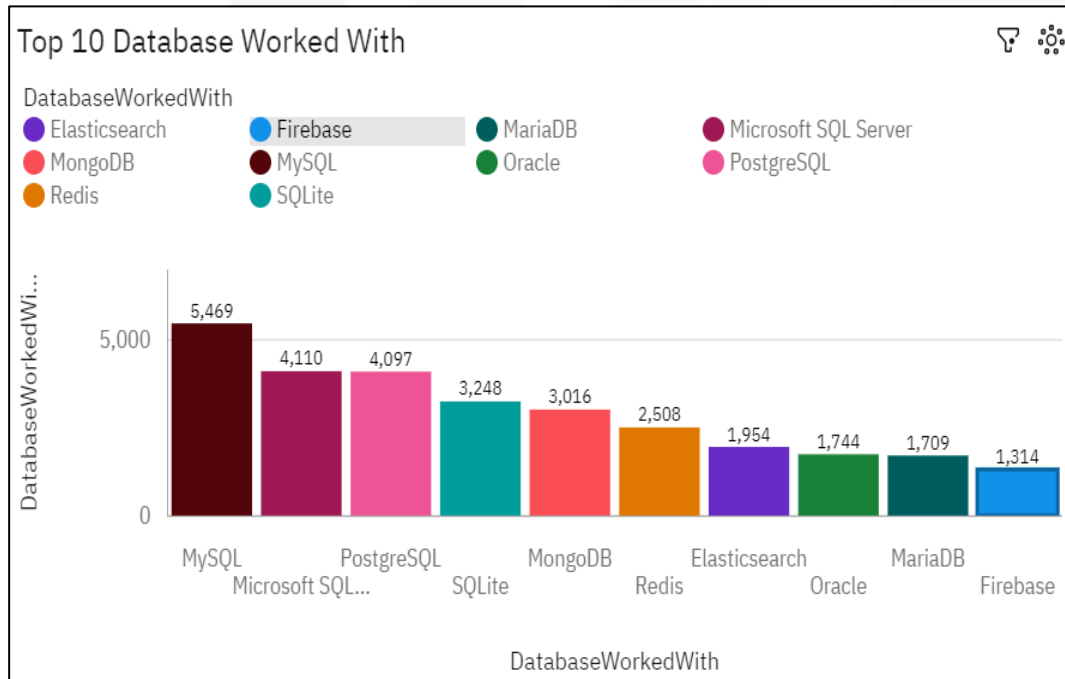




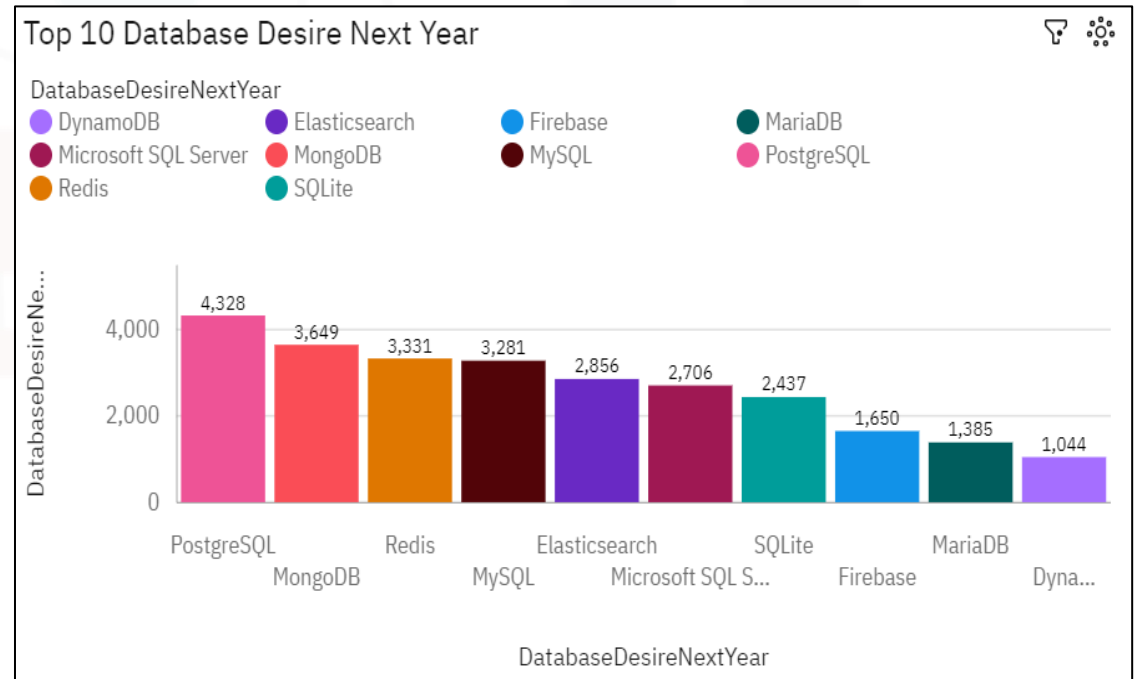
Yes, It's Python. You got it!

