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RUNNING TRENDS

IN SOFTWARE DEVELOPMENT

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01

OUTLINE

02. Executive Summary

03. Introduction

04. Methodology

05. Results: Visualizations | Dashboard

14. Discussion: Findings | Implications

16. Conclusion

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02

EXECUTIVE SUMMARY

01

WEB DOMINANCE

Languages and Technologies related to Web-development are most in demand and this trend is expected to continue into the next year.

02

THE ADVANTAGE OF SIMPLICITY

Languages with simple syntax and technologies with a low entry threshold are favored by respondents and continue to be tendency.

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INTRODUCTION

01

STACK OVERFLOW

Using the results of a survey of developers on the **Stack Overflow** platform, referring to their preferred programming languages and technologies

02

PROBLEM

Exponential growth of languages and software development technologies. How is the trend manifesting itself?

03

THE QUESTION IS

What are technology demands of the world and what are the demands of the developer?

04

WHAT TO LOOK FOR

Focus and analysis of what developers are currently using, plan to use, and who they are

03

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04

METHODOLOGY

DATA COLLECTION AND WRANGLING

- Modified GitHub Jobs API
- Programming language salaries by Web Scraping
- Modified Stack Overflow Survey Results

DATA ANALYSIS AND VISUALIZATION

- Exploring data using created visualizations
- Analyzing data to create the most appropriate visualizations
- Creating dashboard with visualizations of relevant data

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“IN THE WORLD OF TECHNOLOGY, THE WINNER ISN’T THE ONE WHO KNOWS EVERYTHING, BUT THE ONE WHO SEES WHAT WILL BE NEEDED TOMORROW.”

— Author’s own

RESULTS

05

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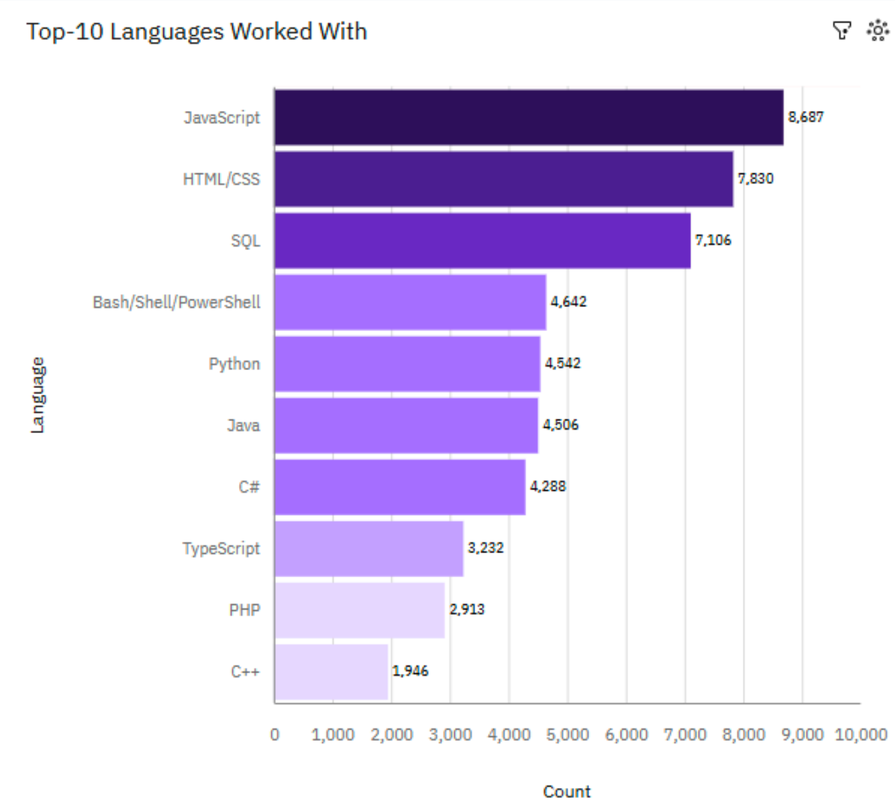
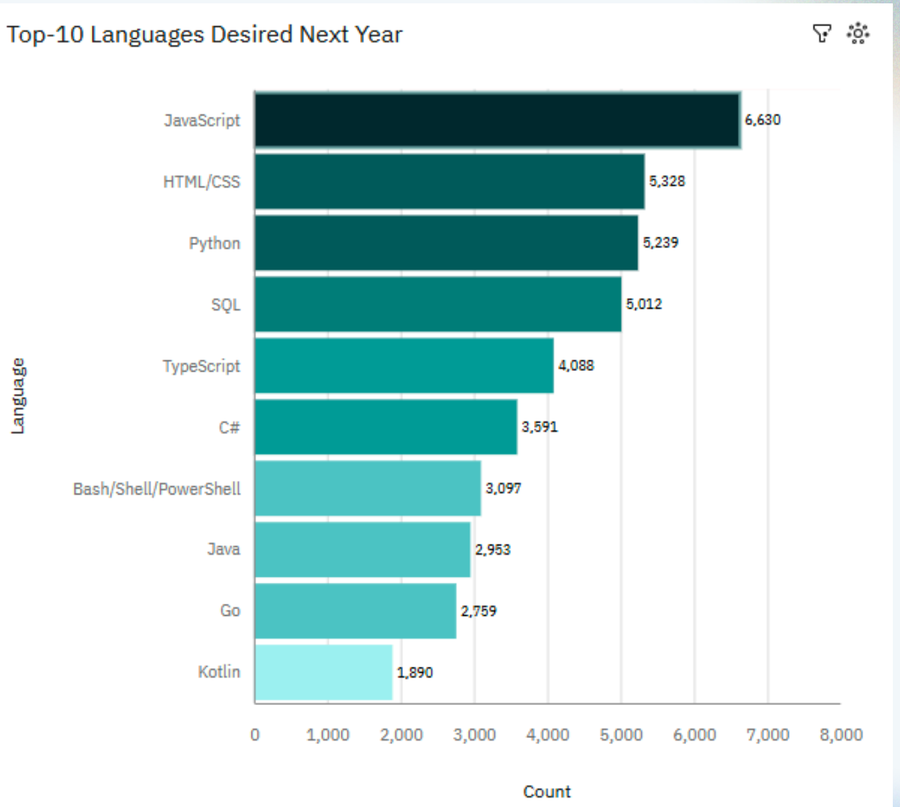
PROGRAMMING LANGUAGES TRENDS

