



# Current and Future Technology Trends

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# OUTLINE

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

# Summary & Introduction

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The primary objective:

**Identify Current and Future Technology Trends**

Data was collected from various sources, including:

- Job postings
- Training portals
- Surveys

Questions answered:

- What are the top programming languages in demand?
- What are the top database skills in demand?
- What are the popular IDEs?

# METHODOLOGY

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- **To ensure a comprehensive analysis, we employed a robust methodological approach, incorporating data from multiple sources:**
  - **Job postings:** Analysis of job postings to understand demand for various skills and roles within the developer community)
  - **Training portals:** Data from training and certification portals to capture trends in professional development and skills acquisition
  - **Surveys:** over 2,000 participants globally
- **Data Analysis Techniques:**
  - **Quantitative Analysis:** We used descriptive statistics and trend analysis to identify key patterns and insights from the numerical data.
  - **Qualitative Analysis:** Thematic analysis was applied to open-ended responses to uncover detailed opinions and experiences.
- **Ensuring Data Quality:**
  - **Data Cleaning:** We performed rigorous data cleaning to eliminate incomplete or inconsistent responses, ensuring the integrity of our analysis.
- **Reliability and Validity:**
  - We implemented measures to ensure the reliability and validity of our findings, including consistent data collection procedures and thorough analytical methods.

# RESULTS

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## **Demographics and Education:**

- The majority of respondents are employed full-time as developers.
- Most hold a Bachelor's degree in computer science or related fields.
- The largest groups of respondents are from the United States, United Kingdom, Australia, and New Zealand.

## **Open Source Involvement:**

- High levels of engagement with open source projects, with many developers contributing regularly.
- Varied opinions on the quality of open source software versus closed source software, with a significant portion viewing OSS as superior or comparable.

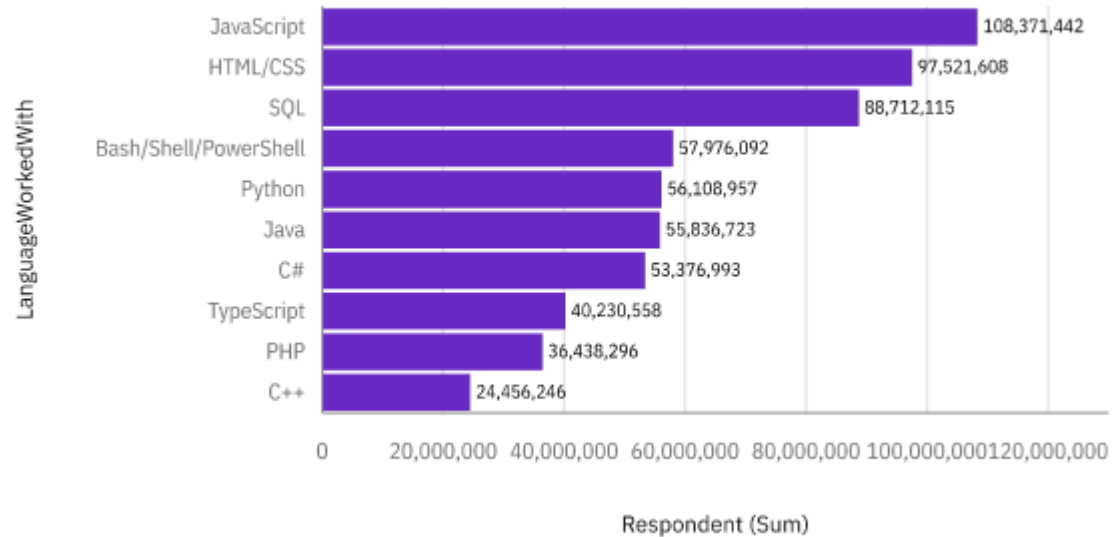
## **Professional Insights:**

- Strong sense of community, with most developers feeling as welcome now as they did last year.
- Preference for content like tech articles, industry news, and developer-written pieces.