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

FINDINGS

- PostgreSQL and Mongo DB emerges as top databases in upcoming years
- Redis and Elasticsearch consistently maintain positions in the top database rankings
- MySQL and Microsoft SQL Server shows decline in user base for upcoming years

IMPLICATIONS

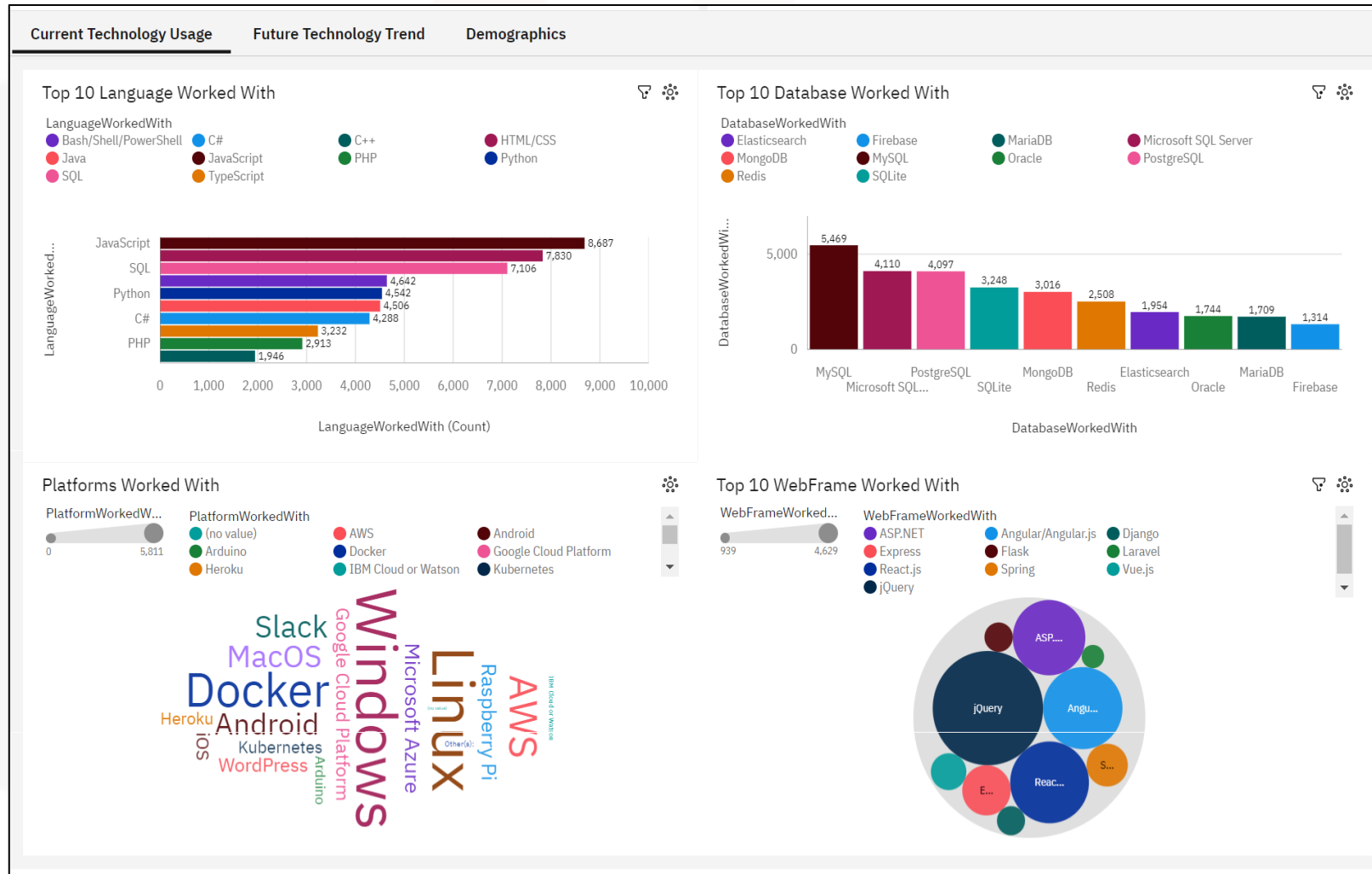
- Organizations should consider PostgreSQL as a go-to choice for various data storage needs
- Open-source databases are preferred for cost-effectiveness and scalability
- Leverage MongoDB for projects that involve handling diverse data formats

