EMERGING FUTURE IN TECHNOLOGY

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12 December,2024

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OUTLINE

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EXECUTIVE SUMMARY

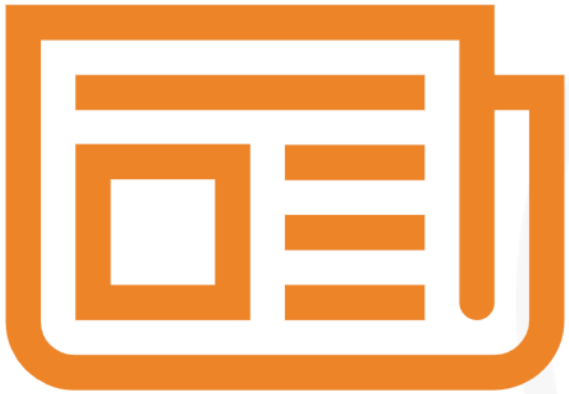
- Here’s is the summary:
- Programming Languages: Bash/Shell/PowerShell dominate, while JavaScript and TypeScript are becoming increasingly popular, especially for front-end and full-stack development.
- Databases: MySQL leads in usage, but PostgreSQL is growing in adoption due to its advanced features and scalability.
- Workforce Diversity: There is a significant gender imbalance in tech, with 93.5% of respondents identifying as men, highlighting the need for more inclusivity.
- Education Trends: While bachelor's and master's degrees remain dominant, bootcamps and self-taught professionals are challenging traditional education models.
- Web Technologies: JavaScript, HTML, React.js, and jQuery are the most popular and growing technologies in web development.
- Development Platforms: Windows and Linux dominate the development platform space, with Android leading in mobile development.
- Future Database Trends: While MySQL remains the most used, MongoDB and PostgreSQL are showing increasing adoption.

INTRODUCTION

The tech market evolves quickly, with new trends emerging each year, making it crucial to stay updated on the latest developments.

- **Report Focus**: This report analyzes both current and future technology trends, offering valuable insights into their impact on the industry.
- **Key Areas of Study**:
  - Top programming languages
  - Top databases
  - Top platforms
  - Top web frameworks
- **Comparison of Trends**: The report compares current trends with projections for the next year to highlight significant shifts in the tech landscape.
- **Target Audience**: Aimed at tech professionals, business leaders, educators, and policymakers seeking actionable insights for adapting to evolving tech demands.
- **Strategic Insights**: Provides guidance on aligning with emerging trends, fostering inclusivity, and exploring alternative talent development pathways to build an innovative and equitable workforce.
- **Objective**: To help readers navigate the future of the tech industry with adaptability, inclusivity, and a forward-thinking approach.

METHODOLOGY



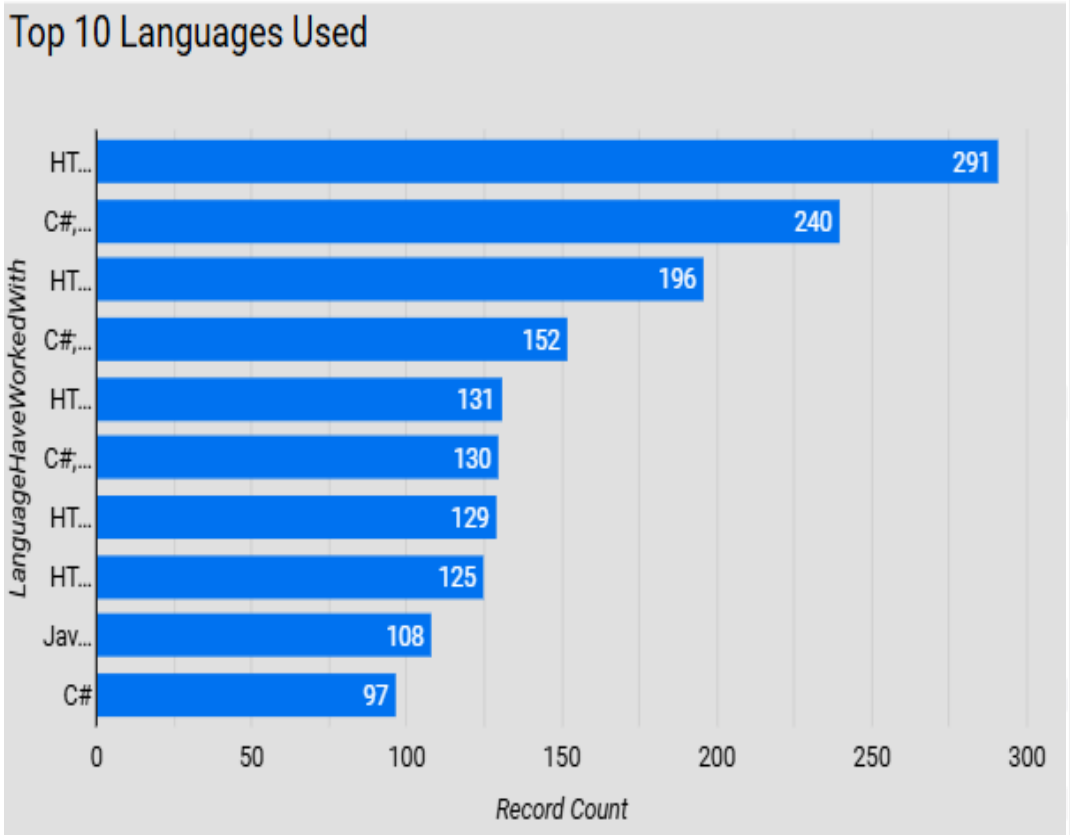
- Data Sources and Collection Methods:
  - Survey Data: From Stack Overflow Developer Survey .
  - Job Posting Data: Collected from a webpage.
  - Web Data: About programming languages and salaries.
- Data Preparation:
  - Cleaning and Organizing the data.
  - Analyzing outliers and patterns.
  - Visualizing trends with charts.
  - Creating a dashboard with Google Looker Studio.