# PROGRAMMING LANGUAGE TRENDS

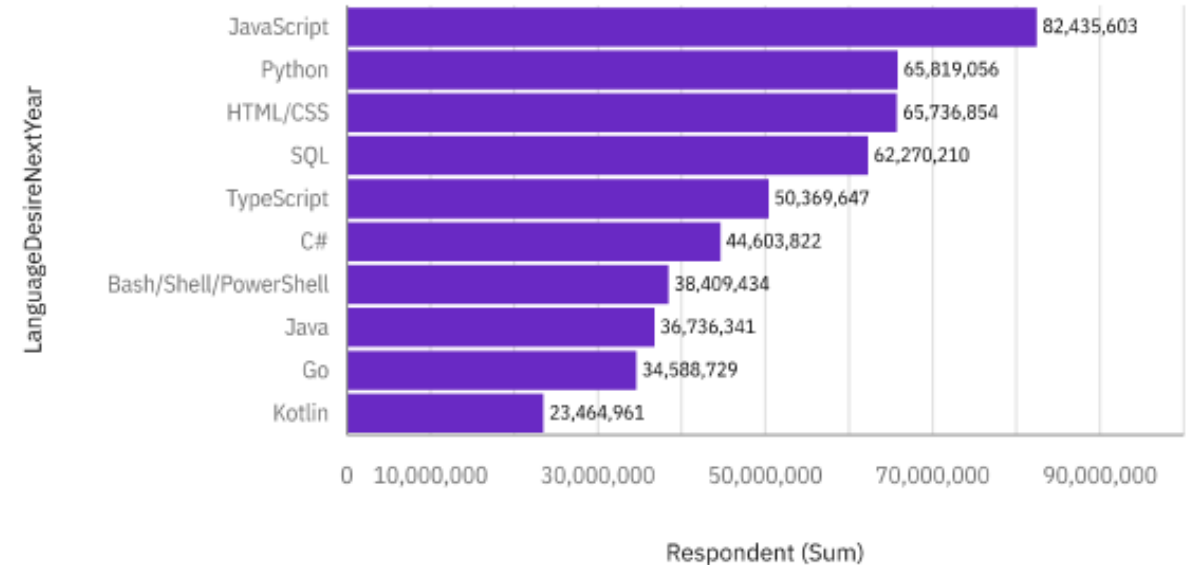
## Current Year

Top 10 Languages Worked With



## Next Year

Top 10 Desired Languages Next Year



# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

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- **JavaScript will remain top language, despite 24% decline in desirability**

While interest may be waning slightly, the extensive existing codebases, community support, and its essential role in web development will sustain its prominence.

- **Popularity of Python will increase by 17%, making it 2<sup>nd</sup> most desired language**

This indicates its growing popularity, driven by its versatility, ease of learning, and extensive use in data science, AI, and machine learning.