DASHBOARD

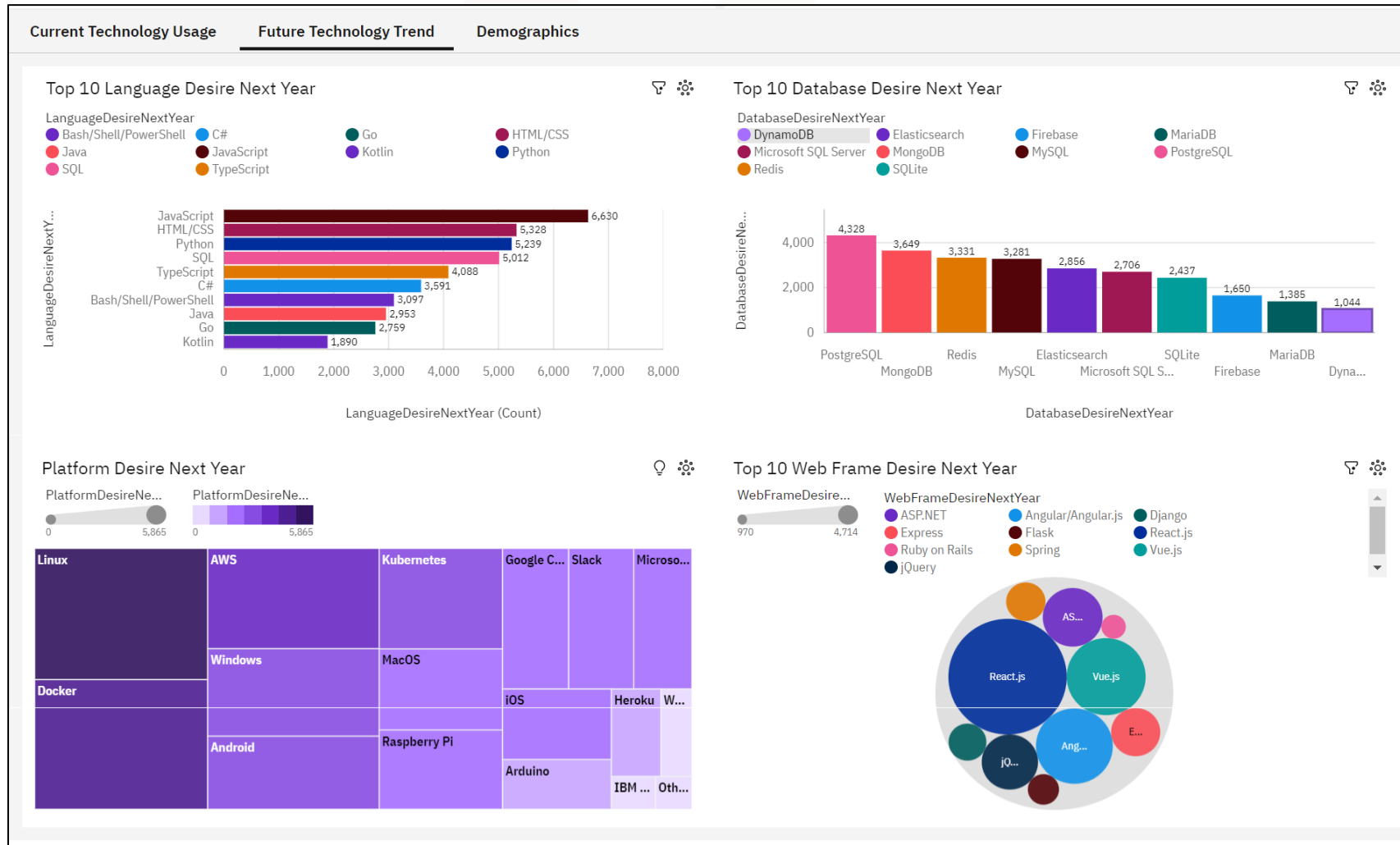


Click [here](#) to view the Cognos dashboard

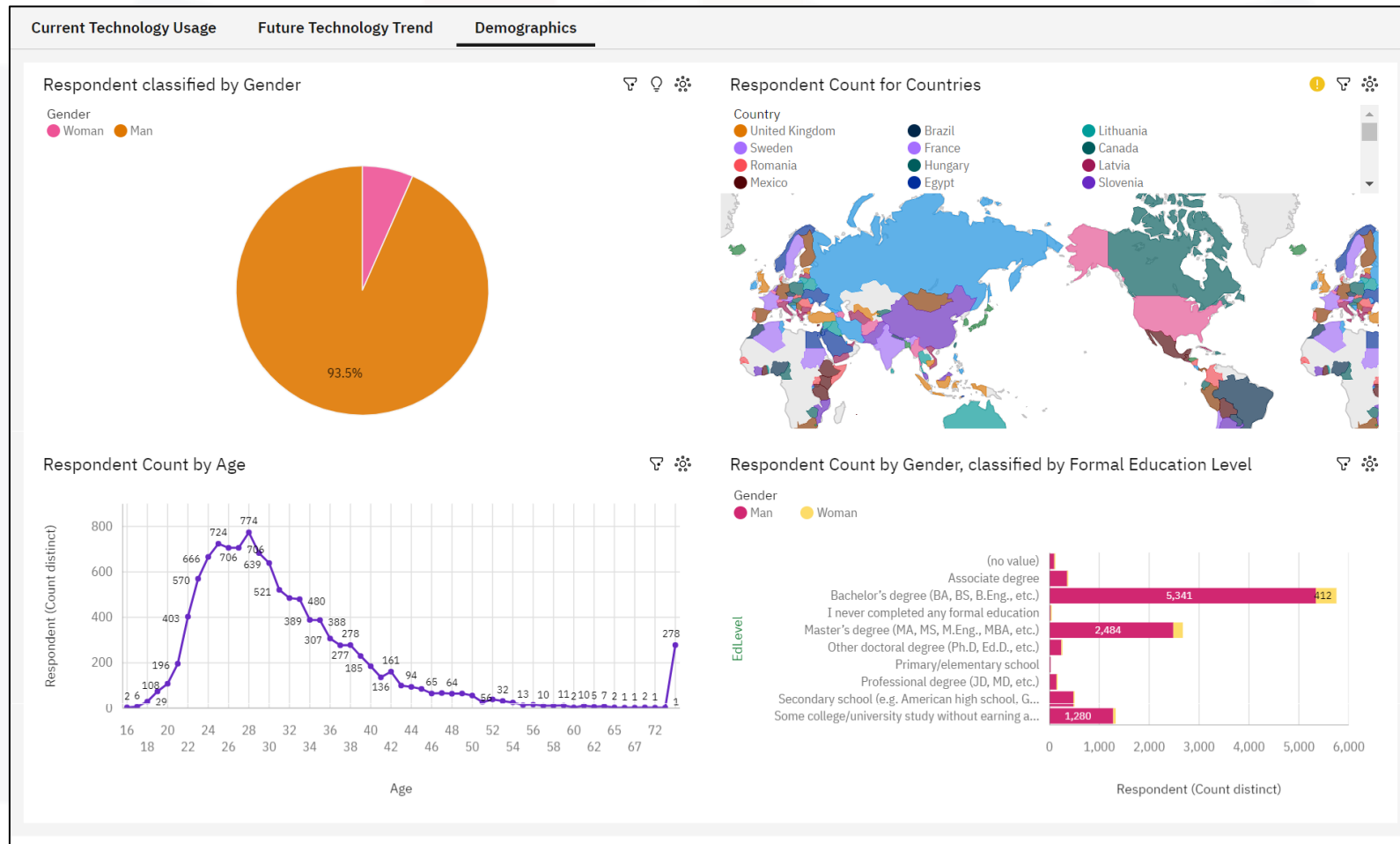
CURRENT TECHNOLOGY USAGE DASHBOARD



FUTURE TECHNOLOGY TREND DASHBOARD



DEMOGRAPHICS DASHBOARD



DISCUSSION



- Continuous monitoring of programming language and database trends is essential for organizations to make informed technology choices
- Rapid changes in technology necessitate ongoing training and reskilling of the workforce
- Encouraging more women to pursue careers in tech
- Bridging the technology gap in developing countries is crucial for global economic growth and competitiveness
- Equal opportunities for all candidates, regardless of age or educational background, are essential