RESULTS

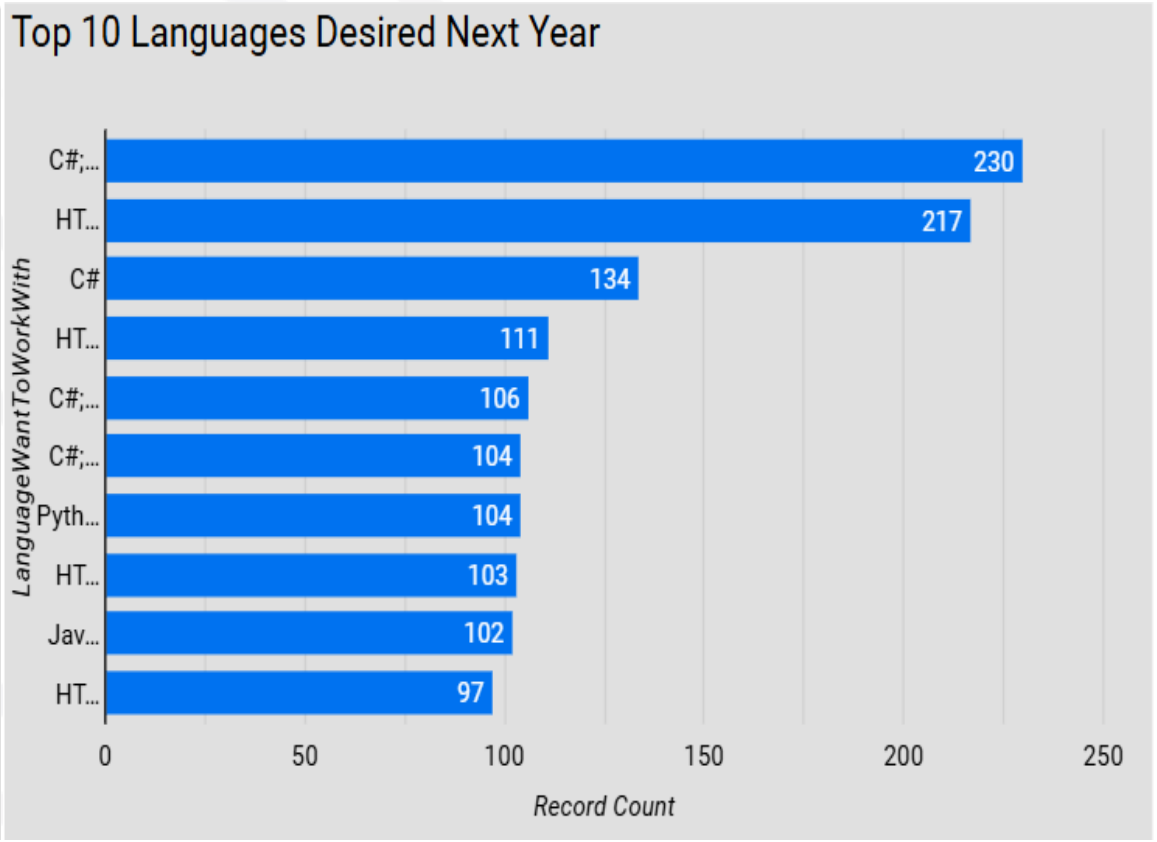
- JavaScript, HTML/CSS, and Python are current dominant languages, while MySQL and PostgreSQL are the leading database choices. Windows and macOS are the most used platforms, and HTML/CSS/JavaScript frameworks are widely employed.
- Python, HTML/CSS/JavaScript, and PostgreSQL are the most popular future technologies, with developers favoring versatility and robust database solutions. These technologies are widely adopted because they are easy to learn, have extensive libraries and frameworks, and are backed by large and active communities.
- The majority of respondents are between the ages of 22 and 29, and they primarily hold Bachelor's degrees. The United States has the highest number of respondents.

