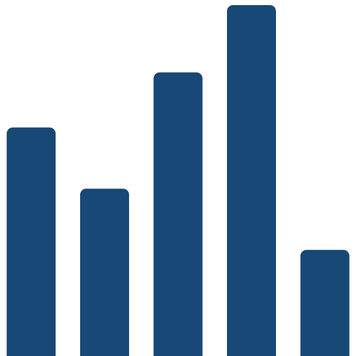
TECH TREND ANALYSIS



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OUTLINE

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- Methodology
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- Discussion
  - Findings and Implications
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EXECUTIVE SUMMARY

- JavaScript dominates; PostgreSQL emerges, shaping current and future tech landscapes.
- Key Technology Trends
  - Linux, Docker, AWS prevail; JavaScript frameworks lead.
  - PostgreSQL gains prominence, signaling potential shifts.
  - Predominantly male, aged 20-30, with bachelor's degrees.
- Prioritize JavaScript, consider PostgreSQL, align with popular platforms.
- Insights guide future research, provide a framework for strategic decisions.

INTRODUCTION

- Uncovering tech trends is crucial for understanding the digital tools landscape.
- Anticipating future tech trends is vital for organizational alignment with evolving developer preferences.
- Demographic exploration reveals valuable insights into the diverse developer community.
- This analysis establishes a robust, data-driven framework for strategic decision-making in the dynamic tech environment.
    - Delving into top programming languages, databases, platforms, and web frameworks unveils the current developer landscape.
    - The analysis not only uncovers present trends but also lays the groundwork for anticipating future innovations, offering a roadmap for continuous growth in the tech industry.

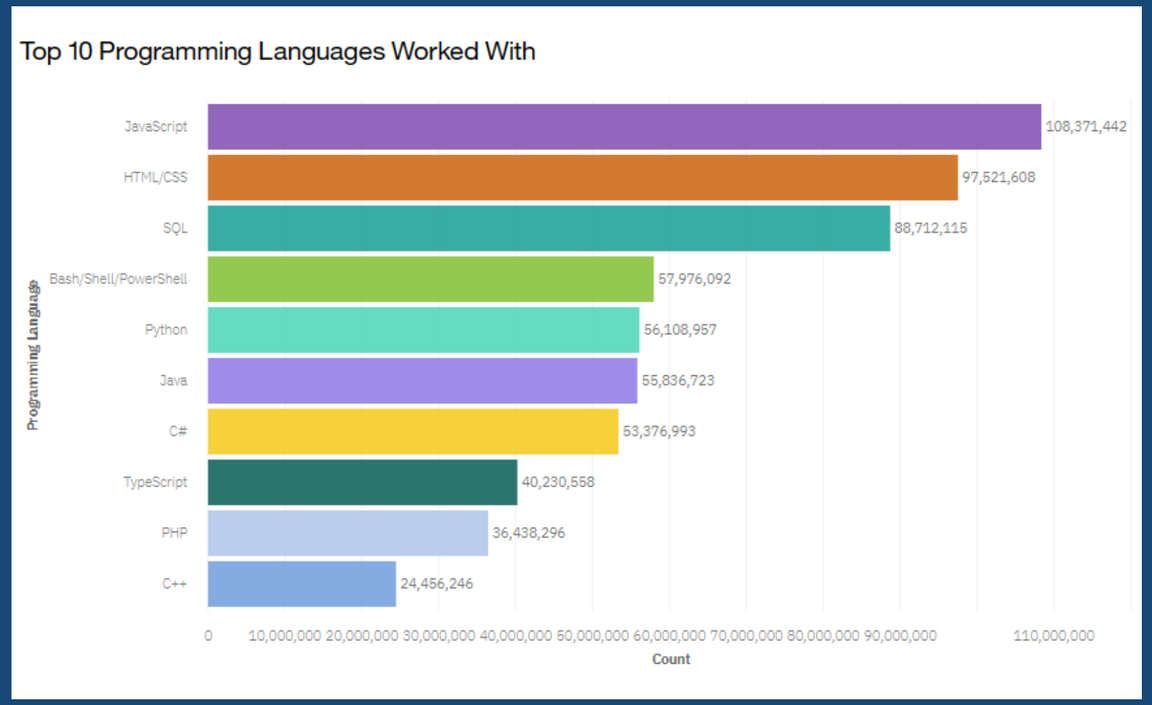
METHODOLOGY

- Data Collection (Stack Overflow Developer Survey 2019)
- Data Cleaning and Wrangling
- Data Normalization
- Exploratory Data Analysis
- Data Visualization
  - Dashboard Creation
  - Dashboard Presentation