- **PHP and C++ will fall out of Top 10 languages**

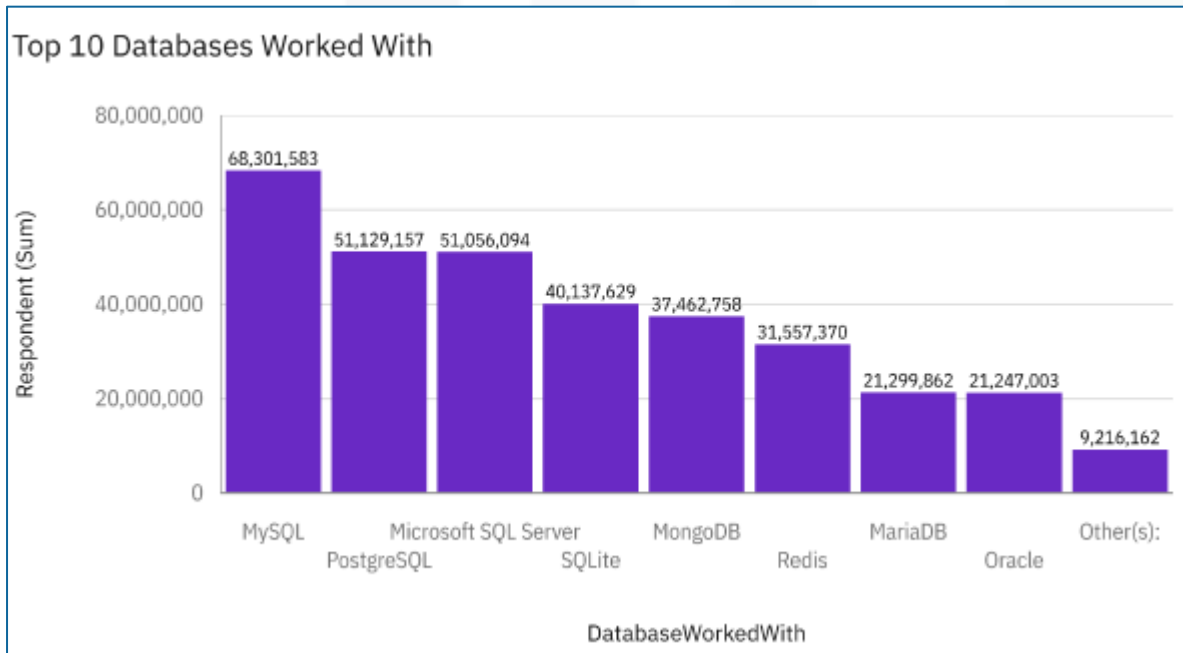
While PHP and C++ are falling out of the Top 10, they still power many legacy systems and applications. Maintenance and gradual transition strategies should be developed for existing projects using these languages.

- **Go and Kotlin will take 9<sup>th</sup> and 10<sup>th</sup> place in the ranking respectively**

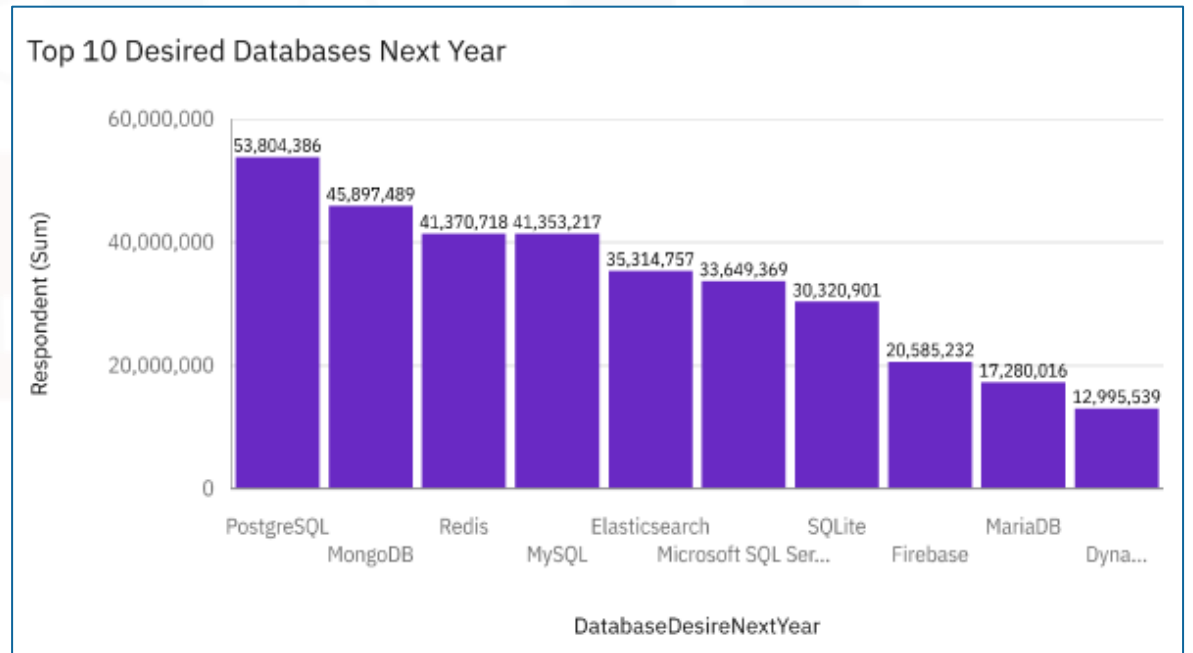
The rise of Kotlin and Go into the Top 10 languages, replacing PHP and C++, highlights a shift towards modern, efficient, and developer-friendly languages.