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

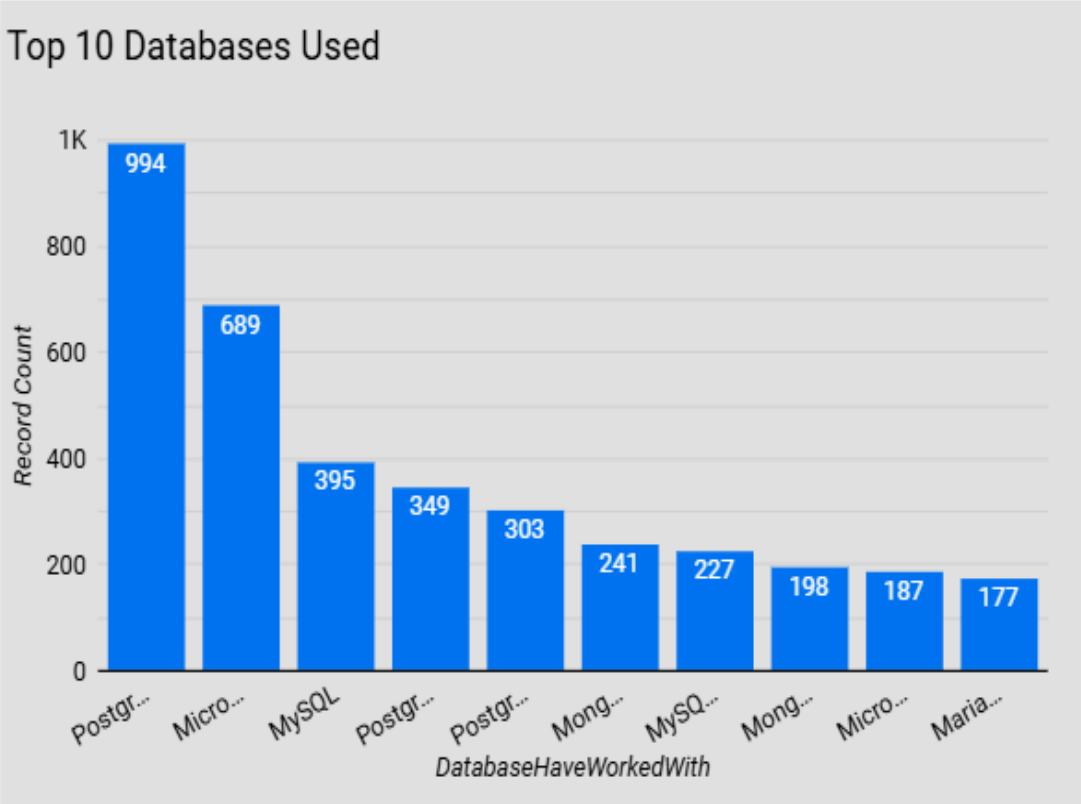
- JavaScript Dominance:Still the most popular language now and next year, mainly for web development.
- Python on the Rise:Gaining popularity, moving up to third place this year and second next year, thanks to its ease of use in data science and machine learning.
- C# and Java Stability:Remain stable, popular for enterprise apps and game development.
- Emerging Languages:Languages like TypeScript, Go, and Kotlin are becoming more popular because of their benefits and growing communities.

Implications

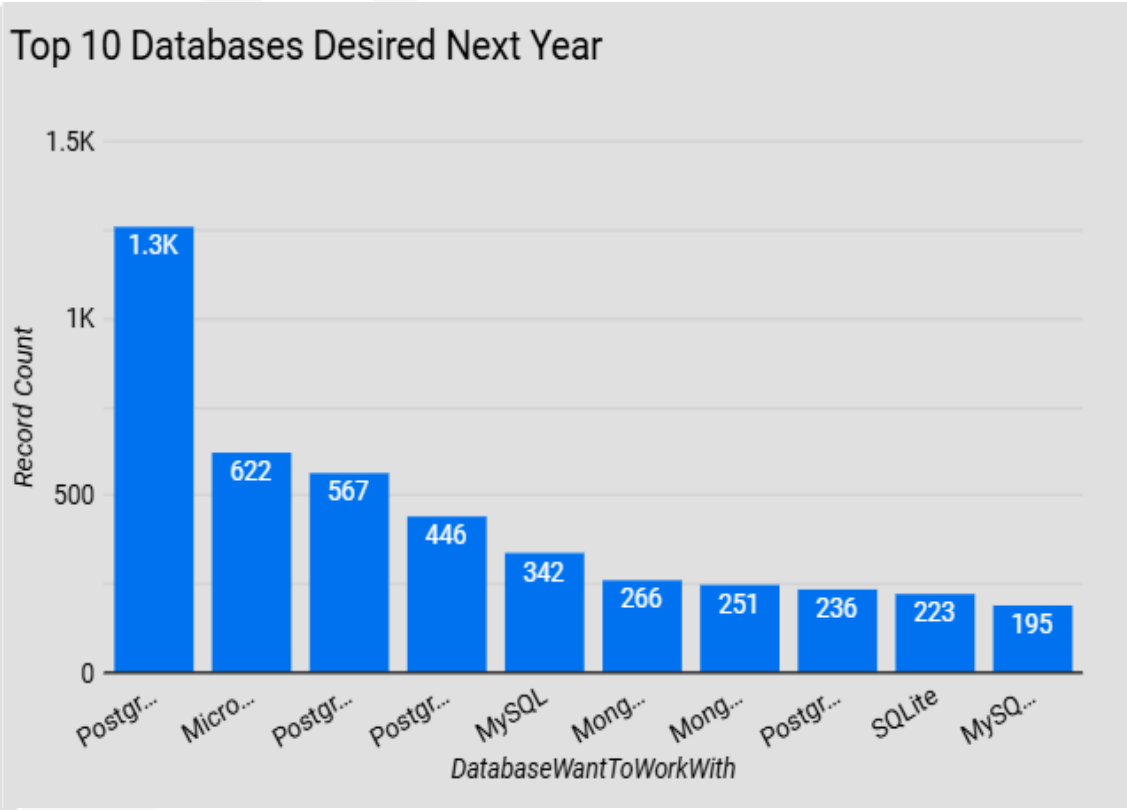
- Skill Development: Developers should focus on mastering JavaScript and Python, as they are essential for a wide range of applications.
- Career Opportunities: Industries heavily reliant on web development and data science will continue to demand JavaScript and Python skills.
- Technology Adoption: Businesses should consider adopting Python for data-driven initiatives and machine learning projects.
- Language Diversity: While JavaScript and Python are dominant, staying updated with emerging languages like TypeScript and Go can provide a competitive edge.

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

PostgreSQL Popularity: The most popular and preferred database now and next year, thanks to its features and strong community

MySQL and MongoDB: Still popular, with MySQL being simple and widely used, and MongoDB being great for unstructured data.