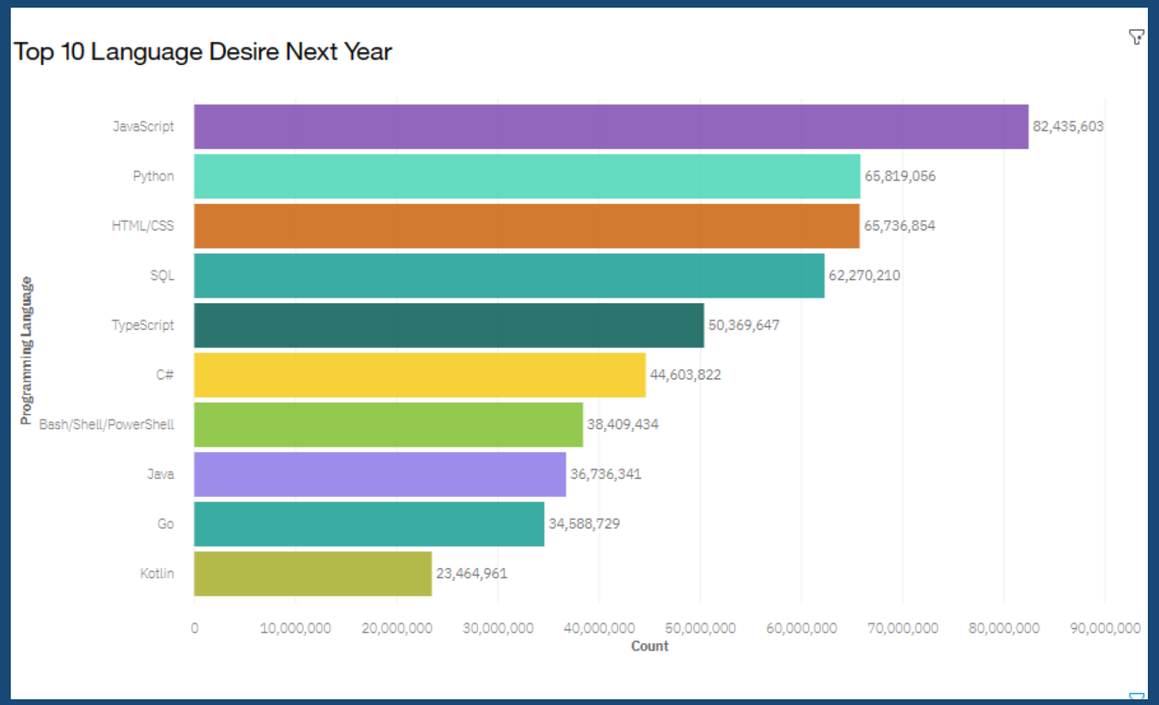
RESULTS

PROGRAMMING LANGUAGE TRENDS

Current Year



Following Year



FINDINGS AND IMPLICATIONS

Findings

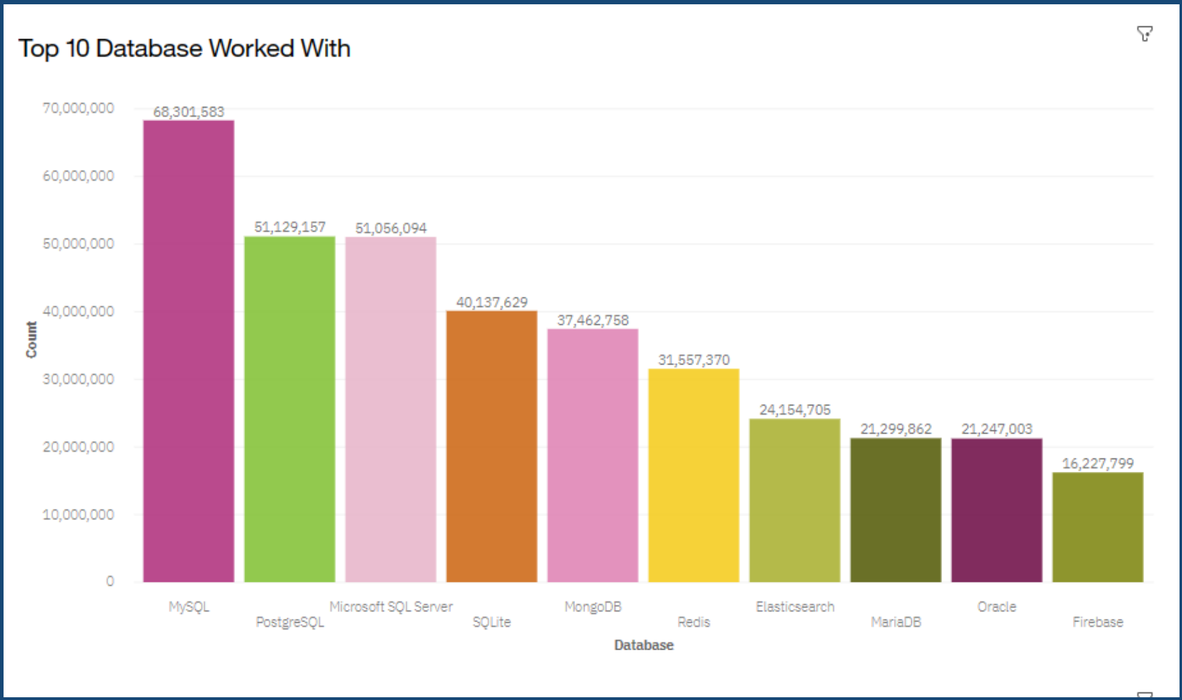
- JavaScript is the most widely used programming language currently
- JavaScript maintains its top position in desired languages for the next year, indicating a sustained demand.
- Go and Kotlin are emerging as desired languages, suggesting a potential shift in developer preferences.