OVERALL FINDINGS & IMPLICATIONS

FINDINGS

- **Emerging Technology Dominance:**
 - Key technologies, such as JavaScript and Python, dominate both current and future rankings, indicating their sustained importance in the industry.
- **Database Preferences Shift:**
 - While MySQL remains a popular database, there is a noticeable shift in favor of PostgreSQL, suggesting its growing appeal among developers.
- **Stability of Redis and Elasticsearch:**
 - Redis and Elasticsearch consistently maintain their positions, reflecting their continued relevance for high-speed data access and search functionality.

IMPLICATIONS

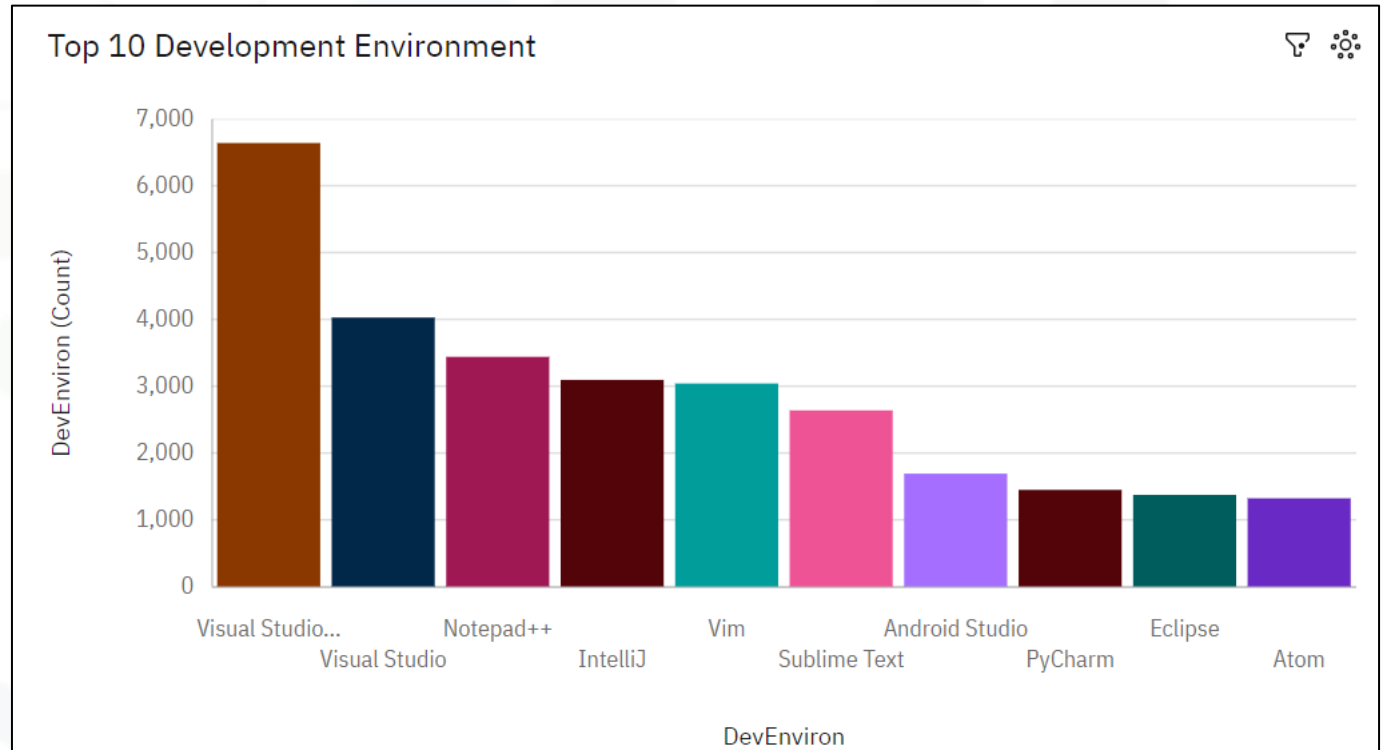
- **Skill Development Priorities:**
 - Organizations should prioritize skill development in JavaScript and Python for web development and data science roles to remain competitive.
- **Database Selection:**
 - Consider PostgreSQL as a robust and versatile alternative to MySQL for data storage needs, taking into account specific project requirements.
- **High-Speed Data Access:**
 - Redis and Elasticsearch should be considered for projects requiring rapid data retrieval and search capabilities.