Emerging Databases: Redis, Cassandra, and Neo4j are growing in popularity for specific needs like caching and graph databases.

Implications

Skill Development: Developers should consider learning PostgreSQL and MySQL, as they are widely used and offer strong career opportunities.

Database Selection: For most applications, PostgreSQL and MySQL are solid choices. However, for specific use cases like real-time analytics or graph databases, exploring MongoDB or other specialized databases might be beneficial.

Cloud Databases: Cloud-based database services like Amazon RDS, Azure Database, and Google Cloud SQL offer managed solutions with scalability and high availability.

DASHBOARD

https://lookerstudio.google.com/s/l6vXmCBgDy4

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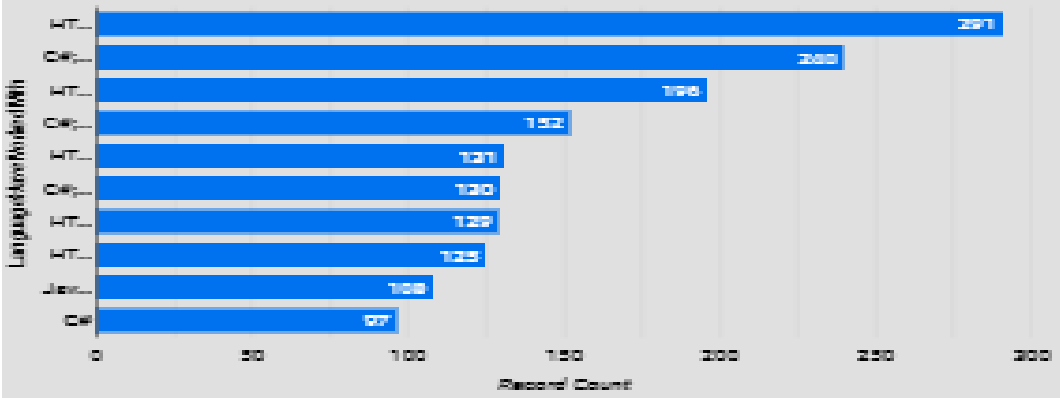
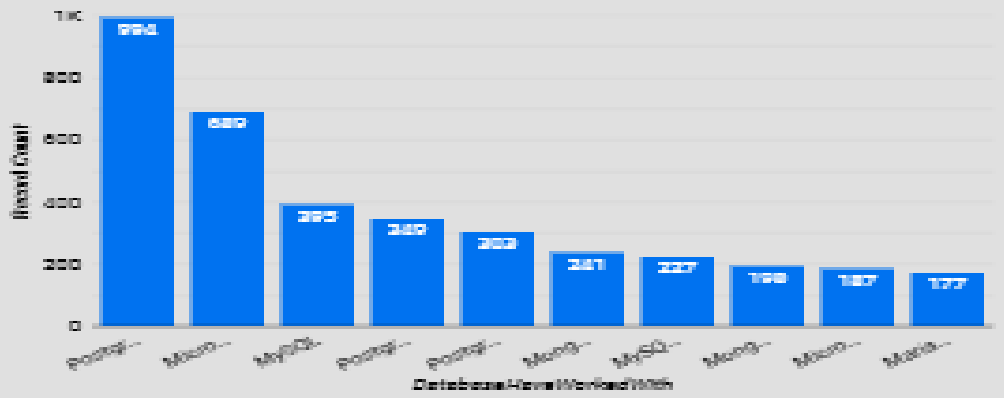
DASHBOARD TAB 1