Implications

- The widespread use of JavaScript signifies its continued dominance in the industry. Organizations should prioritize JavaScript skills for development projects.
- The consistent demand for JavaScript implies that developers specializing in these languages are likely to have stable job prospects in the coming year.
- The emergence of Go and Kotlin highlights the need for organizations to consider adapting to newer languages to stay competitive and attract skilled developers.

DATABASE TRENDS

Current Year



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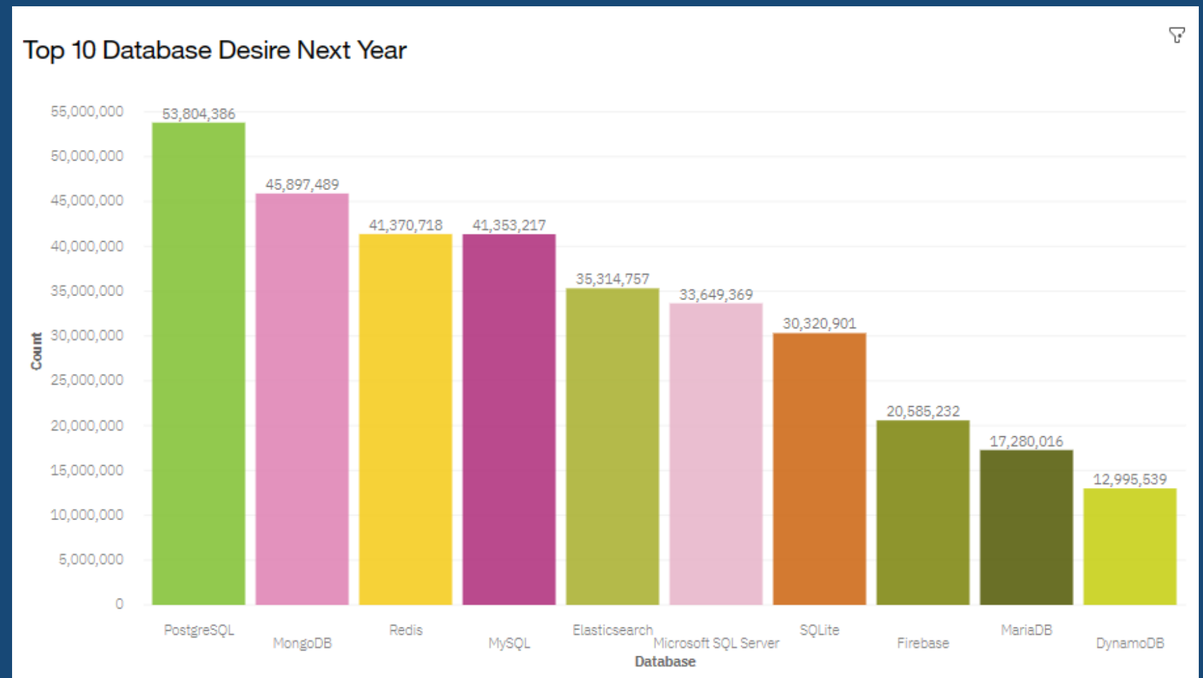


Findings

- MySQL is the most widely used database currently, followed by PostgreSQL and Microsoft SQL Server.
- PostgreSQL maintains its popularity and is the most desired database for the next year.
- Elasticsearch and DynamoDB are gaining traction as desired databases, indicating a shift in preferences.

Implications

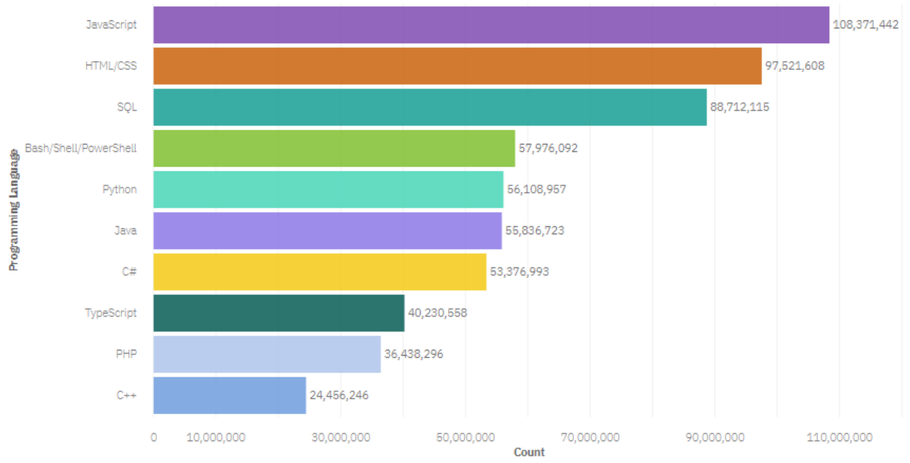
- The widespread use of MySQL and PostgreSQL suggests stability in database choices. Organizations may benefit from investing in these technologies for long-term projects.
- The continued preference for PostgreSQL implies a strategic advantage for organizations that prioritize this database in their tech stack. Considerations for training and skill development should align with this trend.
- The emergence of Elasticsearch and DynamoDB highlights the importance of organizations exploring and adopting newer database technologies to stay competitive and address evolving data needs.

