IBM Data Analyst Capstone Project

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Outlines

Executive Summary

Languages: Javascript, HTML/CSS, C# and Bash/Shell/PowerShell.

Databases: MySQL, PostgreSQL, MicrosoftSQL Server, MongoDB.

Platforms: AWS, Android, Linux.

Webframes: Angular/Angular.js, iQuery, ASP.NET, React.js

Gender Gap: Man has dominated in the IT industry.

Introduction

Stack Overflow conducted a survey among developers about technology trends in 2019.

Target audience:

- IT professionals
- Individuals in the IT field

Current Technology Usage	• What are the top programming languages, databases, platforms, and web frameworks that respondents have worked with?
Future Technology Trends	• Which programming languages, databases, platforms, and web frameworks do respondents aspire to work with in the next year?
Demographics	• How are respondents distributed by gender, age, education level, and country?

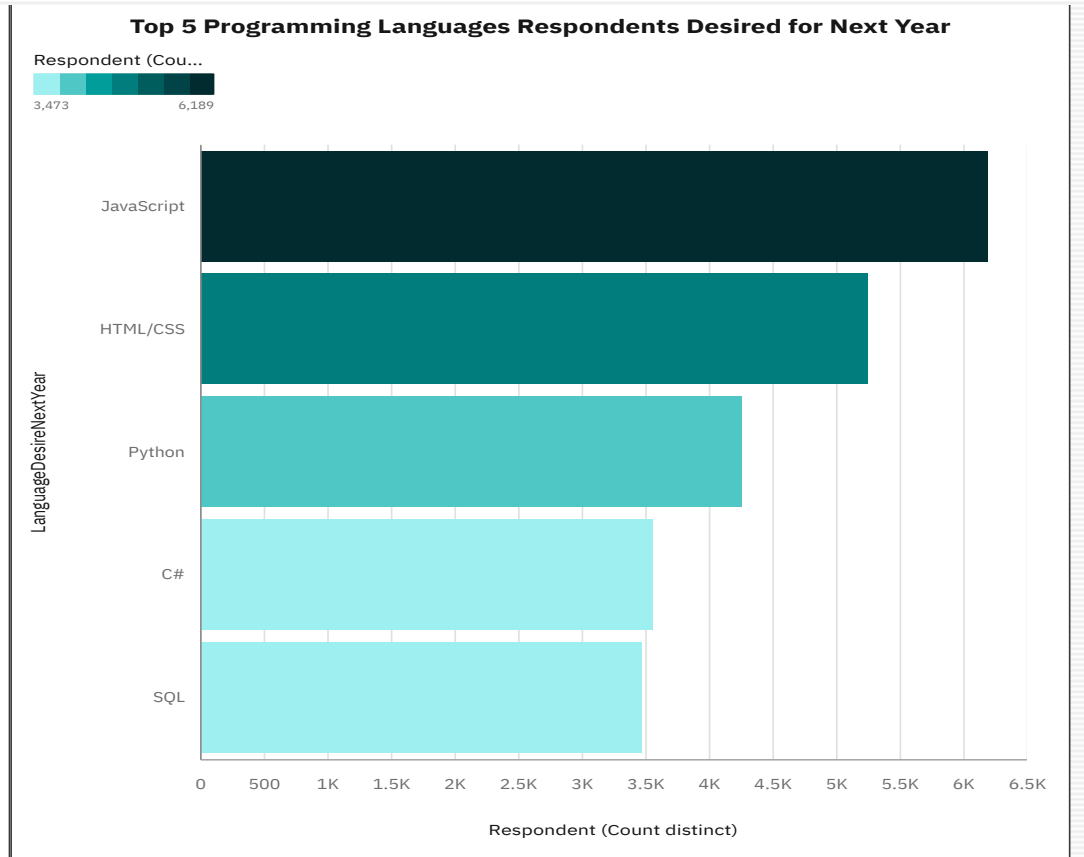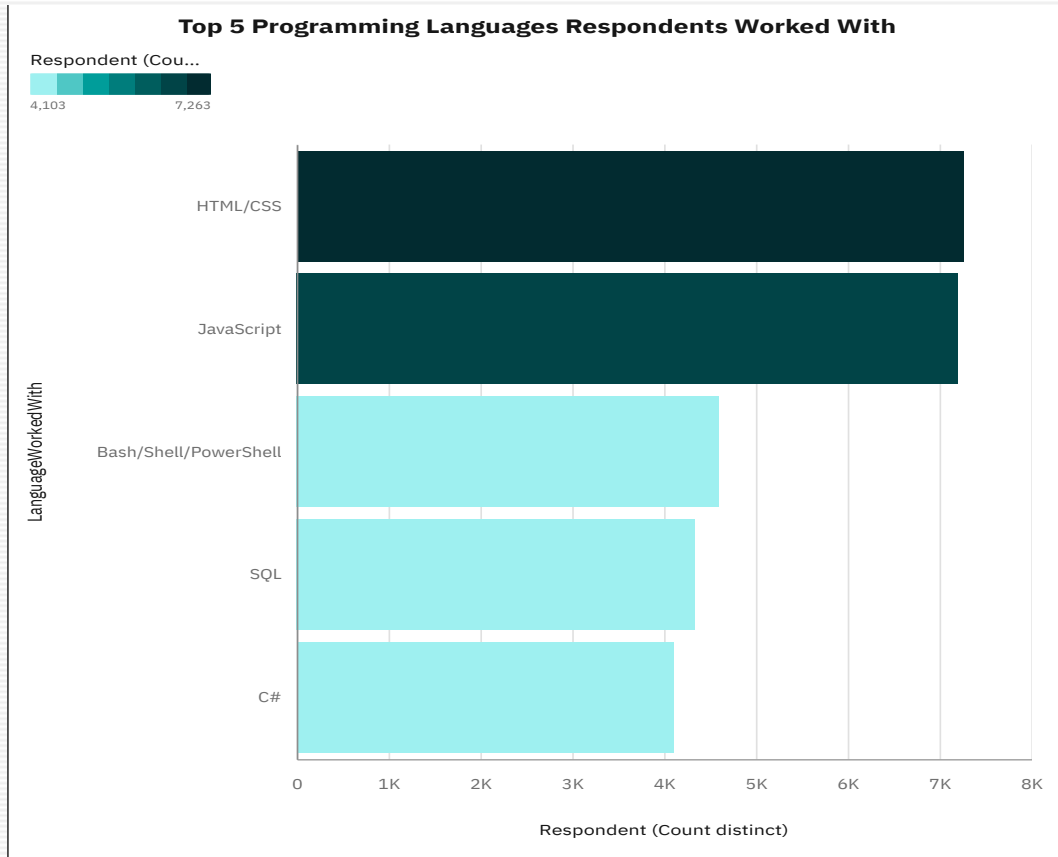# Methodology

