# Current & Future Technology Trends

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# OUTLINE

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

# EXECUTIVE SUMMARY

- The dynamic field of IT and business consulting demands a keen understanding of continually evolving skills.
- Staying competitive necessitates a proactive approach in recognizing upcoming skill requirements and trends, particularly considering the rapidly changing technological landscape.
- **Programming Languages:** Analyzing the current and future landscape of programming languages, highlighting their relevance, popularity, and anticipated shifts, which are critical for effective software development.
- **Databases and Data Management:** Exploring trends in database technologies and data management strategies to harness the power of information in a data-driven world.
- **Web Frameworks and Platforms:** Providing an overview of the evolving landscape of web frameworks and platforms, aiding in the strategic development and deployment of web-based solutions to meet the demands of an ever-changing digital marketplace.
- This presentation provides insights into both present and future trends within Programming Languages, databases, platforms, and web frameworks.
- By understanding these trends, our primary objective is to equip the organization with data-driven insights to optimize hiring and budgetary decisions, ensuring we maintain a competitive edge in the market.

# INTRODUCTION

- In the dynamic realm of IT and business consulting, the constant evolution of skills is an imperative that can't be ignored. Remaining competitive demands a proactive stance, one that anticipates upcoming skill requirements and industry trends. In this presentation, we delve into the intricacies of this ever-changing landscape, shedding light on present and future trends across three pivotal domains:
- **Programming Languages:** In an age where software development powers technological advancement, we explore the present and future landscape of programming languages. This section aims to elucidate:
  - The relevance and popularity of current programming languages.
  - Anticipated shifts and emerging languages that could reshape the industry.
- **Databases and Data Management:** With data as the lifeblood of the digital era, this segment dissects the trends in database technologies.
  - The evolution of databases and their pivotal role in data-driven decision-making.
- **Web Frameworks and Platforms:** As the digital sphere continues to expand, understanding the ever-evolving world of web frameworks and platforms is essential. Within this realm, we address:
  - The current landscape of web frameworks and platforms, their significance, and adoption trends.

# METHODOLOGY

- We processed a modified subset of the Stack Overflow dataset by eliminating duplicates, filling in missing values, and normalizing the data.
- Following that, an exploratory analysis was conducted to uncover data distribution, identify outliers, and assess the correlation among various dataset columns.
- Subsequently, the data was employed to visualize the data distribution, explore the relationship between two features, and analyze the composition and comparison of the data.
- In the concluding phase, two files, both of which represent a modified subset of the Stack Overflow dataset, were downloaded. These files served as the foundation for crafting the "Current Technology Usage," "Future Technology Trends," and "Demographics" slides using Cognos Dashboard Embedded (CDE).