DASHBOARD

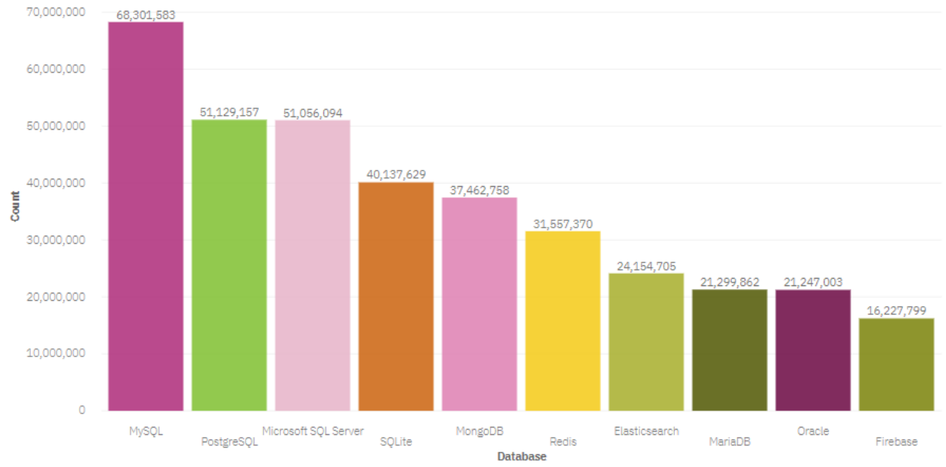
https://dataplatform.cloud.ibm.com/dashboards/464f5c14-1087-4dad-bea2-0e174ebe4291/view/0621d906618b6dc849fcdce4079978547f34205ae4bbd65288877b495b367397f3381a90c82c42528f420064a7ef140ccd