# DATABASE TRENDS

## Current Year



## Next Year





# DATABASE TRENDS - FINDINGS & IMPLICATIONS

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- **PostgreSQL will become top database in the coming year with 6% increase in popularity**

PostgreSQL is set to become the top database in the coming year. Its robustness, scalability, and support for advanced features will make it a preferred choice for many applications.

- **Popularity of MySQL will decline by 40%, placing it on 4<sup>th</sup> place in the ranking**

Despite this, it remains widely used due to its simplicity and established presence, however, companies should evaluate the potential impacts of this decline and plan for gradual transitions where necessary.

- **Electricsearch and Dynamo DB will join the ranking**

The inclusion of Elasticsearch and DynamoDB in the top rankings signifies a shift towards databases optimized for specific use cases.

**Elasticsearch:** Ideal for search and analytics, providing powerful full-text search capabilities.

**DynamoDB:** Favored for its scalability and performance in NoSQL workloads, particularly in cloud environments.

- **Oracle and Firebase will fall out of the top 10 list**

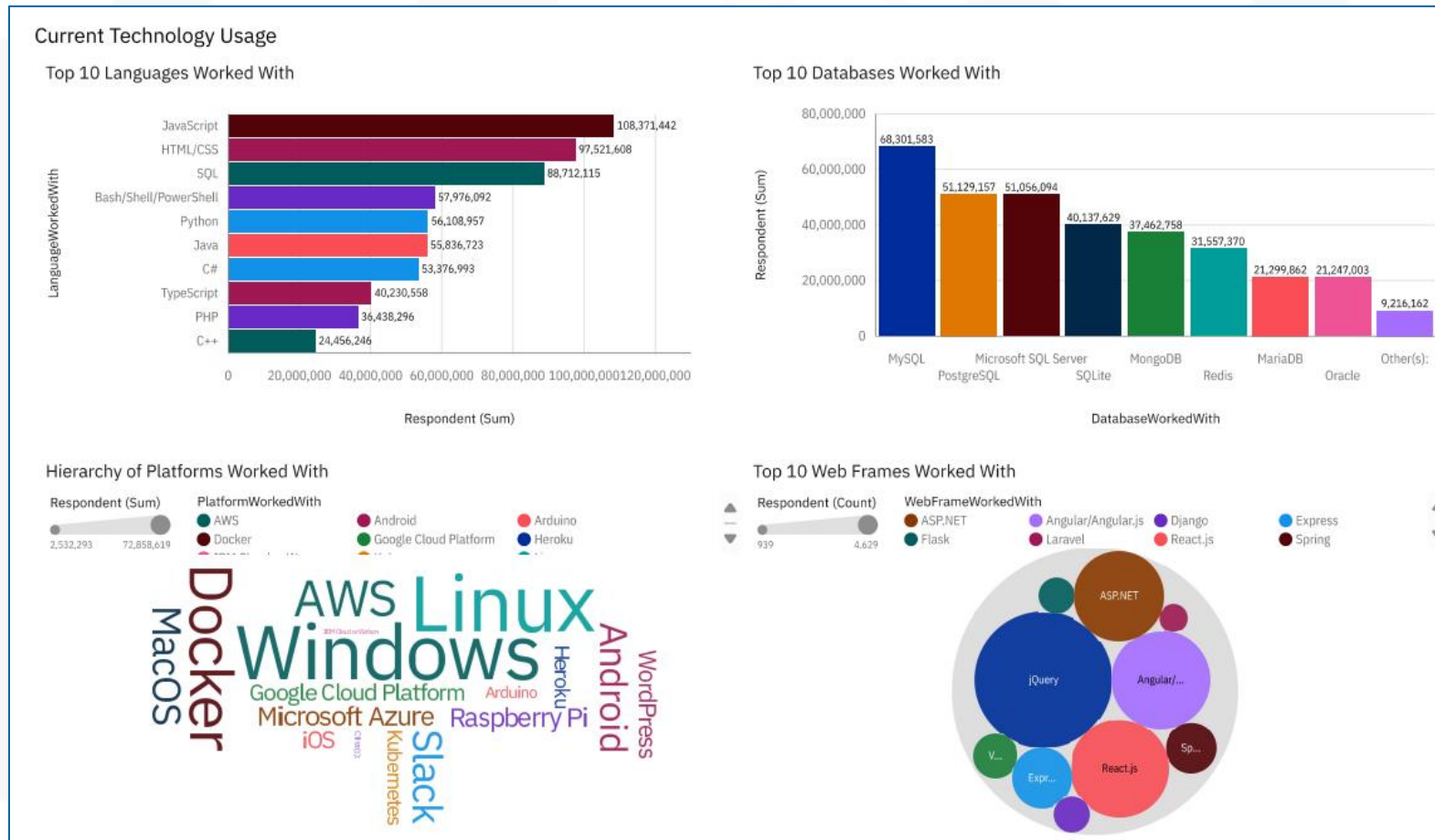
Oracle and Firebase fall out of the top 10, however it's crucial to recognize their continued relevance in specialized and legacy scenarios. Organizations using Oracle and Firebase should consider transitioning to more popular databases where feasible, ensuring that they stay aligned with industry trends and community support.