Current Technology Usage

Top 10 Languages Used

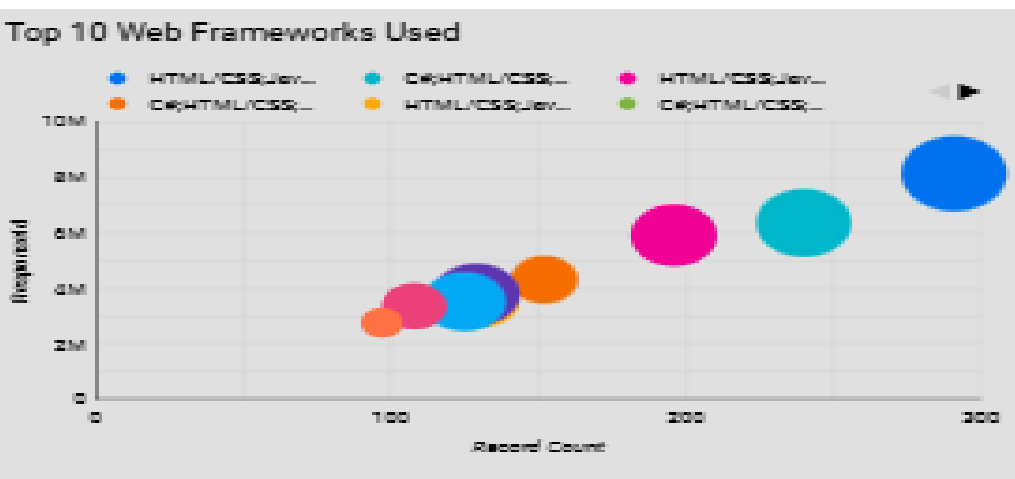


Top 10 Databases Used



Top 10 Platforms Used

Top 10 Web Frameworks Used



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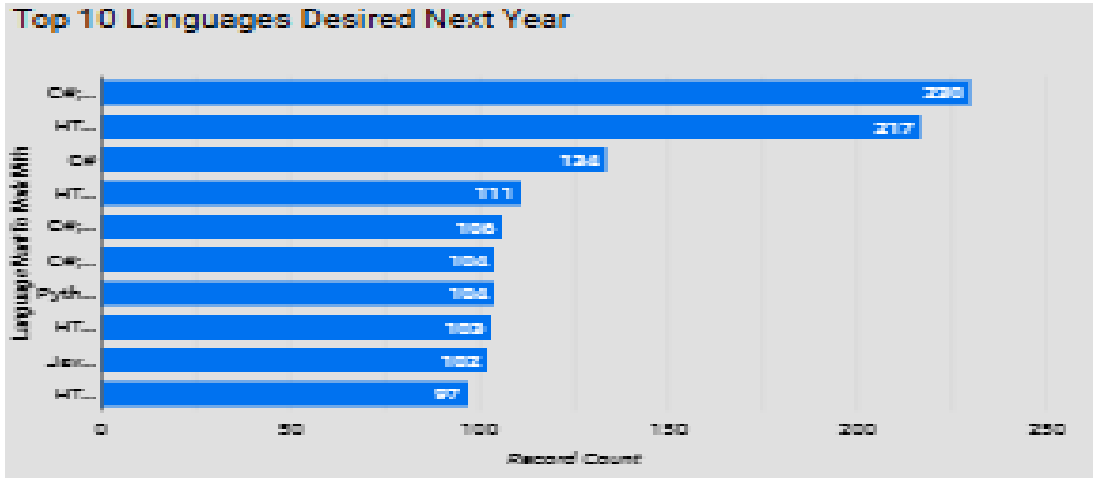
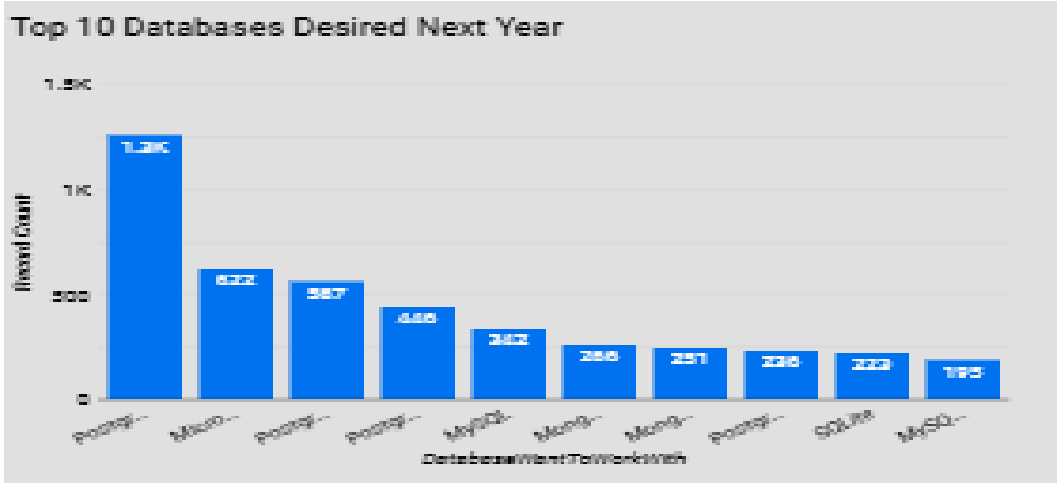
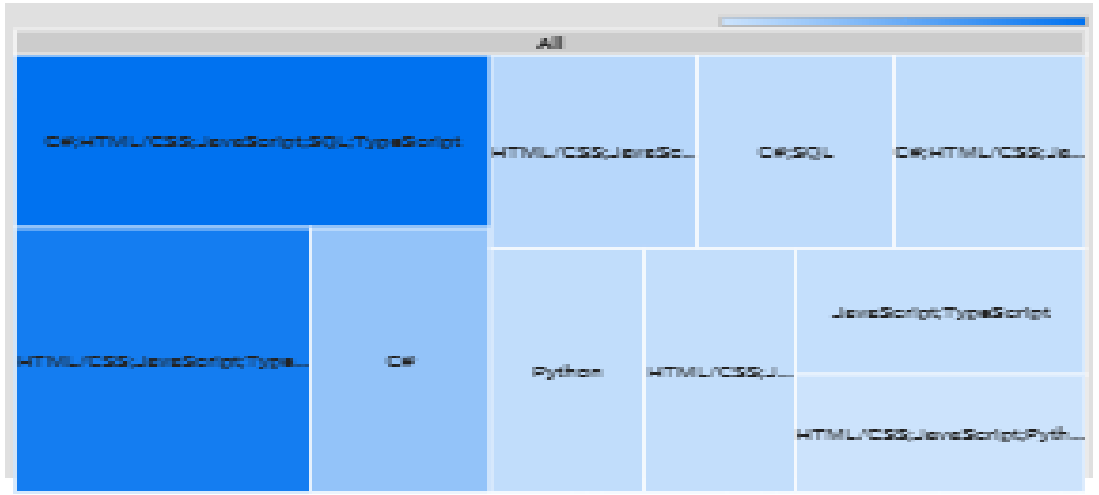
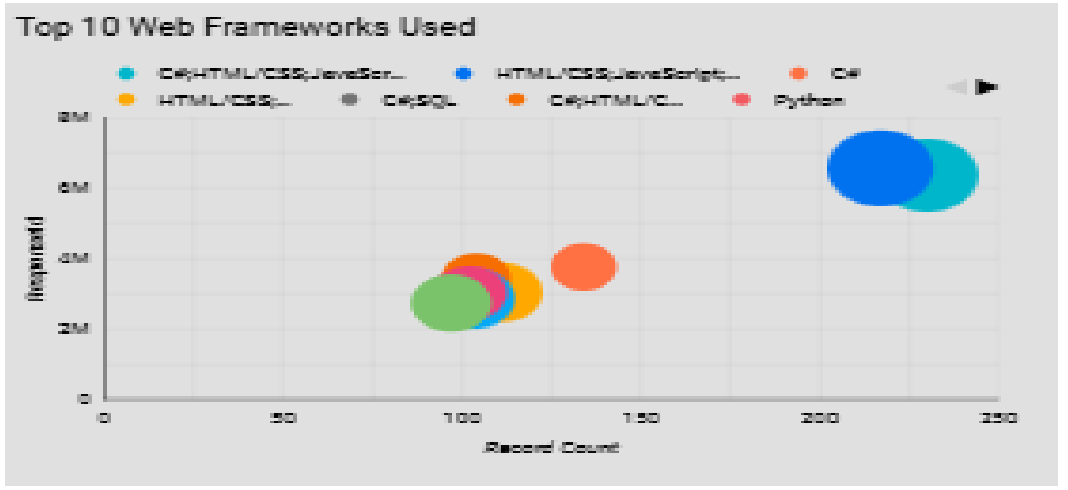
DASHBOARD TAB 2