Data Collection

Kaggle

Data visualization

IBM Cognos Analytics

Analyse Results

Results: *Programming Languages Trends*

Results: Programming Languages Trends

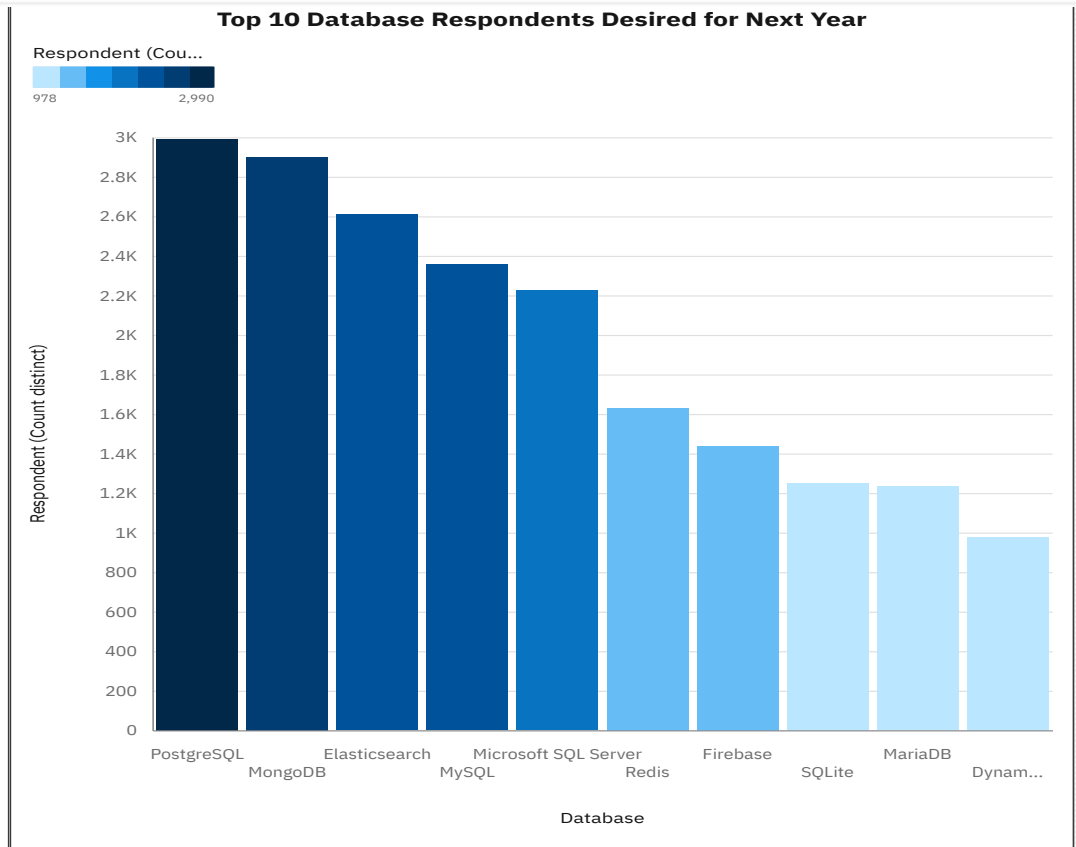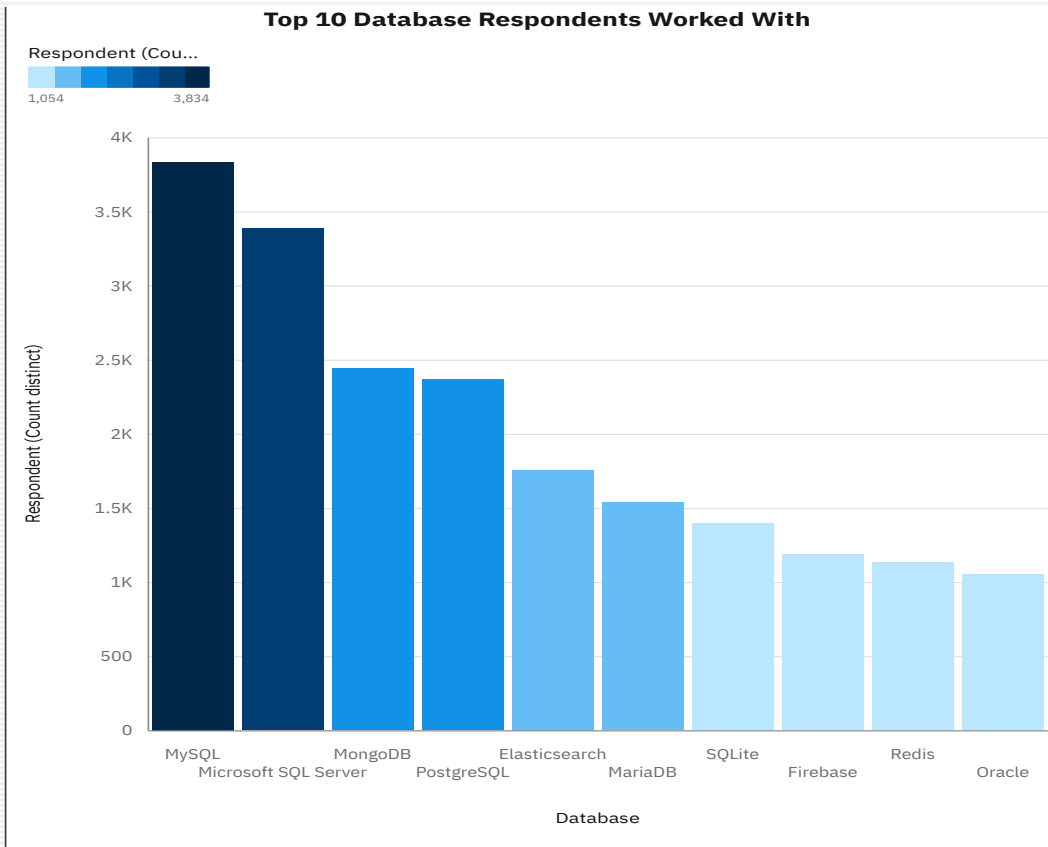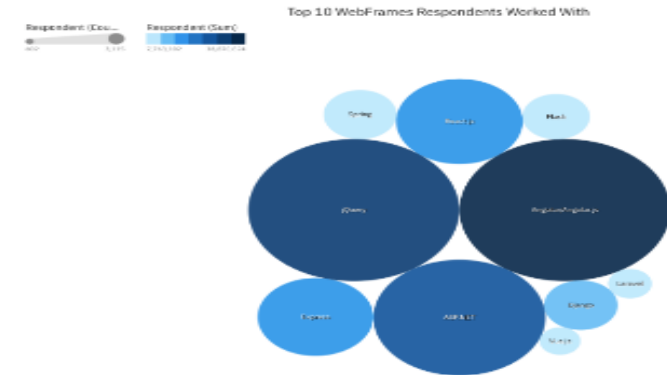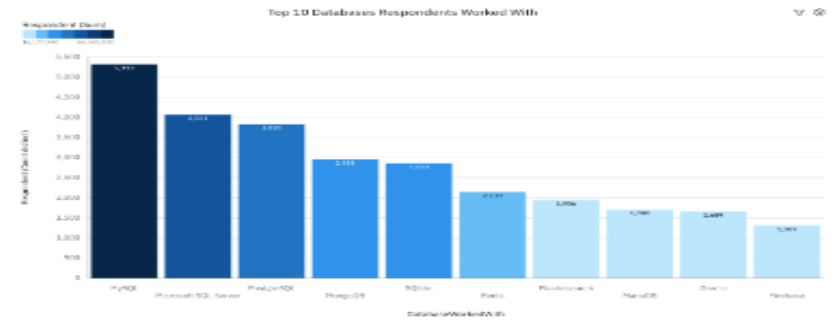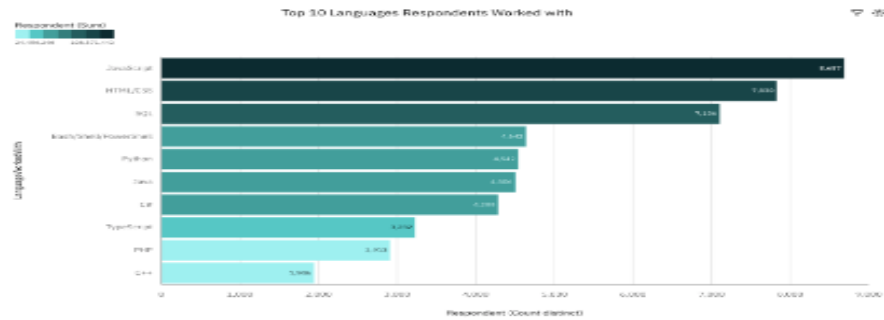| Findings	Implications
HTML/CSS and JavaScript are the most used and most desired languages.	Developers should prioritize mastering HTML/CSS and JavaScript.
Python ranks in top 3 of the most desired programming languages for the next year.	Developers should invest in learning Python to capitalize on its increasing demand.
C# and SQL remain in the top 5 most used and most desired languages.	Mastering C# and SQL is crucial for roles in enterprise, game development, and data management.
Bash/Shell/ PowerShell remains in the top 5 most used languages but does not appear in the top 5 most desired for the future.	The demand of Bash/Shell/PowerShell may plateau as automation tools evolve.