# DASHBOARD

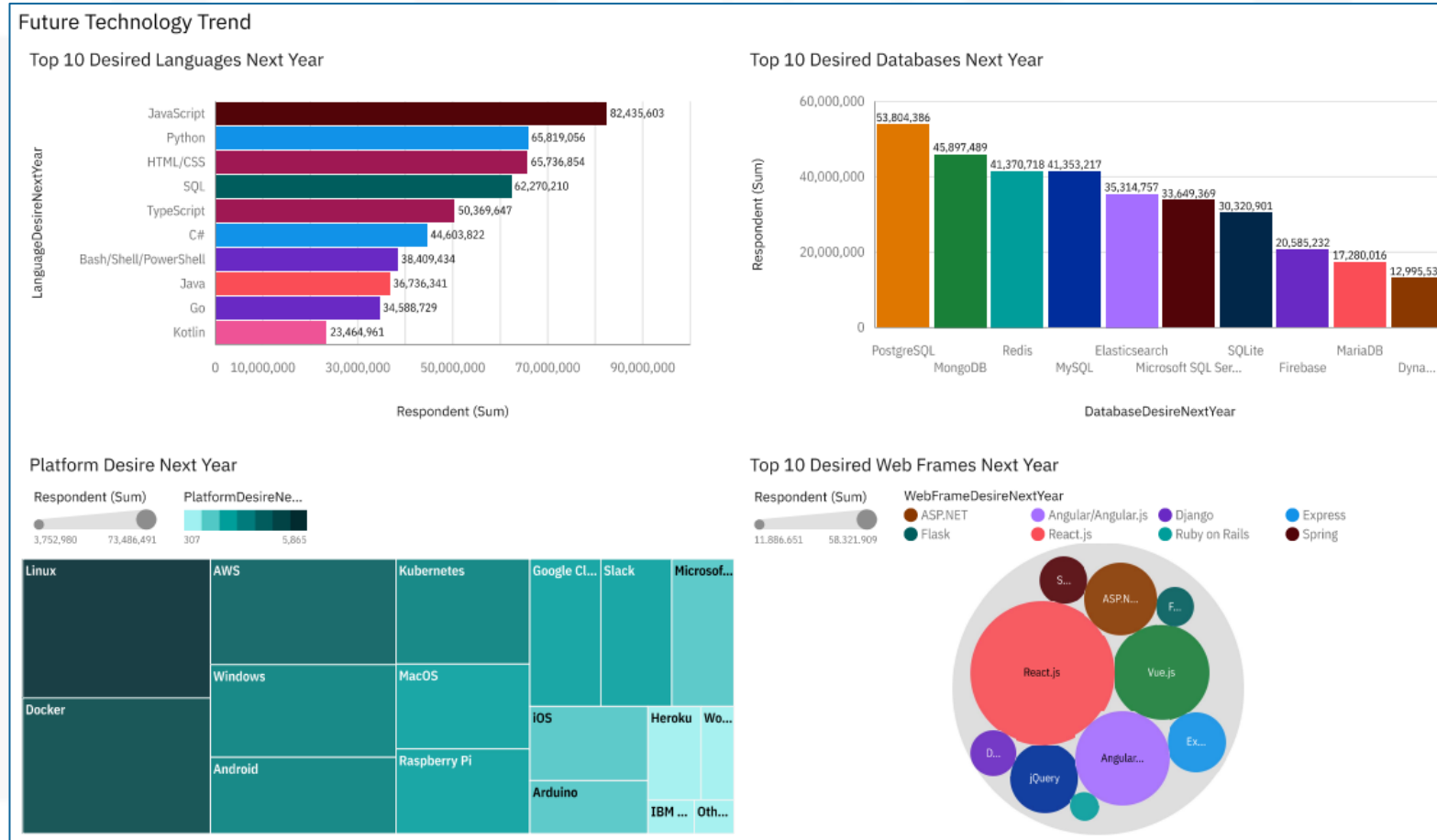
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[Git Hub link](#)