Future Technology Trends









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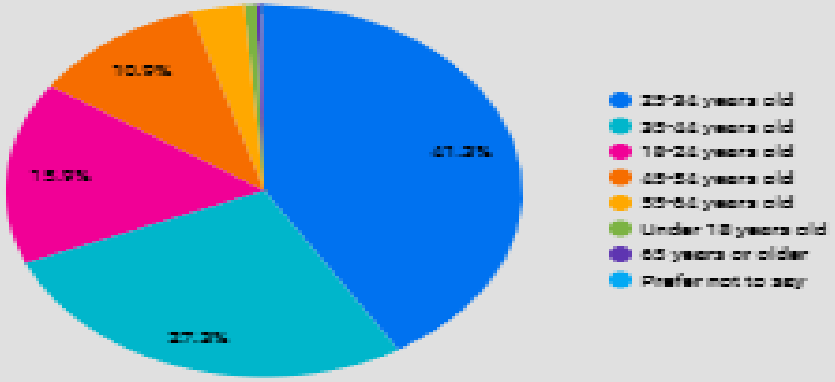
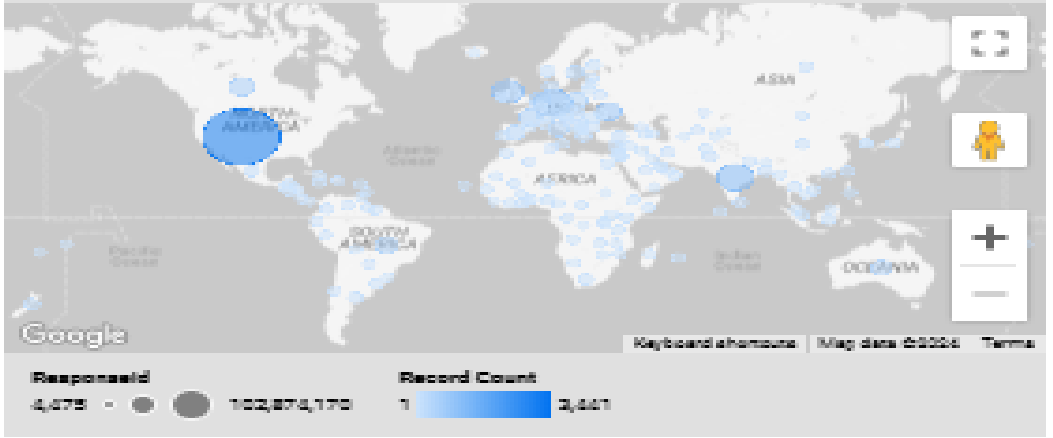
DASHBOARD TAB 3