# RESULTS

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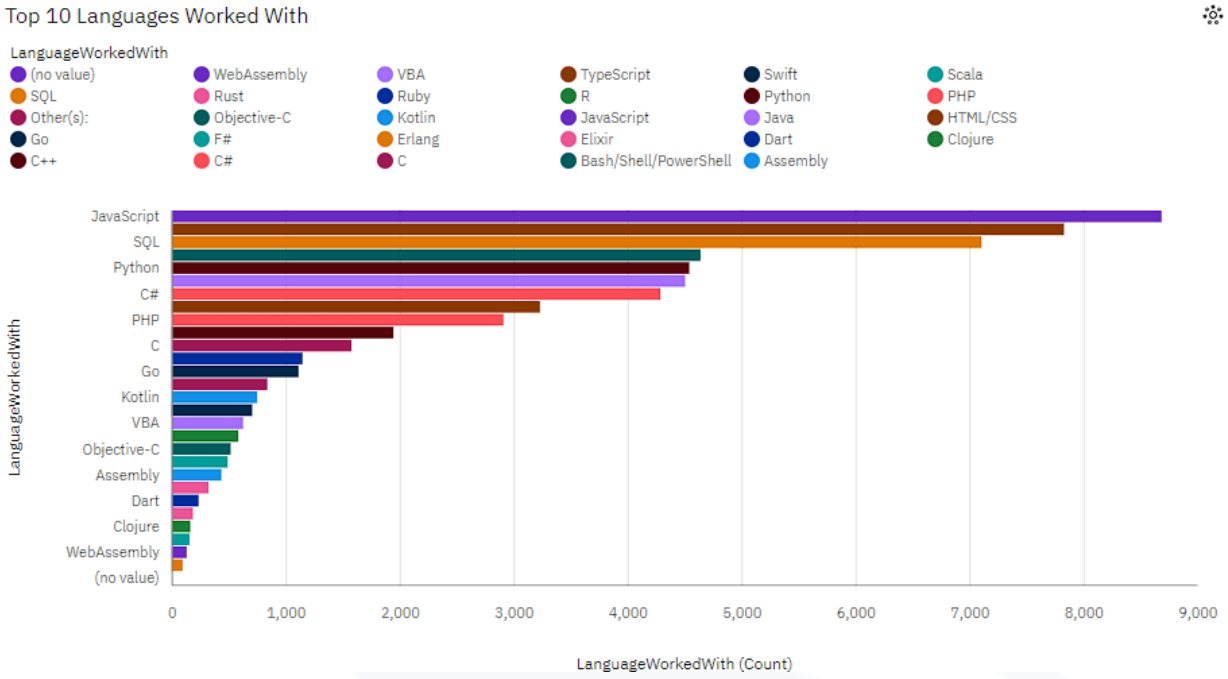
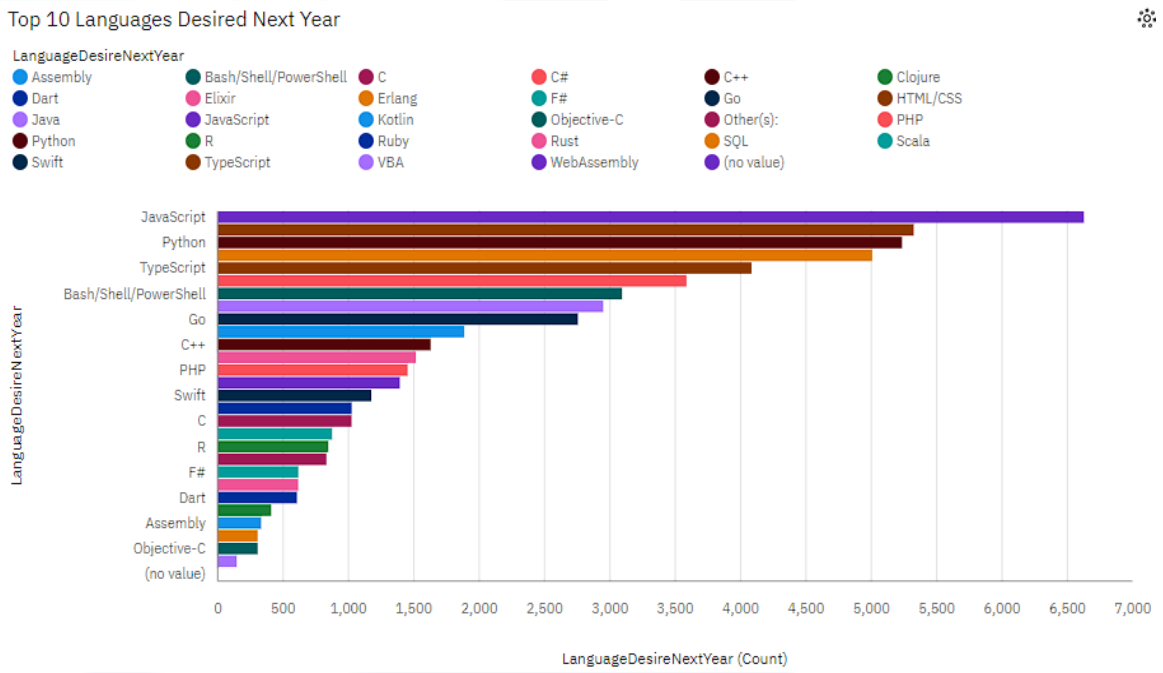
# PROGRAMMING LANGUAGE TRENDS

## Current Year




## Next Year

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# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

## Findings

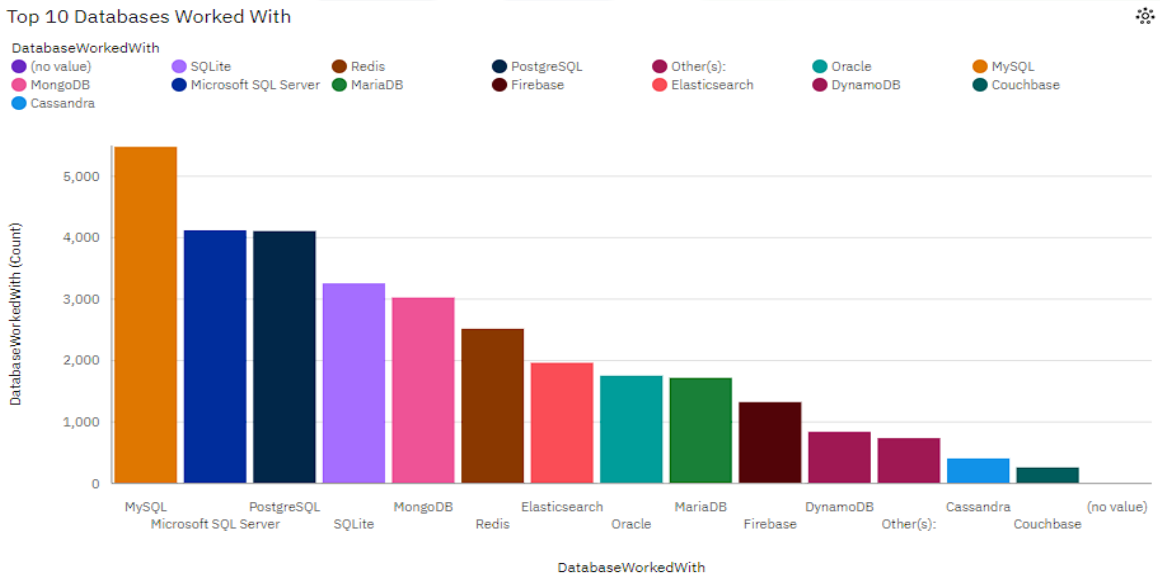
- JavaScript and HTML/CSS are still favored programming languages.
- Python is rising in its usage
- Go and Katlin replaced PHP and C++ as new upcoming programming languages