DASHBOARD TAB 1

Top 10 Programming Languages Worked With

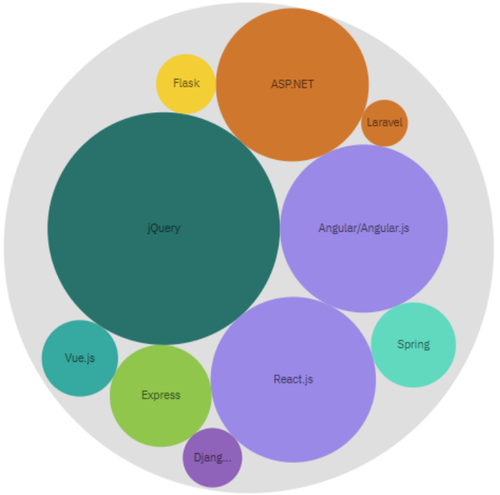


Top 10 Database Worked With



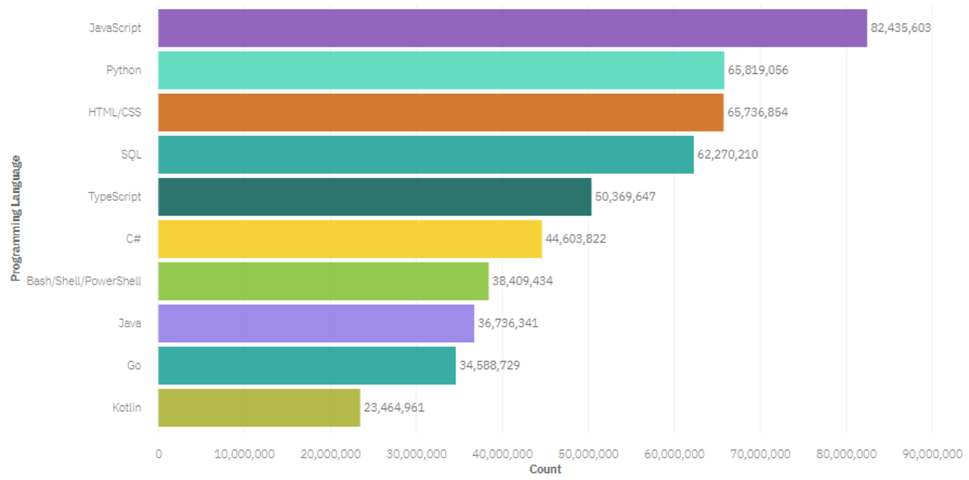
Platform Worked With

Top 10 Web Frame Worked With

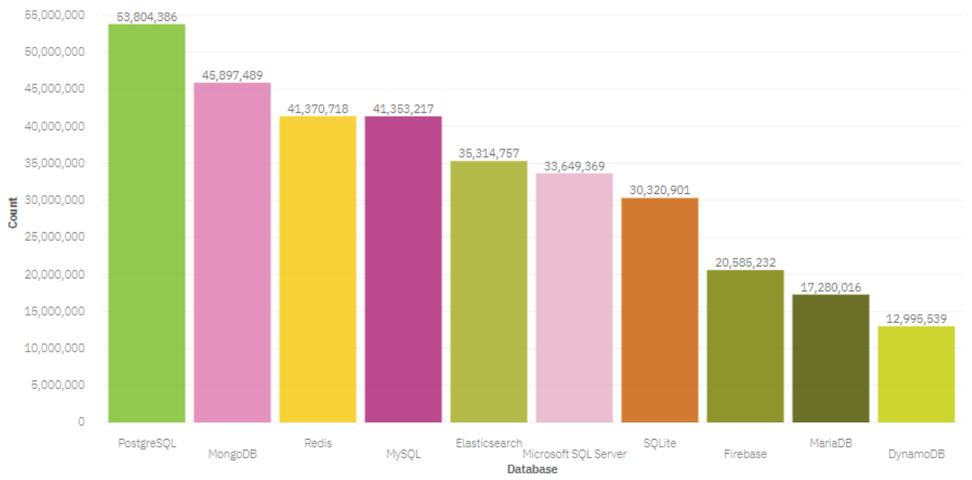


DASHBOARD TAB 2

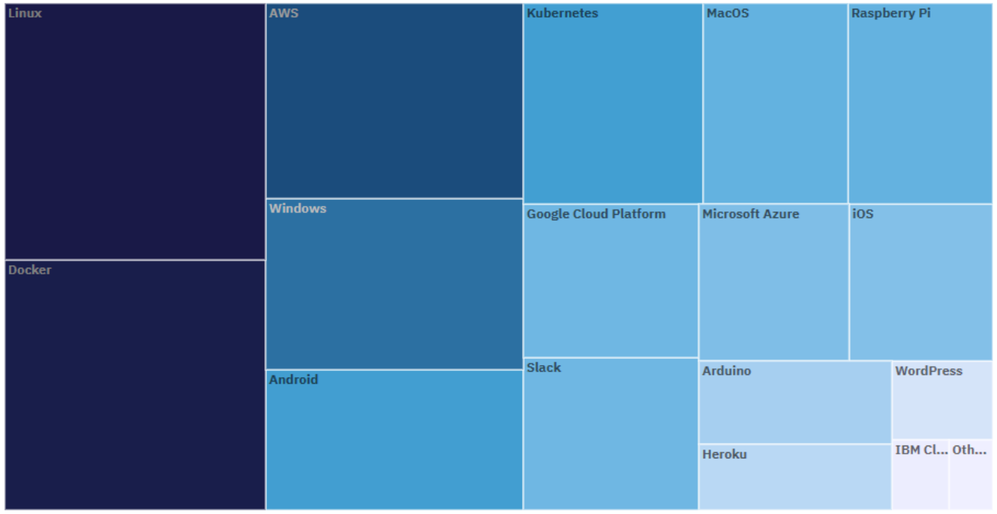
Top 10 Language Desire Next Year



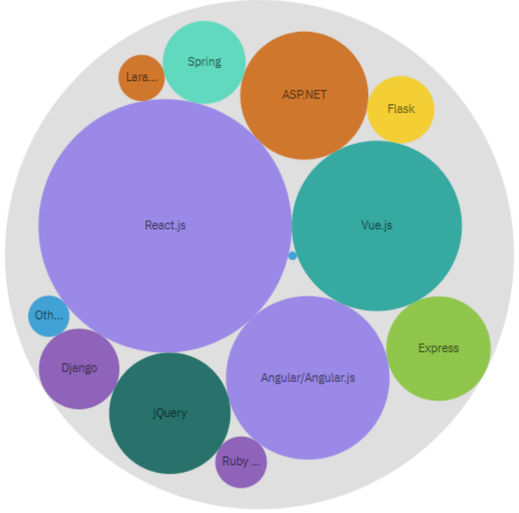
Top 10 Database Desire Next Year



Platform Desire Next Year

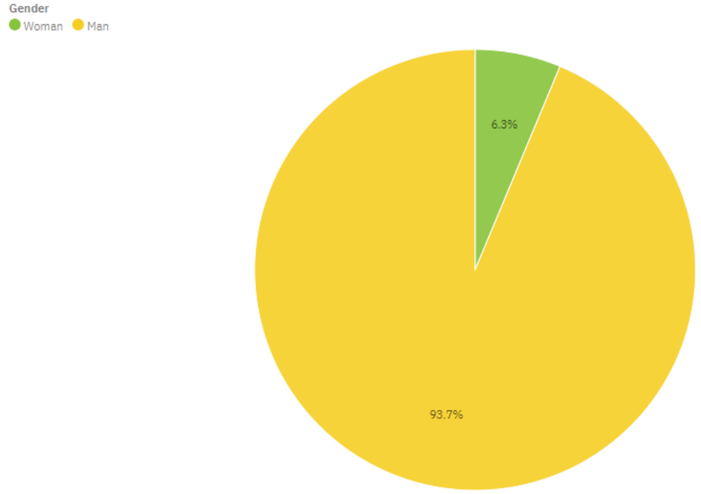


Top 10 Web Frame Desire Next Year

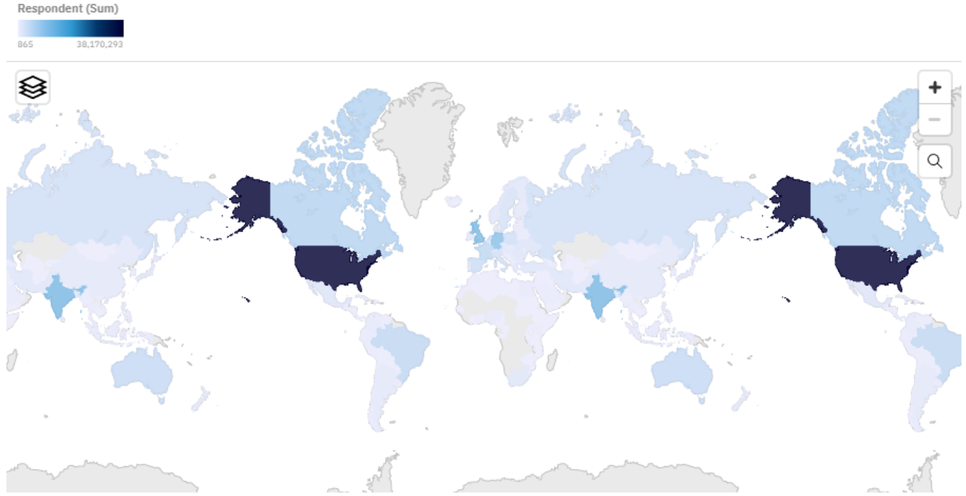


DASHBOARD TAB 3

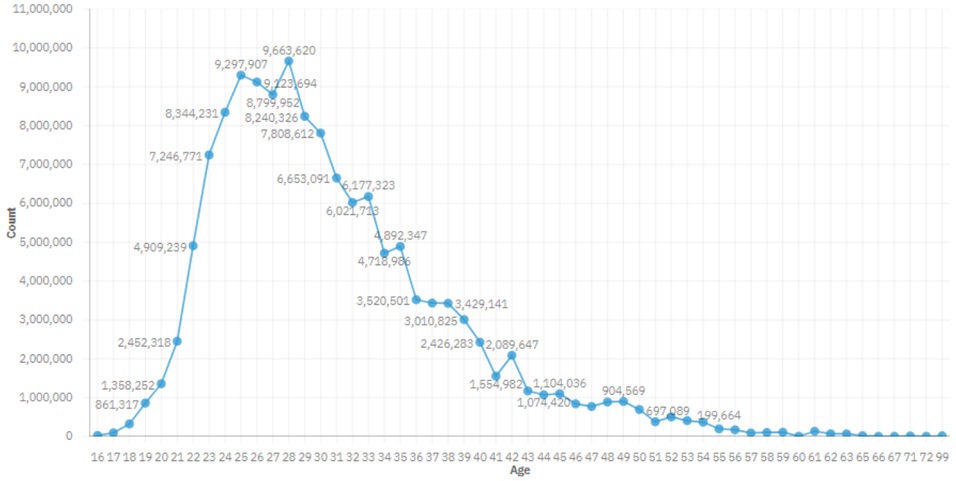
Respondent Classified by Gender