Demographics

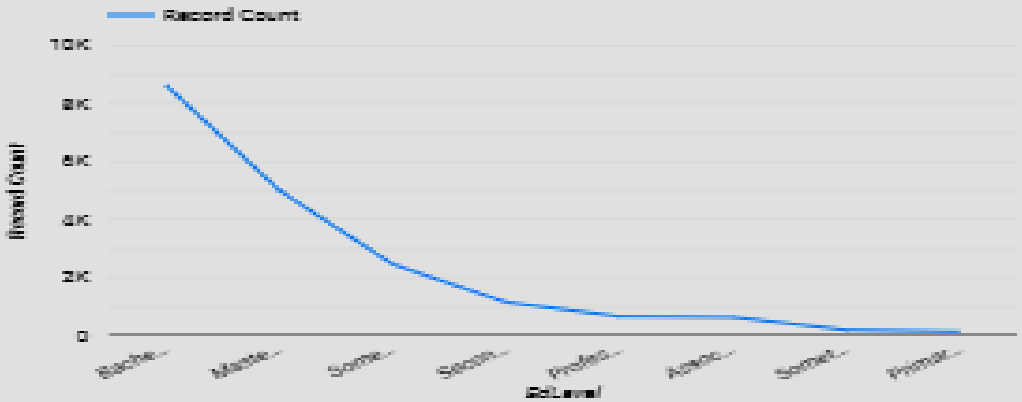
Respondents by Age



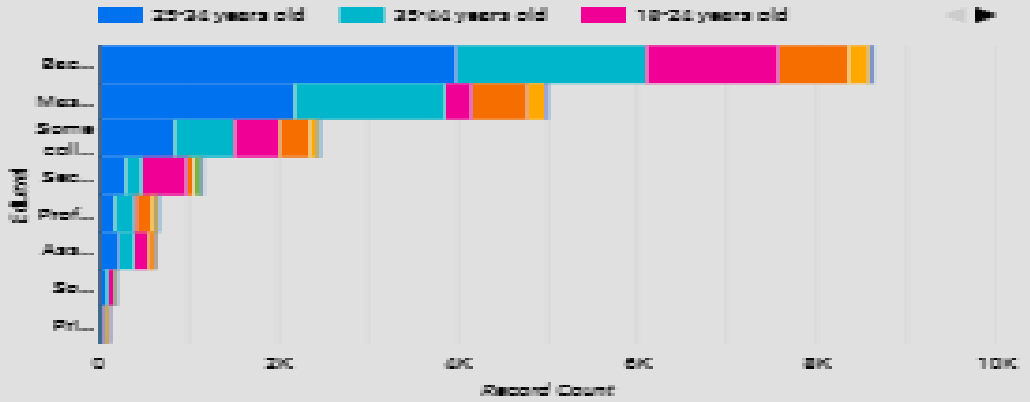
Respondent Count by Country



Respondent Distribution by Education Level



Respondent Count by Age, Classified by Education Level



OVERALL FINDINGS & IMPLICATIONS

Findings

- The dashboards reveal several key trends in the technology landscape:
- Programming Languages: JavaScript remains dominant, while The high demand and salary potential of Python contribute to its increasing popularity among developers. Respondents prioritize languages and technologies when considering job opportunities.
- Databases: PostgreSQL is the most preferred database, followed by MySQL and MongoDB.
- Demographics: The majority of respondents are young professionals with Bachelor's degrees, primarily from the United States.

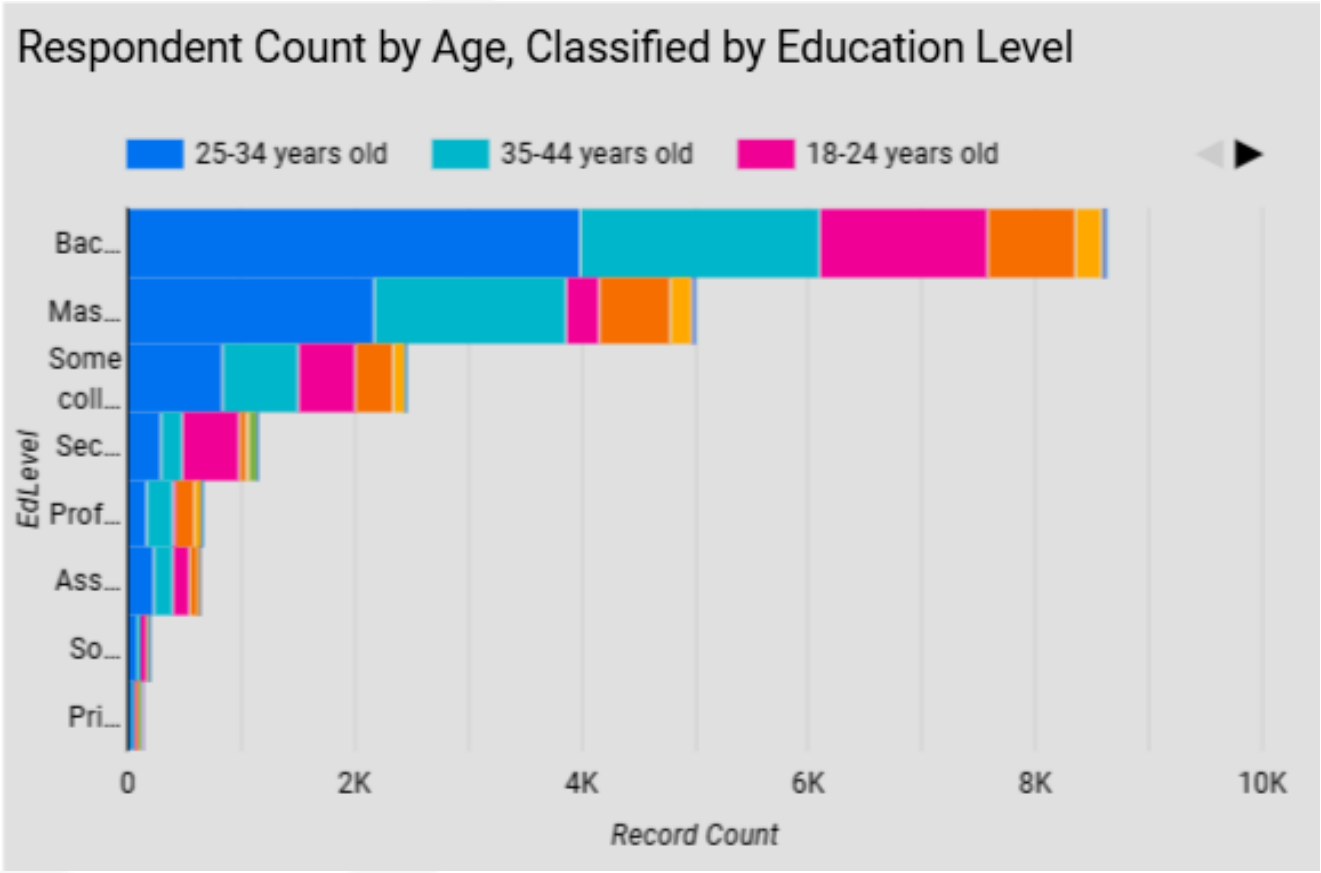
Implications

- Technology Adoption: Organizations should stay updated with the latest technology trends to remain competitive.
- Skill Development: Developers should continuously upgrade their skills to meet the evolving demands of the industry.
- Data-Driven Decision Making: Leveraging data analytics and insights can help businesses make informed decisions.
- Security and Privacy: As data becomes increasingly valuable, organizations must prioritize data security and privacy.