06





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PROGRAMMING LANGUAGES TRENDS – **FINDINGS AND IMPLICATIONS**

FINDINGS

- JavaScript is the most used and most desired language and will maintain this trend in the future
- Python demand is increasing fast
- Respondents are losing interest in Bash/Shell/PowerShell scripting and Java programming

IMPLICATIONS

- Given the central role of web development in the tech industry, it's no surprise that web-related languages hold the top spots in popularity rankings.
- JavaScript continues to evolve and become more user-friendly, though the lack of strong typing remains a common criticism. This could be a driving factor behind the growing adoption of TypeScript.
- PHP, Java, and C are often perceived as outdated and more demanding to work with, which may explain their gradual decline in use.
- Go and Kotlin offer strong typing, straightforward syntax, and other features that make them easier to work with compared to languages like C.

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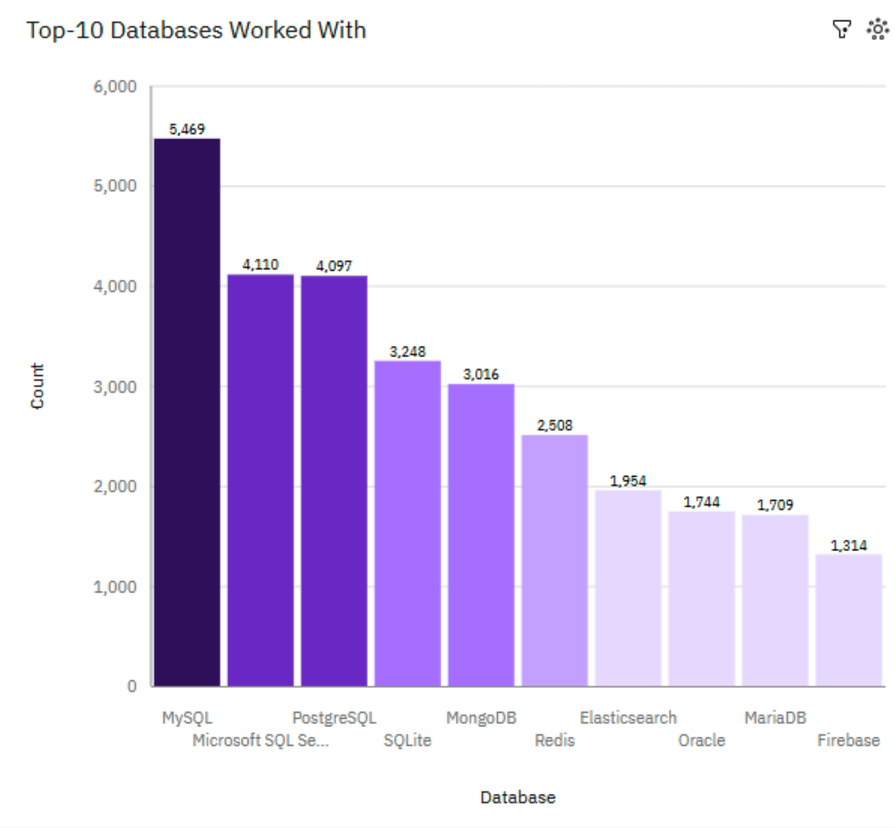
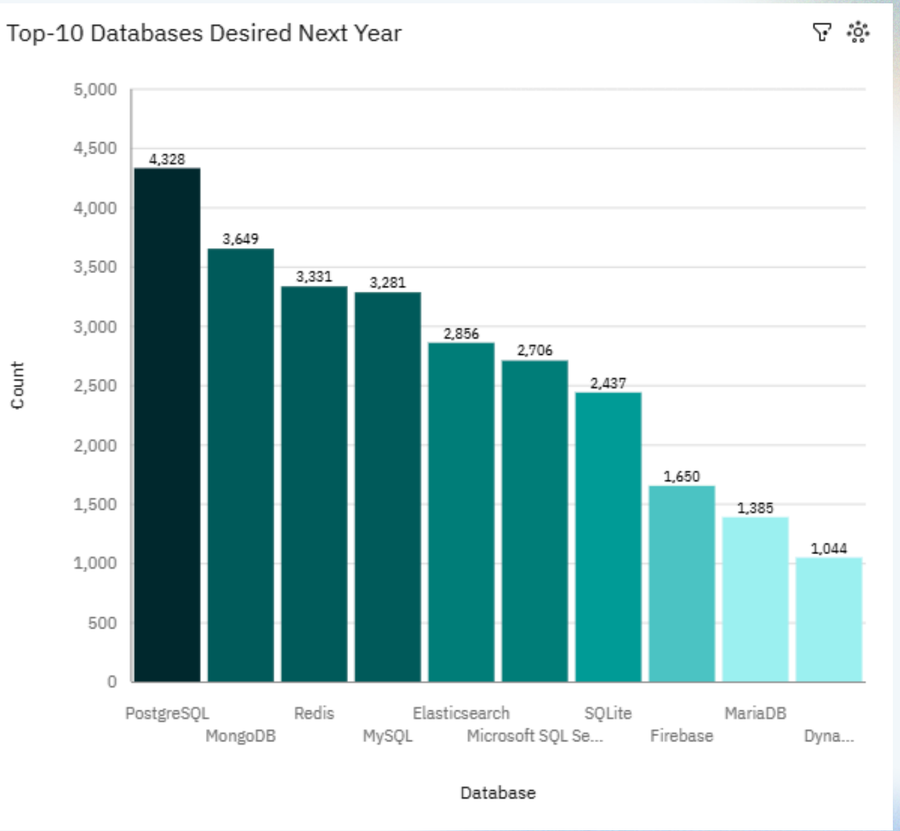
DATABASE TRENDS

08





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DATABASE TRENDS – **FINDINGS AND IMPLICATIONS**

FINDINGS

- Interest in NoSQL databases, like MongoDB and DynamoDB, continues to rise.
- Relational databases remain widely used and maintain strong popularity.
- Services such as Elasticsearch and Firebase are seeing growing adoption.
- Demand for data stores like Redis is on the rise.
- Oracle no longer ranks among the top ten most sought-after database technologies.
- Developer interest in Microsoft SQL Server appears to be declining.

IMPLICATIONS

- PostgreSQL offers a rich feature set and simplifies working with SQL, reflecting a broader trend in programming where simplicity and ease of use are highly valued.
- For handling complex data, the flexibility offered by NoSQL solutions is especially appealing.
- Platform-as-a-Service (PaaS) tools are gaining traction as they help streamline the developer's workflow.
- As data becomes more abundant and valuable, the need for effective storage grows—driving increased demand for data store solutions.

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DASHBOARD LINK

mokis3k/
DataAnalystCapstonePr...