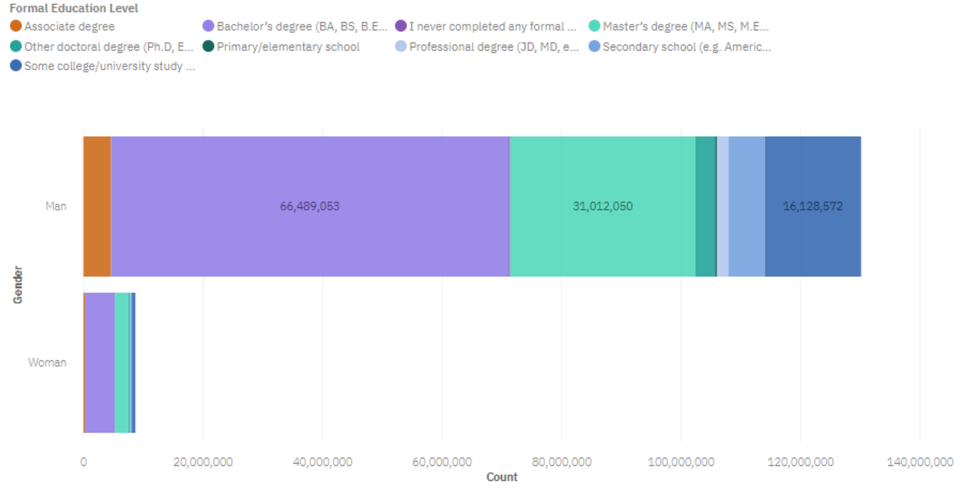
Respondent Count for Countries



Respondent Count by Age



Respondent Count by Gender, classified by Formal Education Level



DISCUSSION

- JavaScript's dominance and PostgreSQL's preference underscore their pivotal roles.
- Stable choices like MySQL and PostgreSQL offer enduring benefits.
- Strategic adaptation to technologies like Elasticsearch and DynamoDB is vital for competitiveness.
- Challenges and opportunities in innovation highlight the need for ethical tech adoption.
- Research may explore implications on job markets and industry competitiveness.
- Python, HTML/CSS, and SQL contribute significantly to these trends, shaping the evolving tech landscape.