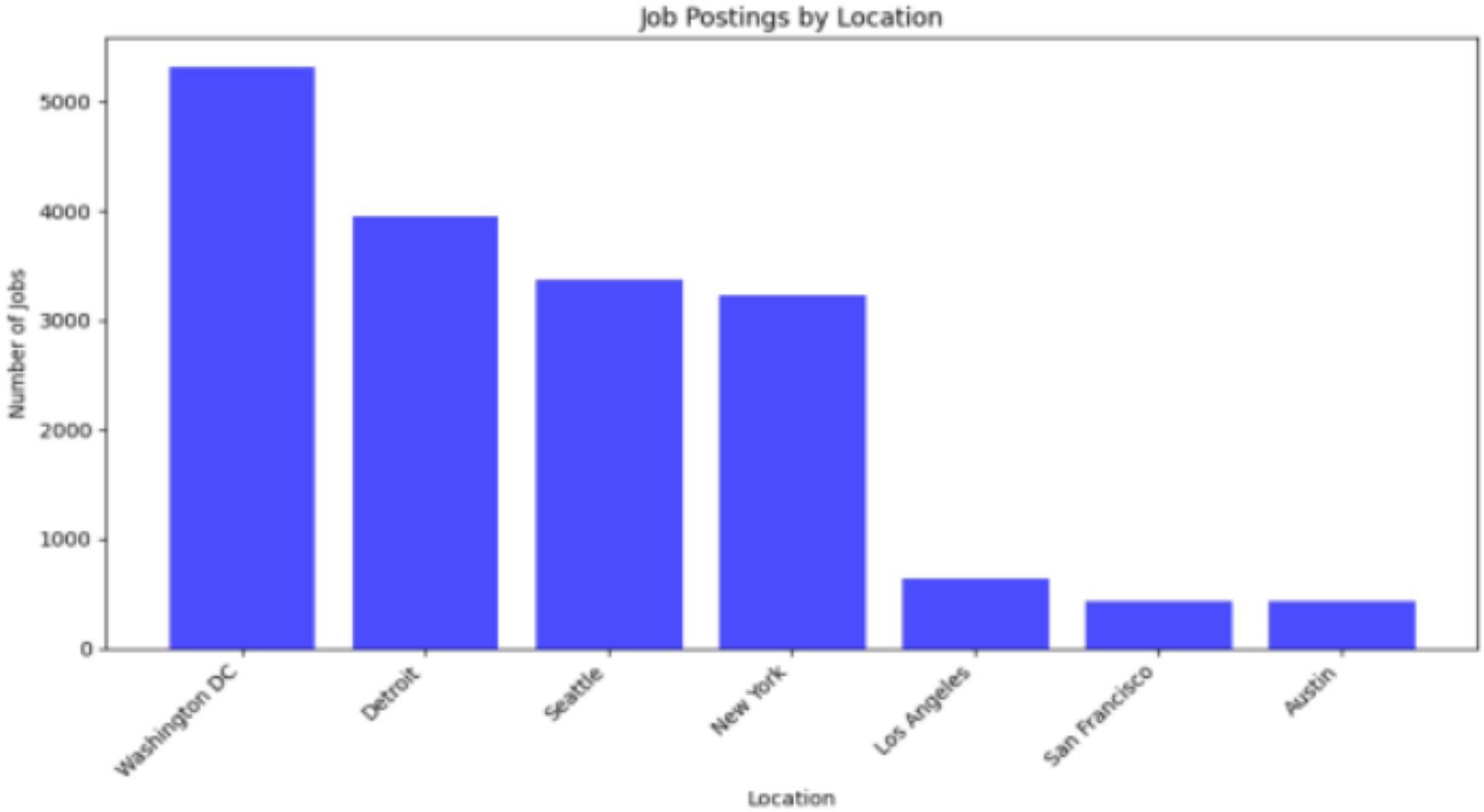
CONCLUSION

- Evolving Tech Landscape: The technology landscape is rapidly evolving, with JavaScript and Python at the forefront. This shift is driven by the increasing demand for data-driven applications and web development.
- Diverse Database Ecosystem: While PostgreSQL has emerged as a popular choice, the database landscape remains diverse. Organizations need to select databases based on specific use cases, considering factors like scalability, performance, and security.
- Young, Tech-Savvy Workforce: The predominant demographic of young, tech-savvy individuals highlights the importance of attracting and retaining skilled talent.
- Skill Prioritization: Language and technology skills are paramount in today's job market. Developers should prioritize learning in-demand languages like JavaScript and Python.
- Data-Driven Decision Making: Data-driven insights can inform strategic decisions for both individuals and organizations.

APPENDIX


Respondent Count by Age, Classified by Education Level
25-34 years old
35-44 years old
18-24 years old
Bac...
Mas...
Some coll...
Sec...
Prof...
Ass...
So...
Pri...
EdLevel
0
2K
4K
6K
8K
10K
Record Count

JOB POSTINGS



POPULAR LANGUAGES