## Implications

- Continue to hire people skilled in JavaScript and HTML/CSS
- Employ people skilled in Python.
- Consider training courses in the top 5 desired programming languages: JavaScript, HTML/CSS, Python, SQL, and TypeScript

# DATABASE TRENDS

## Current Year

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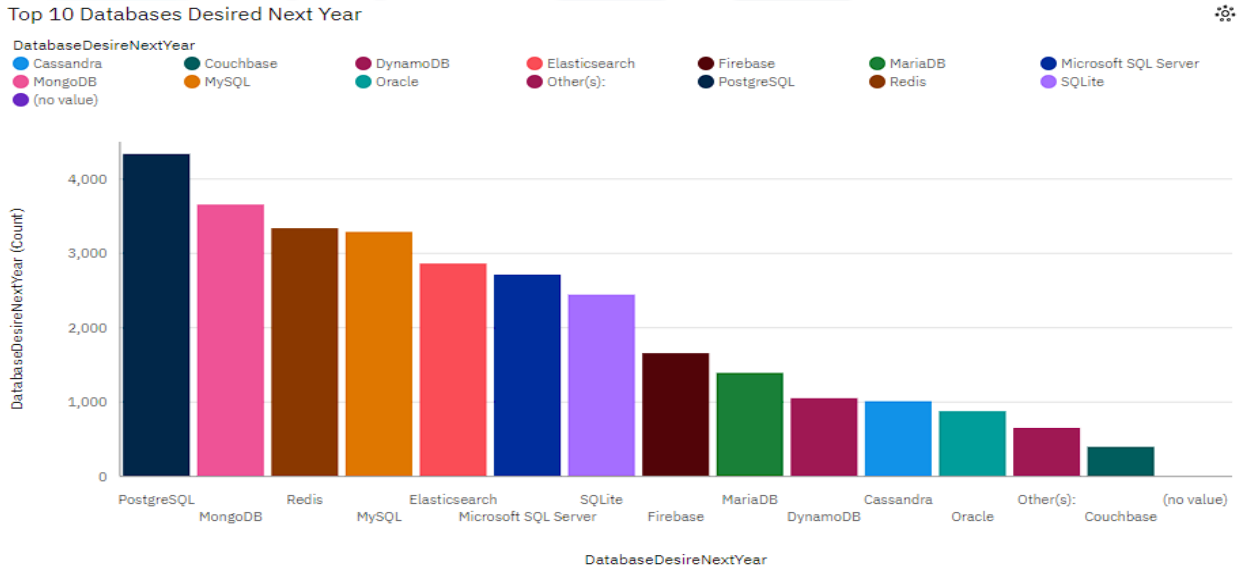


# DATABASE TRENDS - FINDINGS & IMPLICATIONS

## Findings

- PostgreSQL is the most favored SQL database
- There is a rise in python databases such as MongoDB and Redis
- According to the respondents, they no longer desire or interested in using Oracle