OVERALL FINDINGS AND IMPLICATIONS

Findings

- JavaScript maintains dominance in both current and future usage, signaling its continued importance. Python and HTML/CSS also exhibit strong consistency in popularity.
- PostgreSQL stands out as the most desired database for the next year, indicating a shift in preference. Linux, Docker, and AWS remain popular platform choices, with Linux leading the list.
- The majority of respondents are male, and individuals aged 20-30 are the most represented. Most respondents, regardless of gender, have a bachelor's degree.

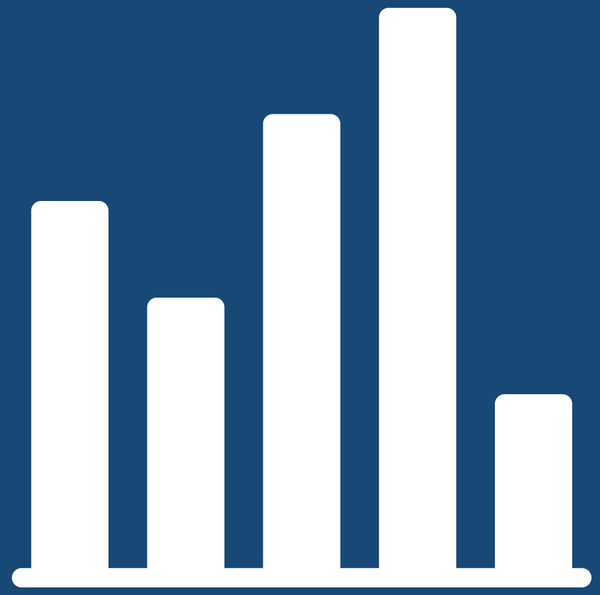
Implications

- Organizations should prioritize JavaScript, Python, and HTML/CSS for development projects, considering their consistent popularity.
- The increasing desire for PostgreSQL suggests a potential shift in the database landscape, prompting organizations to consider its adoption.
- Recognizing the dominant male demographic and the prevalence of young adults with bachelor's degrees is essential for tailoring tech initiatives and outreach programs.