CONCLUSION

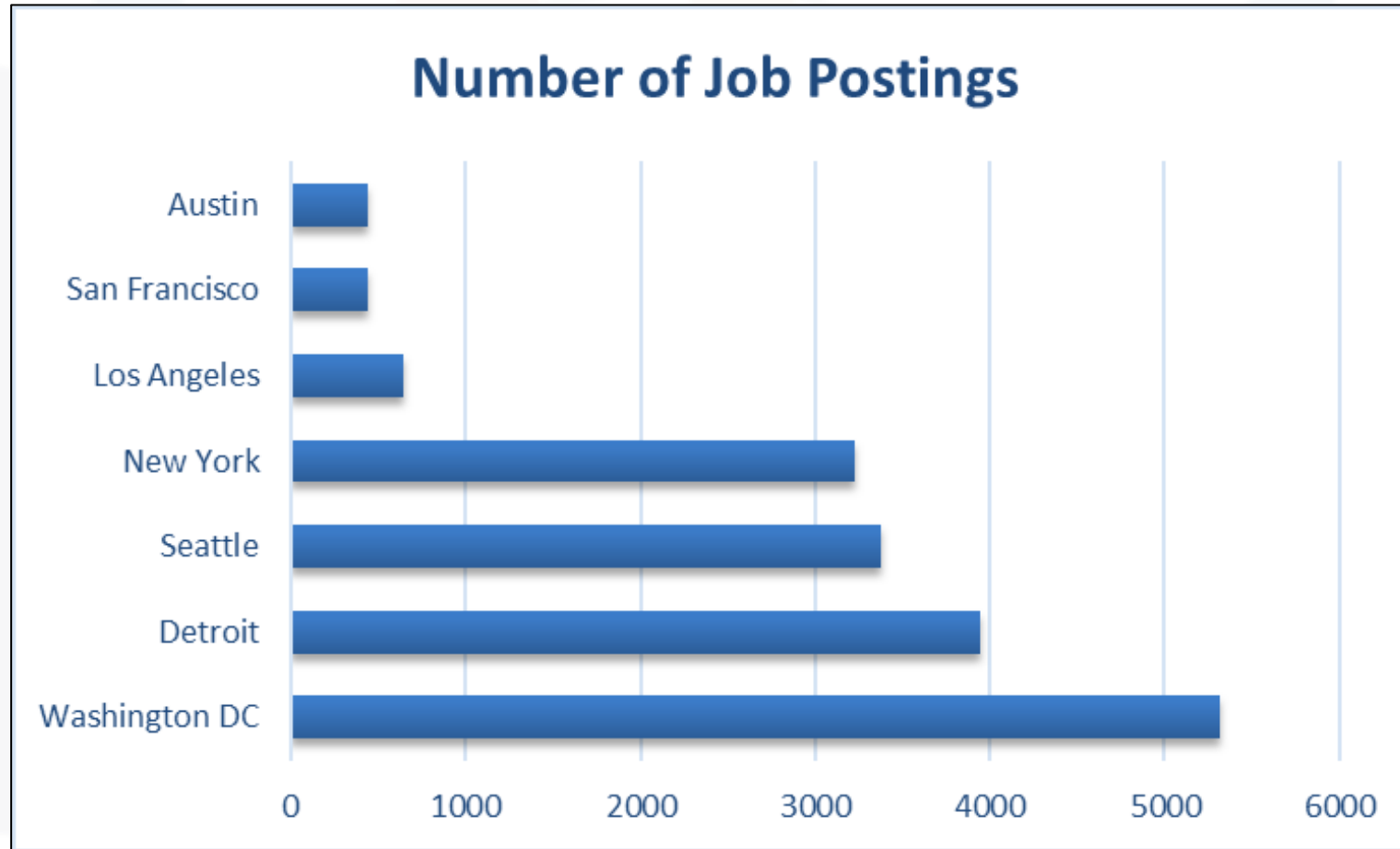


- The analysis has provided a comprehensive view of the current technology landscape, highlighting the popularity of key programming languages, databases, and web frameworks
- It is evident that technology preferences can change over time
- To stay competitive, individuals and organizations should prioritize skill development in technologies such as JavaScript, Python, and PostgreSQL
- Ethical considerations should guide tech development to ensure responsible and inclusive use of technology

APPENDIX



GITHUB JOB POSTINGS



POPULAR LANGUAGES BY SALARY