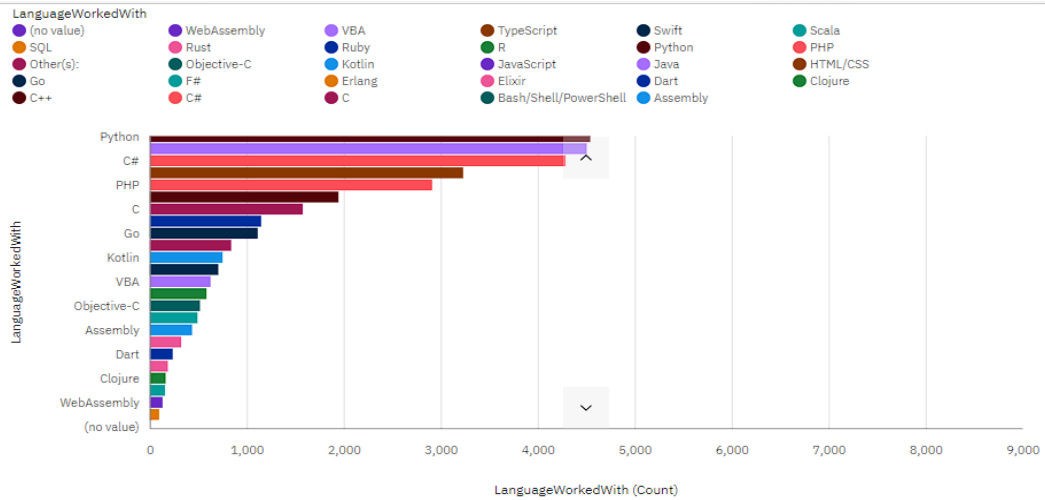
## Implications

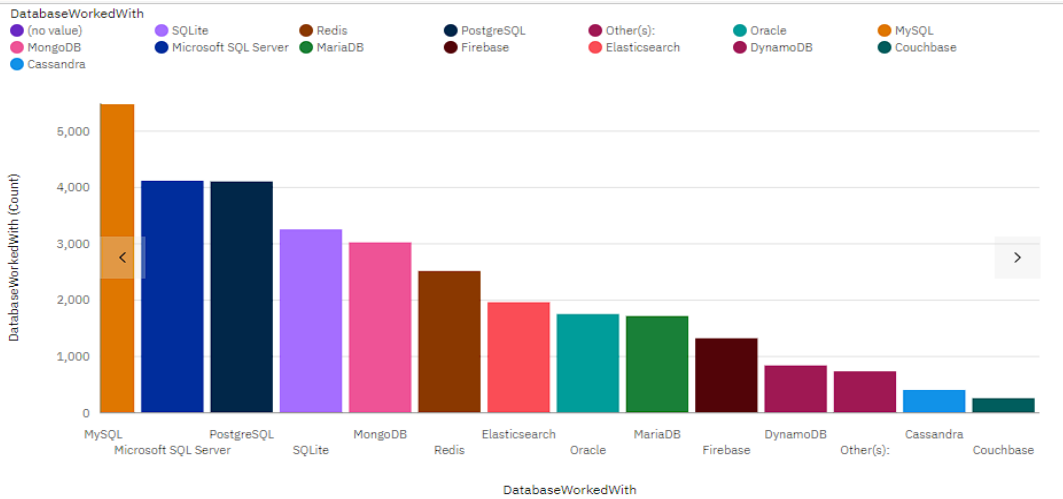
- Employ more people skilled in PostgreSQL, MongoDB, and  Redis
- Employ less people skilled in Oracle
- Employ less people skilled in MySQL, Microsoft SQL Server, and SQLite