Results: *The Database Trends*

Results: *The Database Trends*

| Findings	Implications
MySQL: Most used database, but lower future demand compared to PostgreSQL.	Focus on PostgreSQL for future-proof database skills.
PostgreSQL: Ranks highest in future demand, surpassing current usage.	MySQL remains essential but may face declining popularity.
MongoDB: Strong presence in both current use and future demand.	MongoDB expertise is valuable for modern, scalable applications.
Elasticsearch: High demand growth, indicating its rising importance.	Learn Elasticsearch for roles in search and analytics-driven projects.

Dashboard

Access the dashboard at: Capstone Project
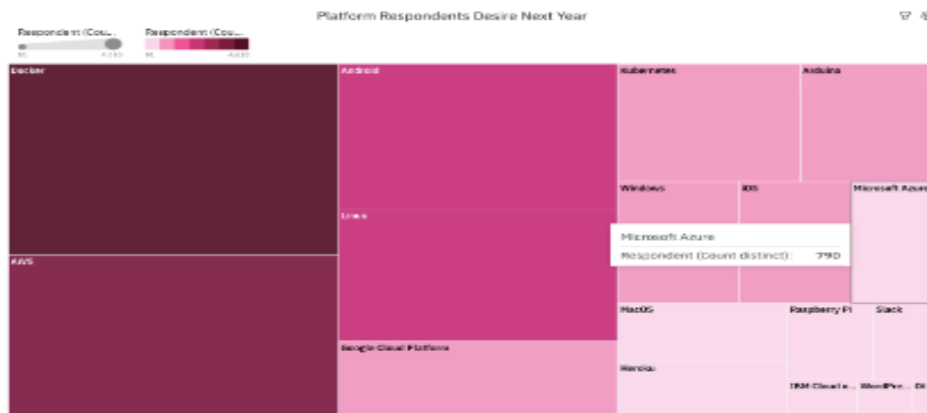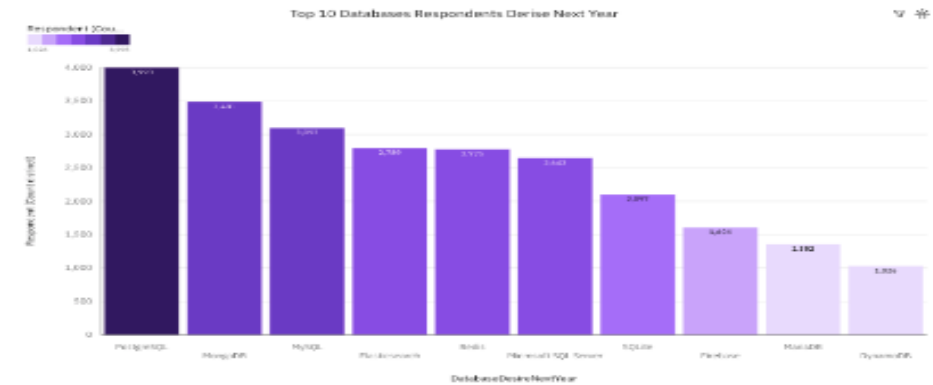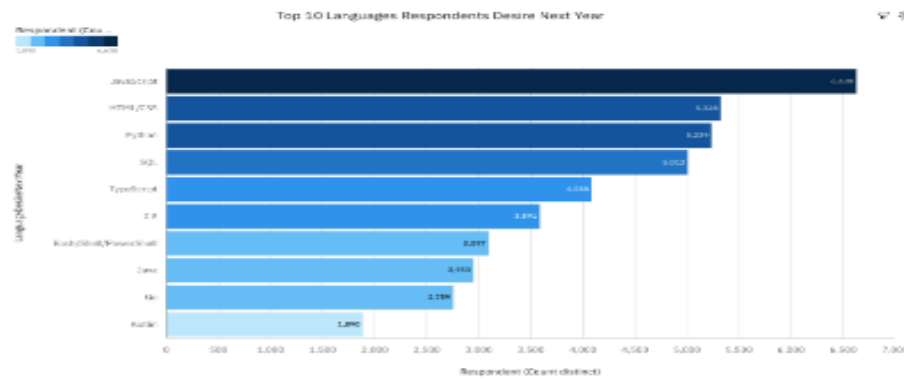
Dashboard