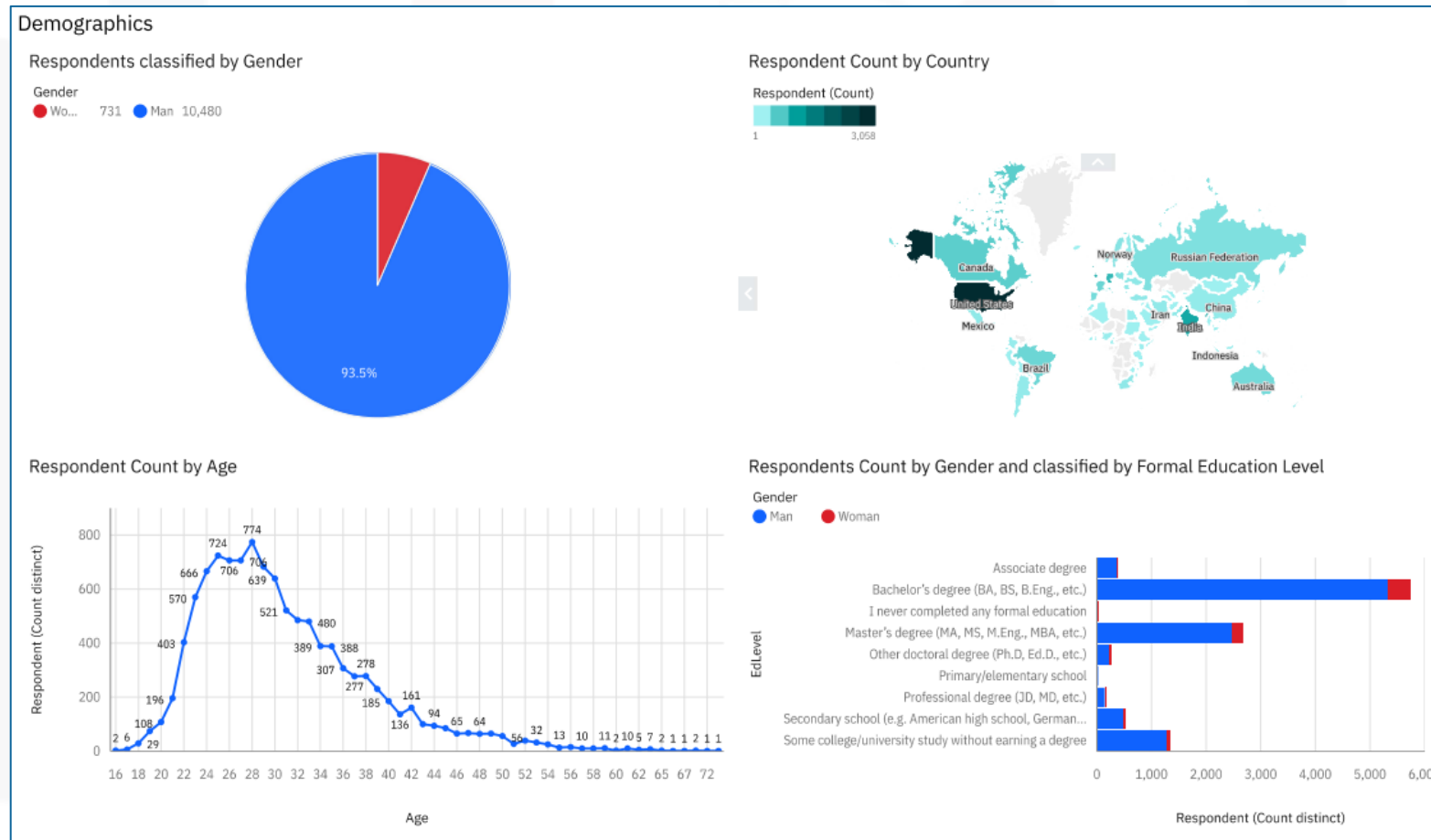
# DASHBOARD TAB 1



# DASHBOARD TAB 2



# DASHBOARD TAB 3



# DISCUSSION

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# OVERALL FINDINGS & IMPLICATIONS

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- **Open Source Involvement:**

- Significant engagement in open source projects, with varied opinions on OSS quality compared to closed source software.

- **Programming Language Trends:**

- **JavaScript:** Despite a 24% decline in desirability, it will remain the top programming language.
- **Python:** A 17% increase in popularity will make it the 2nd most desired language.
- **Kotlin and Go:** These languages will enter the Top 10, replacing PHP and C++.

- **Database Trends:**

- **PostgreSQL:** Predicted to become the top database with a 6% increase in popularity.
- **MySQL:** A 40% decline in popularity will move it to 4th place.
- **Elasticsearch and DynamoDB:** These databases will enter the Top 10, replacing Oracle and Firebase.

# CONCLUSION

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## **JavaScript's Sustained Relevance:**

Investments in JavaScript remain critical due to its persistent dominance despite declining desirability.

## **Embrace of Python:**

The increasing popularity of Python necessitates a focus on training and development in this language, particularly for data science and AI applications.

## **Adoption of Emerging Languages:**

Organizations and developers should adapt to the rising significance of Kotlin and Go, integrating them into curricula and project development.

## **PostgreSQL's Ascendancy:**

The rise of PostgreSQL should prompt organizations to consider it for new projects and migrations, leveraging its advanced features.

## **Diversification in Database Use:**

The growing importance of Elasticsearch and DynamoDB indicates a shift towards specialized databases, highlighting the need for skill development in these areas.

## **Strategic Transition from Legacy Databases:**

Declines in the popularity of MySQL, Oracle, and Firebase suggest the need for strategic planning in transitioning to more widely adopted databases.