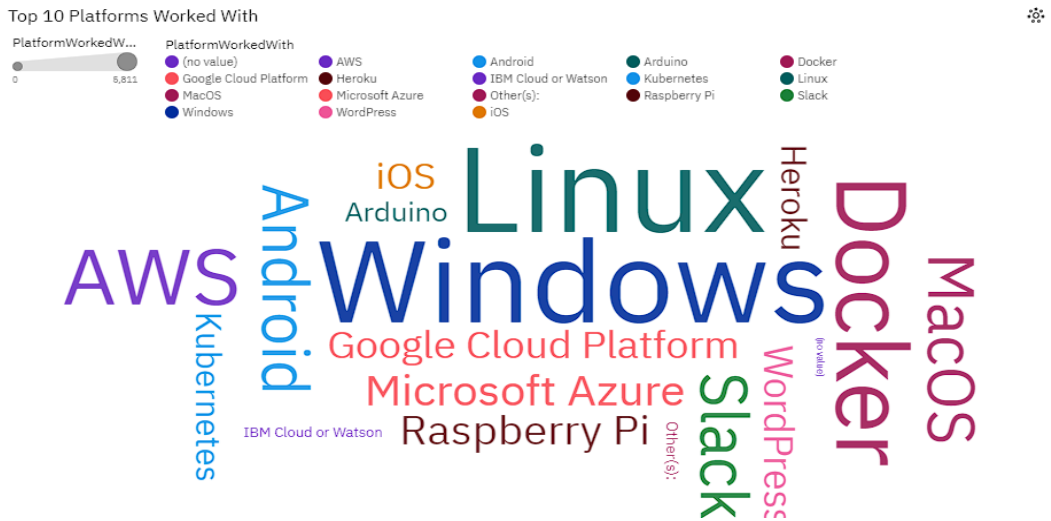
# DASHBOARD LINK

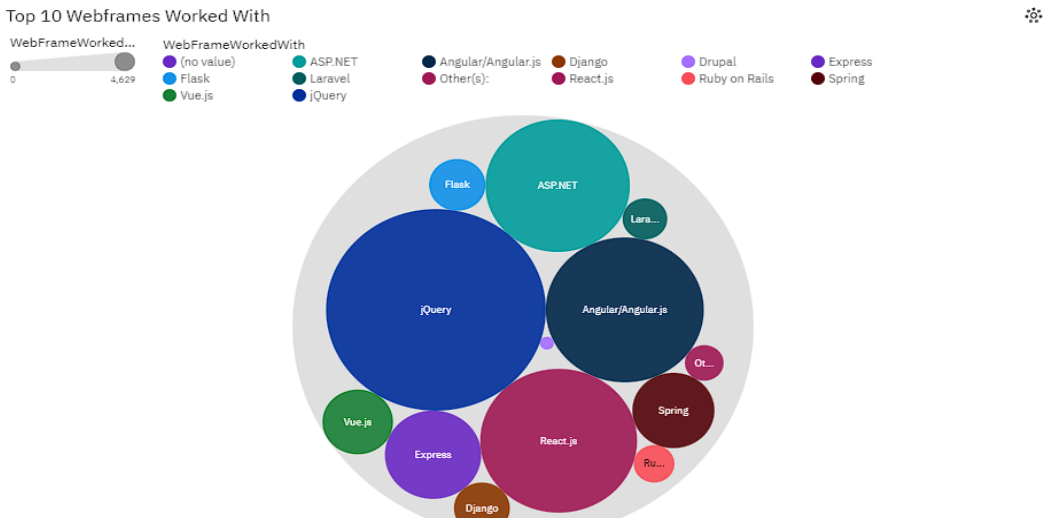
Click here to view DashBoard

# Current Technology Trends

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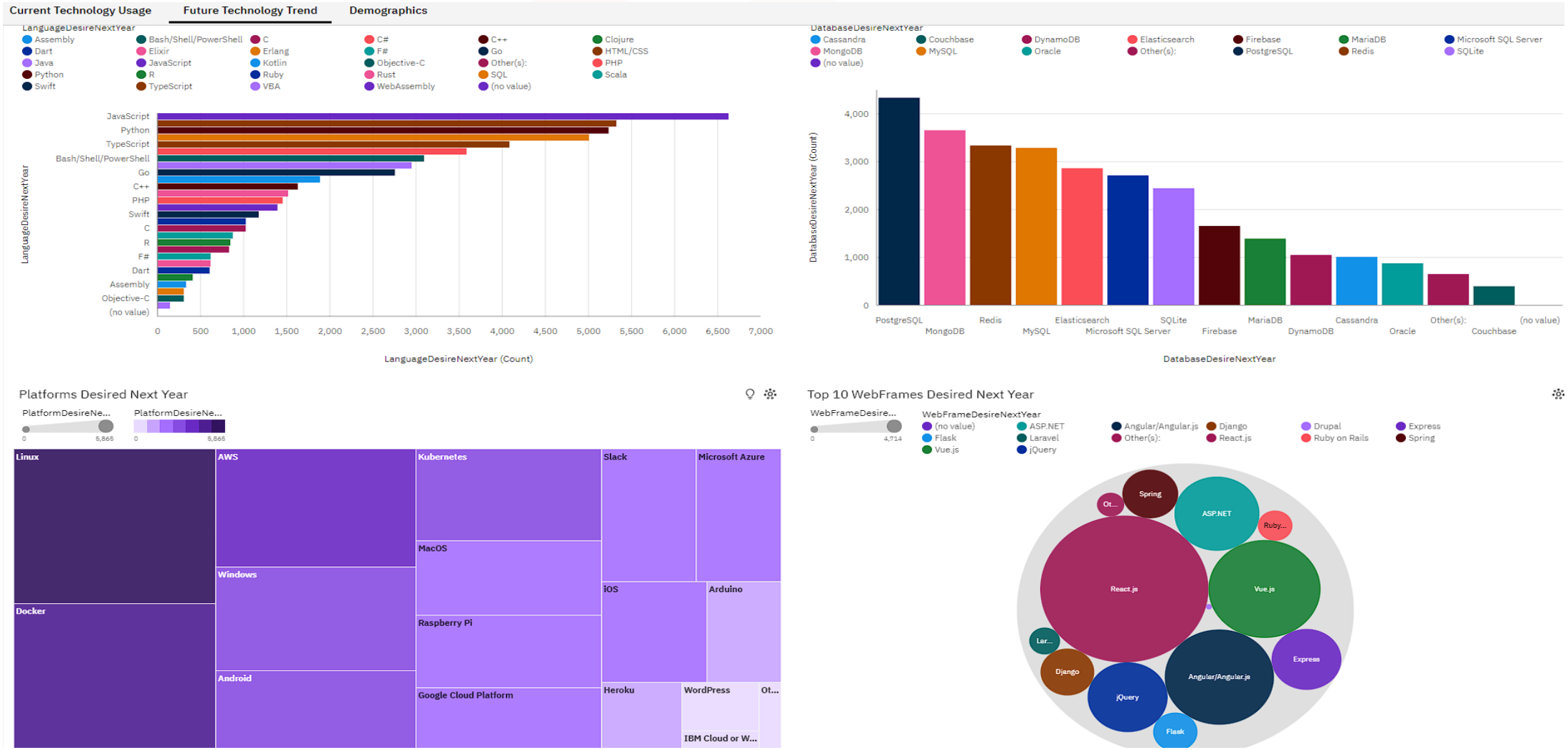
# Future Technology Trends