CONCLUSION

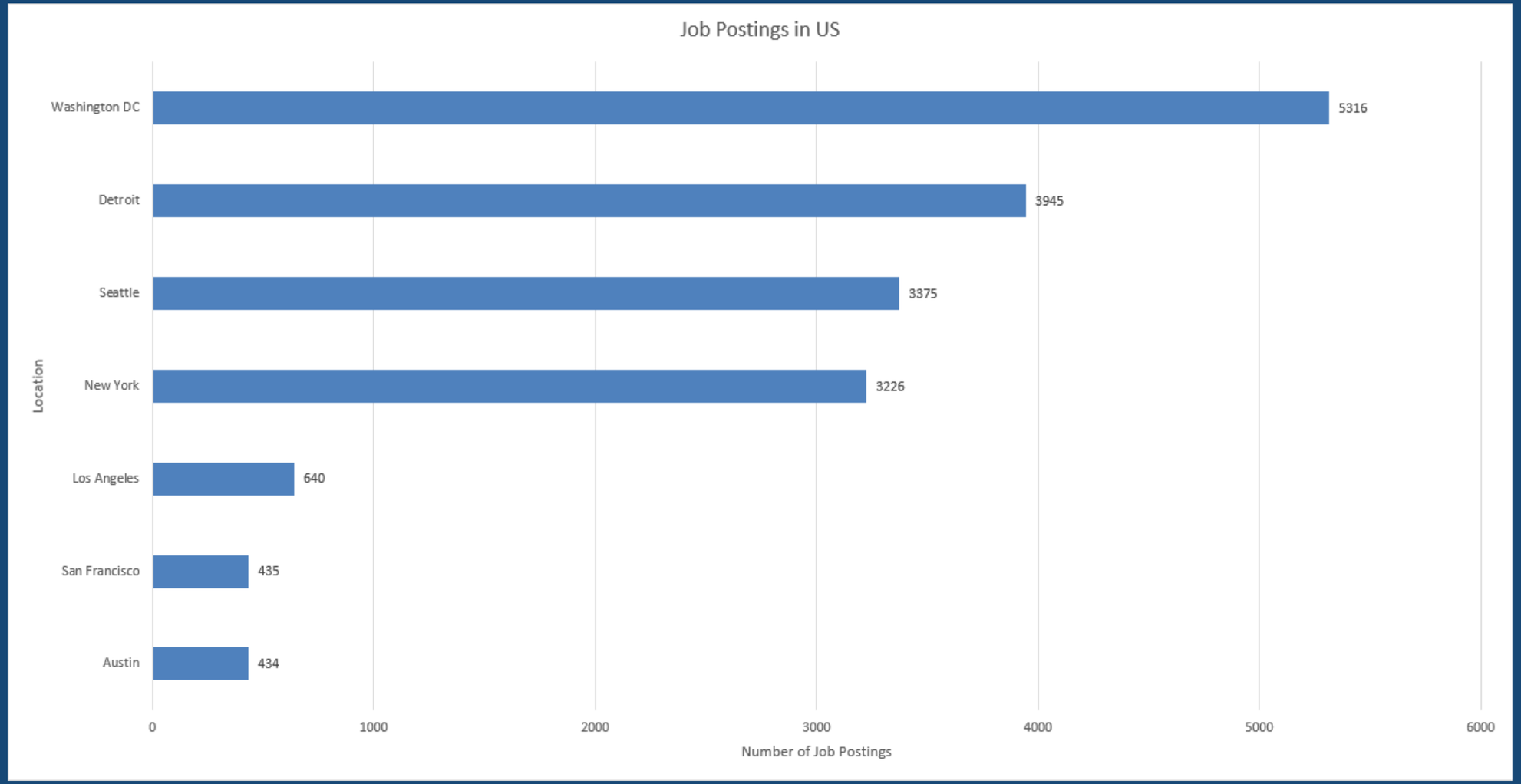
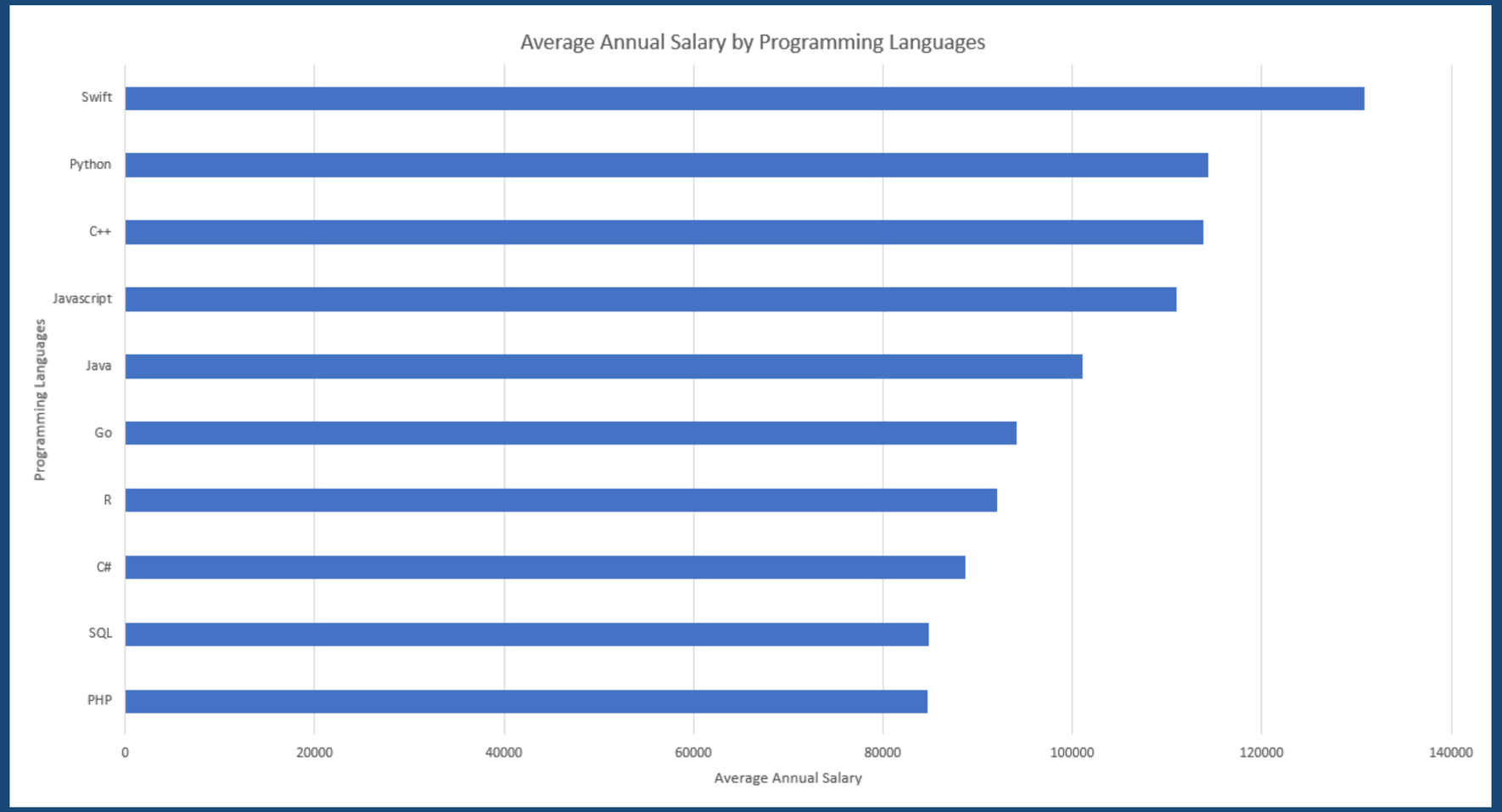
- Our analysis offers a snapshot of the trend of current and future tech landscape.
- Emphasize JavaScript proficiency, consider PostgreSQL adoption, and align with popular platforms like Linux, Docker, and AWS.
- The desire for emerging technologies underscores the need for adaptability and innovation in staying competitive.
- Addressing the male-dominated demographic and focusing on education initiatives can contribute to a more inclusive and skilled workforce for the future. Addressing the male-dominated demographic and focusing on education initiatives can contribute to a more inclusive and skilled workforce for the future.

APPENDIX



- The following are additional charts that are relevant for the analysis phase.

JOB POSTINGS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