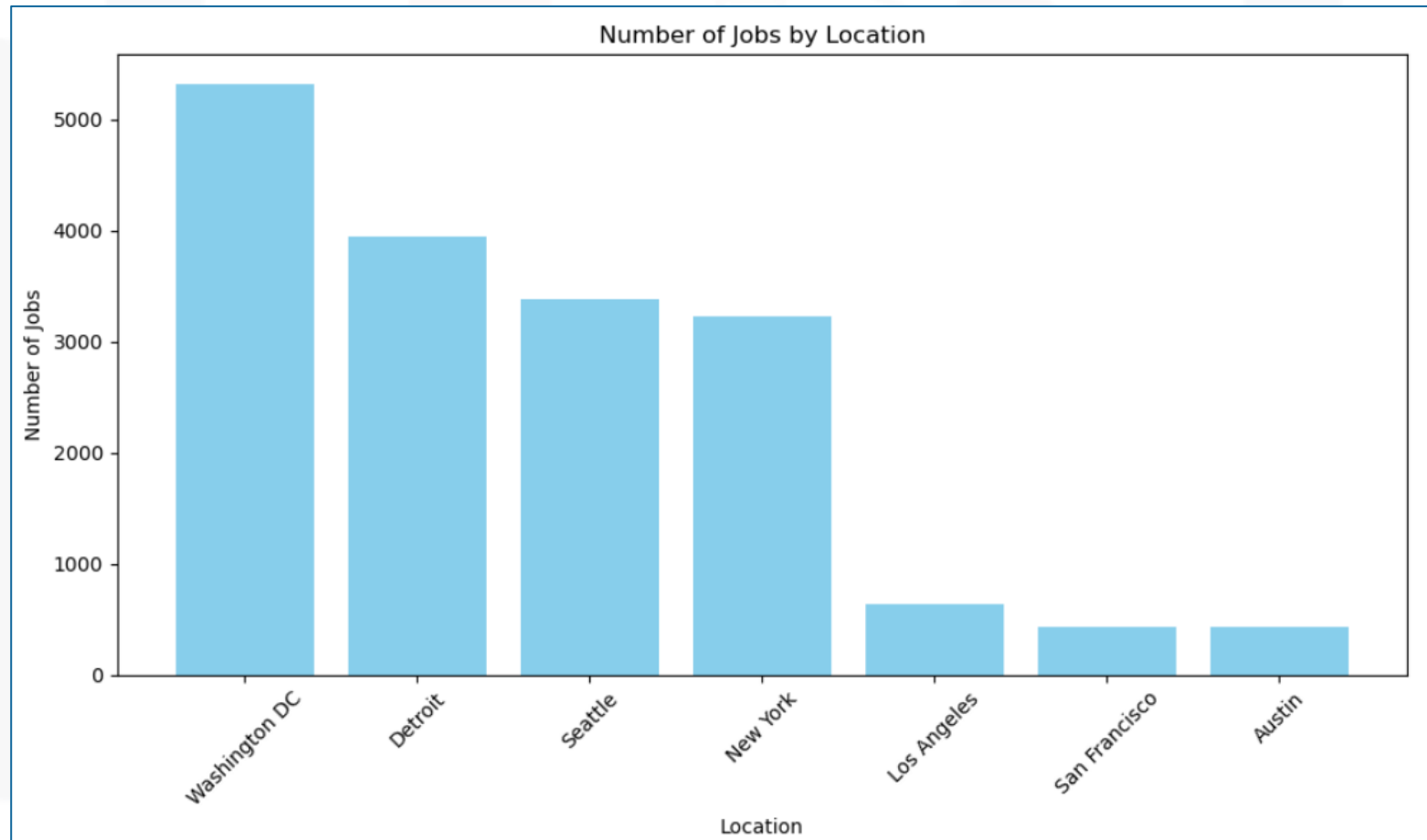
# APPENDIX

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# JOB POSTINGS

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# POPULAR LANGUAGES