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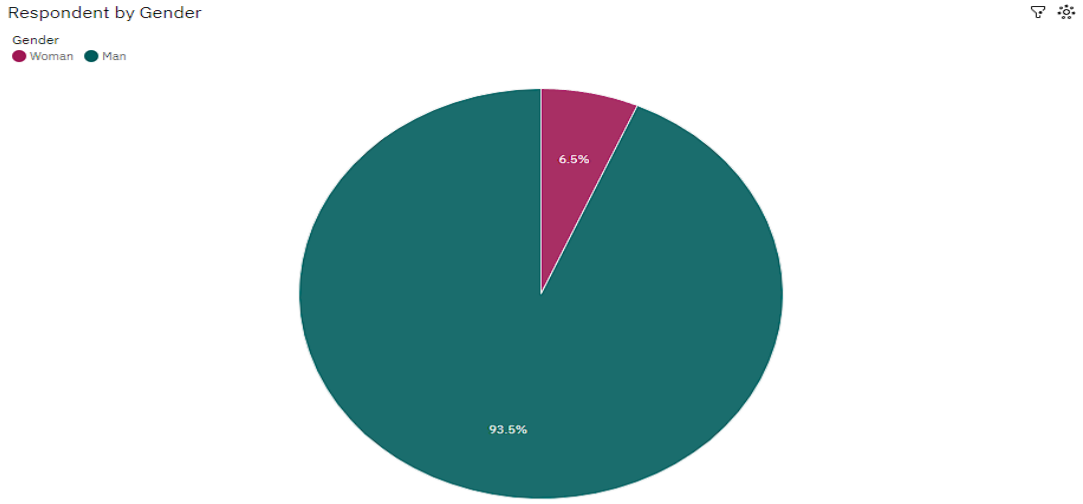
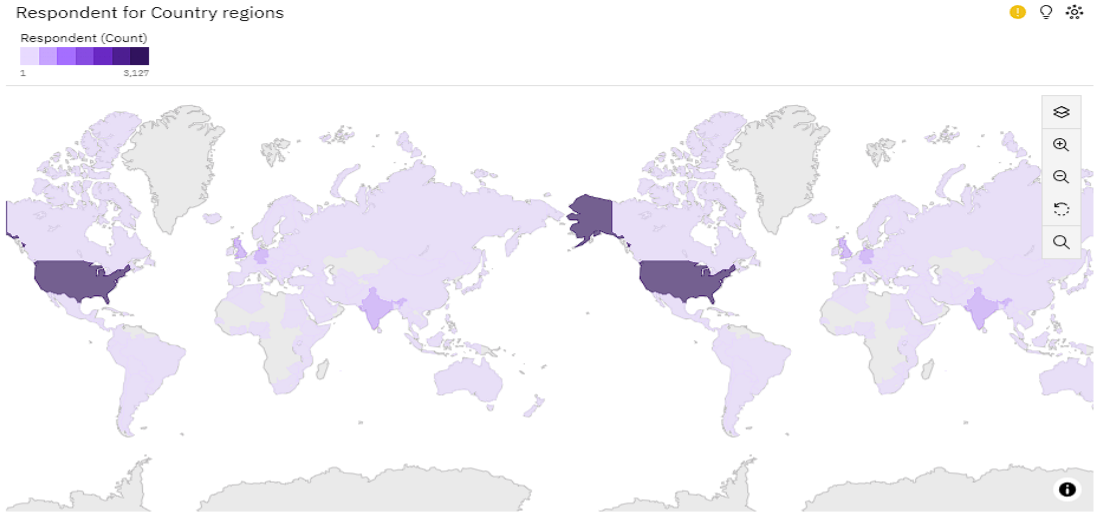
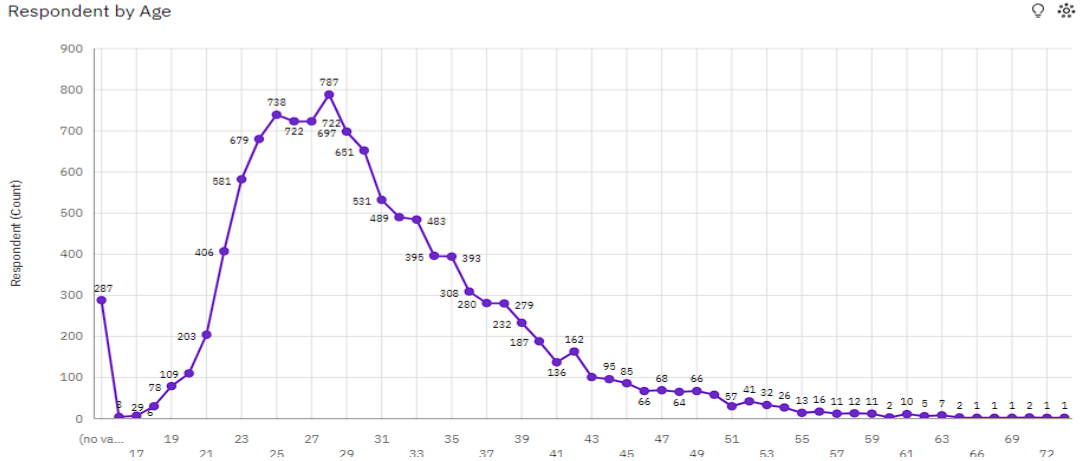
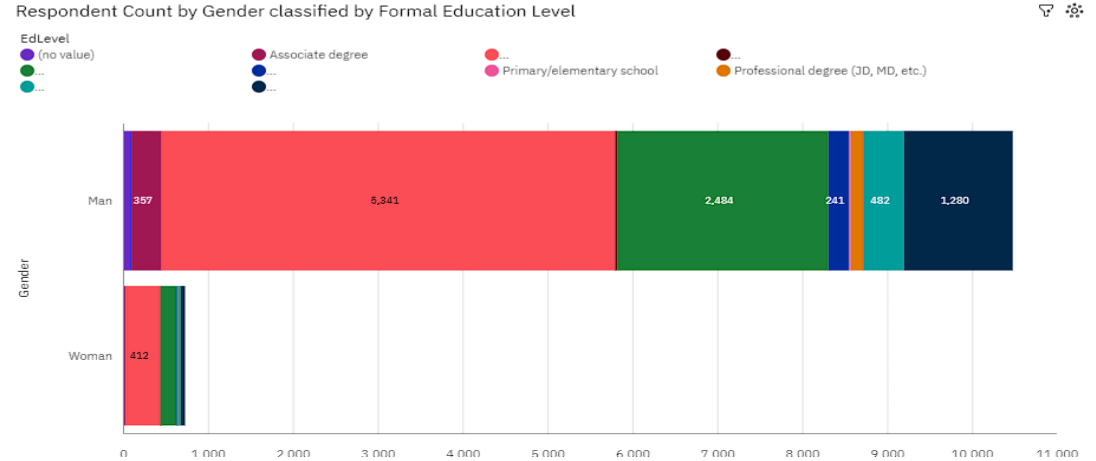
# Demographics