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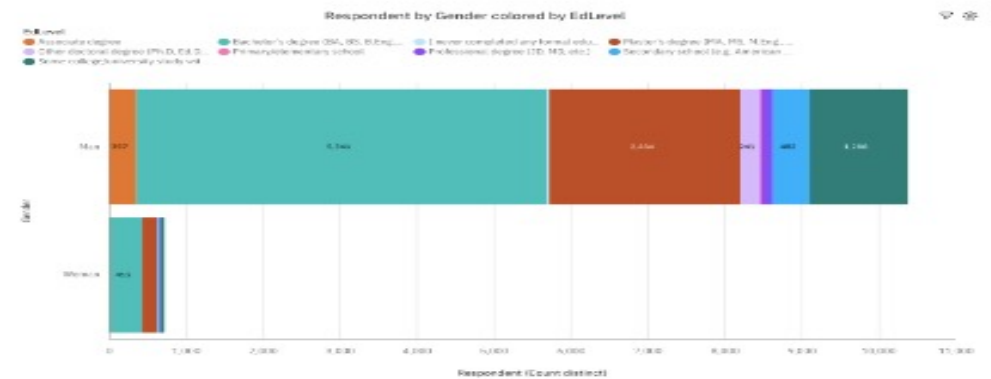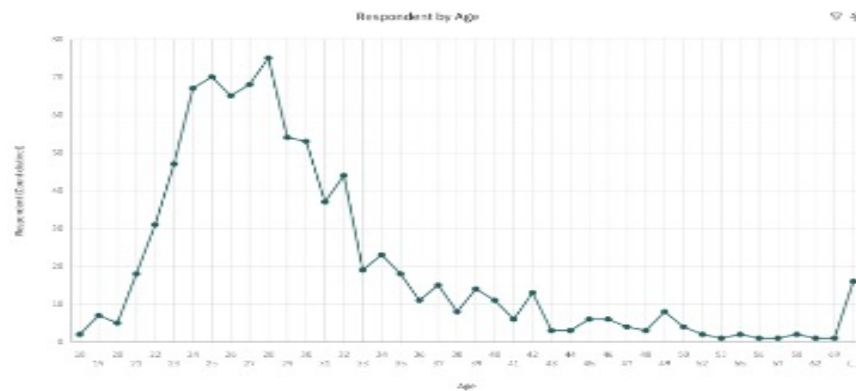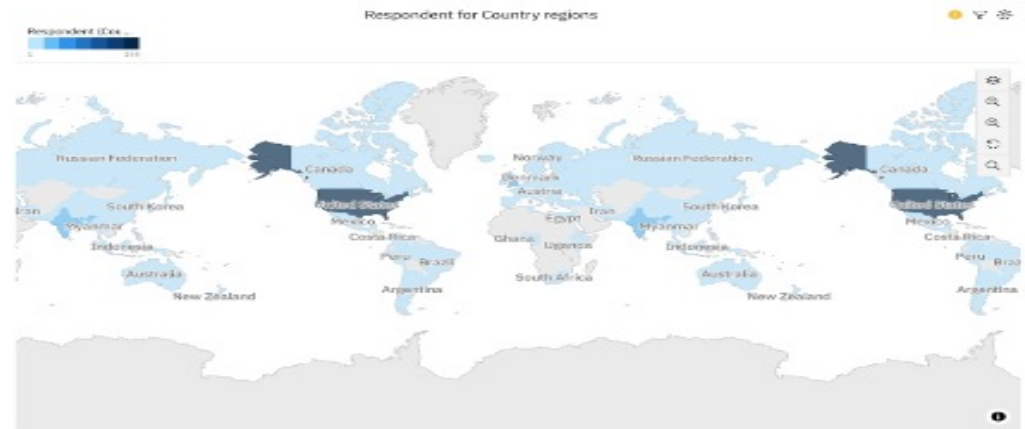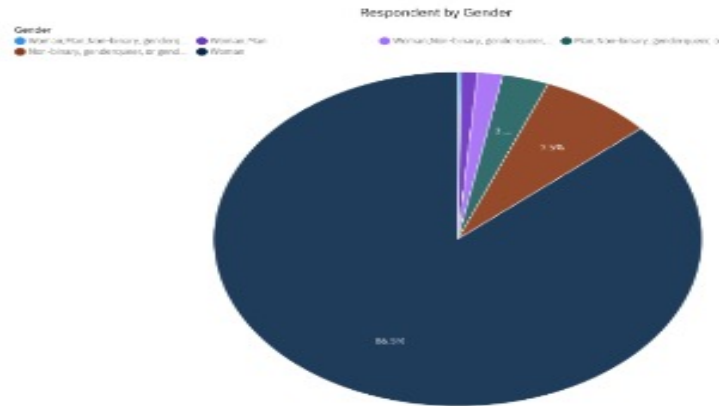
Discussion

- The continued dominance of JavaScript and HTML/CSS reflects their foundational role in web development, while the increasing interest in Python points to growth in data-centric fields.

- The shift toward databases like PostgreSQL and MongoDB suggests a preference for scalable and flexible solutions in modern development.

- The rise of Docker signals a focus on efficiency and modularity in development processes, aligning with future trends.

- Demographics reveal opportunities to encourage greater gender diversity and highlight the global reach of the developer community, particularly in emerging markets.

Conclusion

- The emergence of new technologies may drive the demand for learning new programming languages like Python.

- Database trends indicate a shift towards higher demand for PostgreSQL and Elasticsearch, reflecting the evolving needs of modern applications.

- The current IT workforce primarily holds a bachelor degree, with most professionals aged between 20 and 35.

- The gender gap in the IT industry persists, with men being the majority.

Appendix

Languages vs Job Postings