Current Technology Usage | Future Technology Trend | Demographics

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# DISCUSSION

# OVERALL FINDINGS & IMPLICATIONS

## Findings

- Programming Languages
  - TypeScript and Python is gaining significant interest
- Web frames
  - The top 5 web frames gaining popularity are React.js, Angular.js, Vue.js, ASP.NET, jQuery, and Express
- Databases
  - Redis, MongoDB, and PostgreSQL are gaining significant interest
- Platforms
  - The top 5 are Linux, Docker, AWS, Windows, Android, and Kubernetes

## Implications

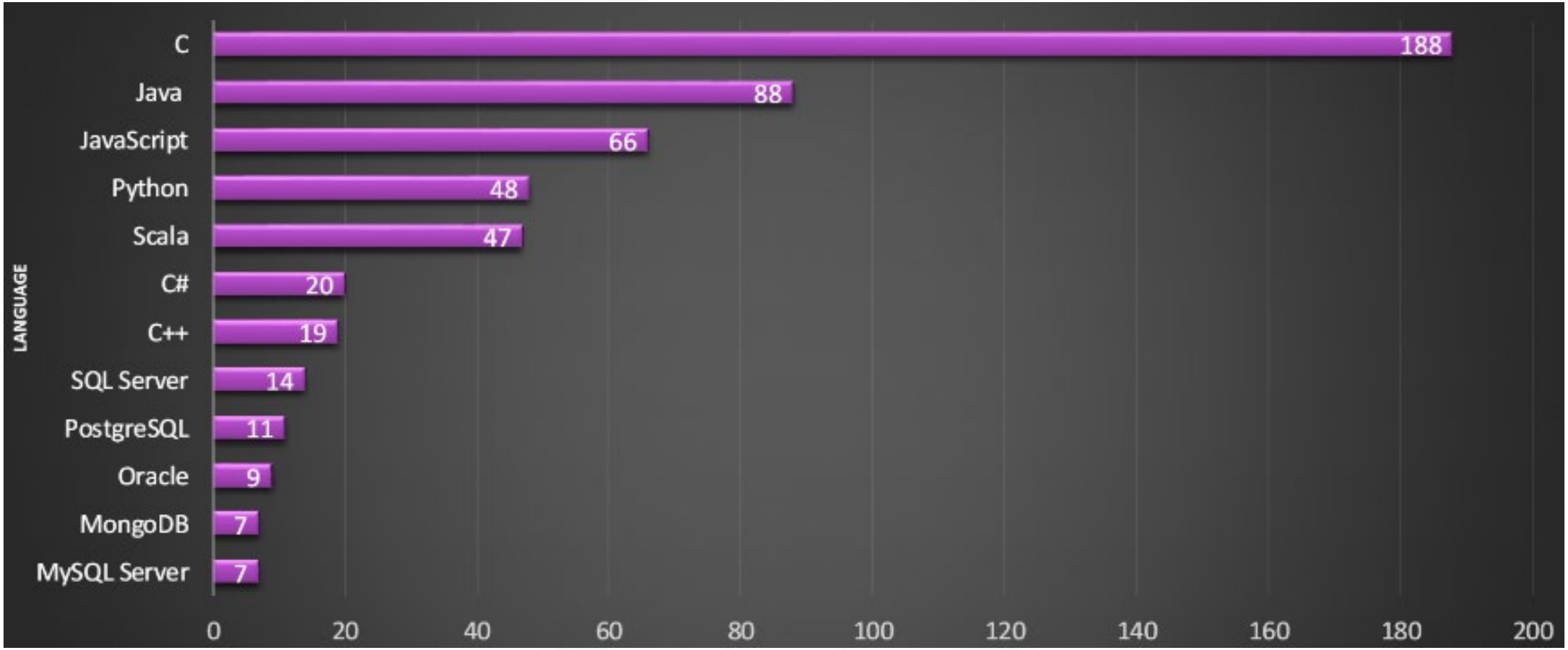
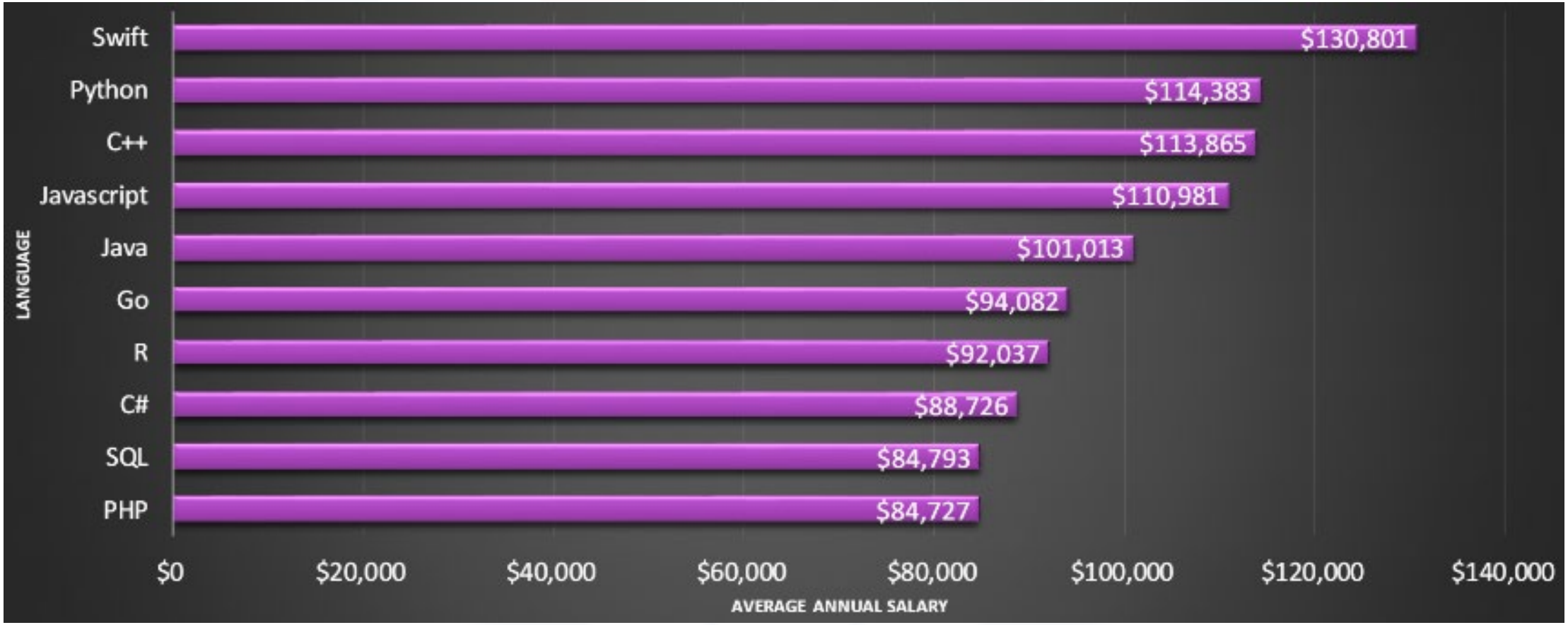
- Continue employment of staff skilled in JavaScript and HTML/CSS but increase employment in people skilled in TypeScript and Python
- Employ more people skilled in Redis, MongoDB, and PostgreSQL
- Continue to employ people skilled in ASP.NET and employ more people skilled in React.js as well as Vue.js
- Continue to employ people skilled in Docker, AWS, Windows, and Android but increase employment in Kubernetes

# CONCLUSION

- Create and organize a budget to hire more employees with skills needed to fill any gaps
- Organize a budget to start training courses to upskill current employees

# APPENDIX

# JOB POSTINGS



# POPULAR LANGUAGES