IBM Data Analyst Course Final Project on Coursera

1 Contributor | 0 Issues | 0 Stars | 0 Forks

DataAnalystCapstoneProject/DashboardTabs.pdf at main · mokis3k/DataAnalystCapstoneProject

IBM Data Analyst Course Final Project on Coursera. Contribute to mokis3k/DataAnalystCapstoneProject development by creating an account on GitHub.

GitHub

10

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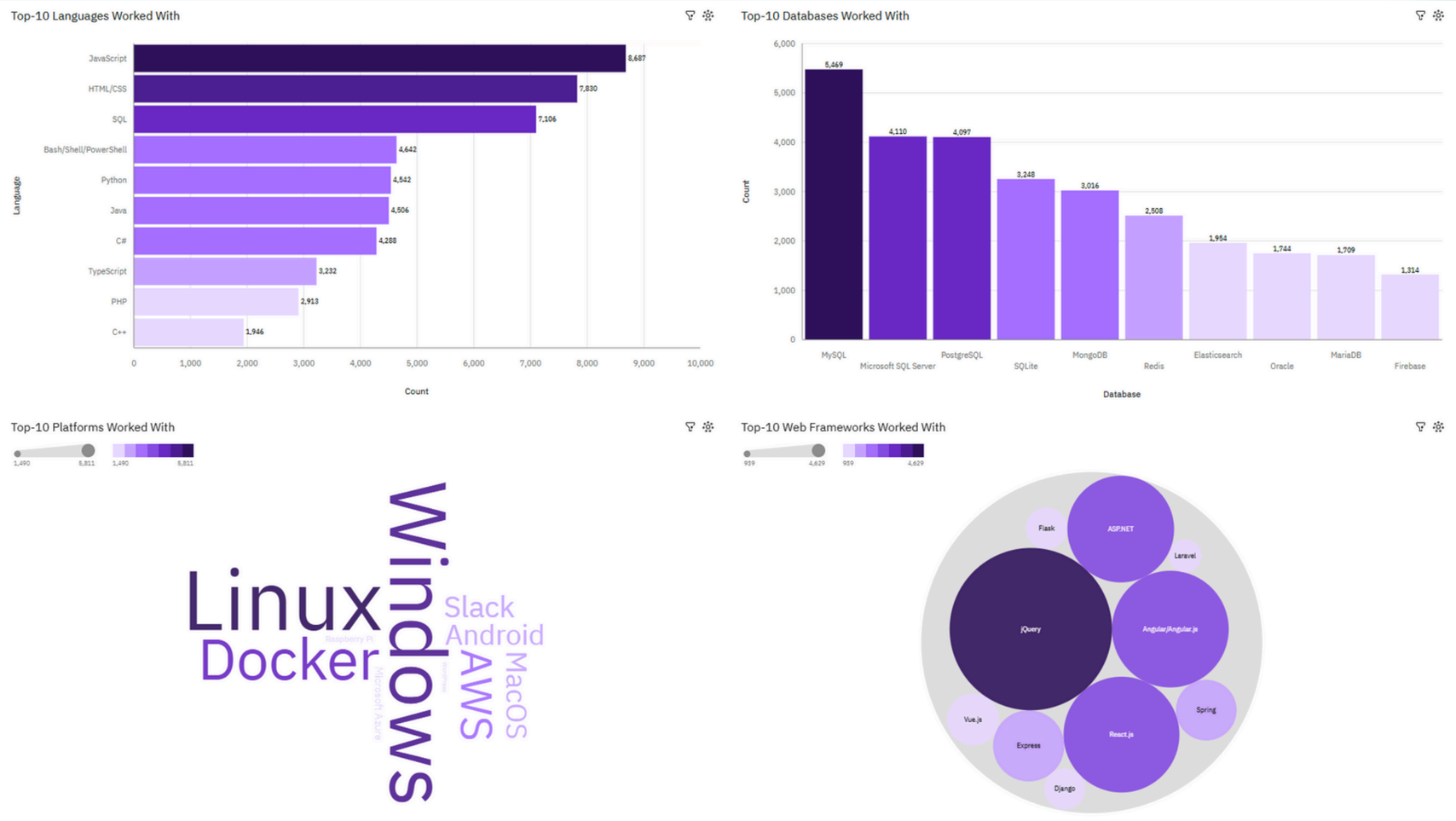
DASHBOARD TAB 1



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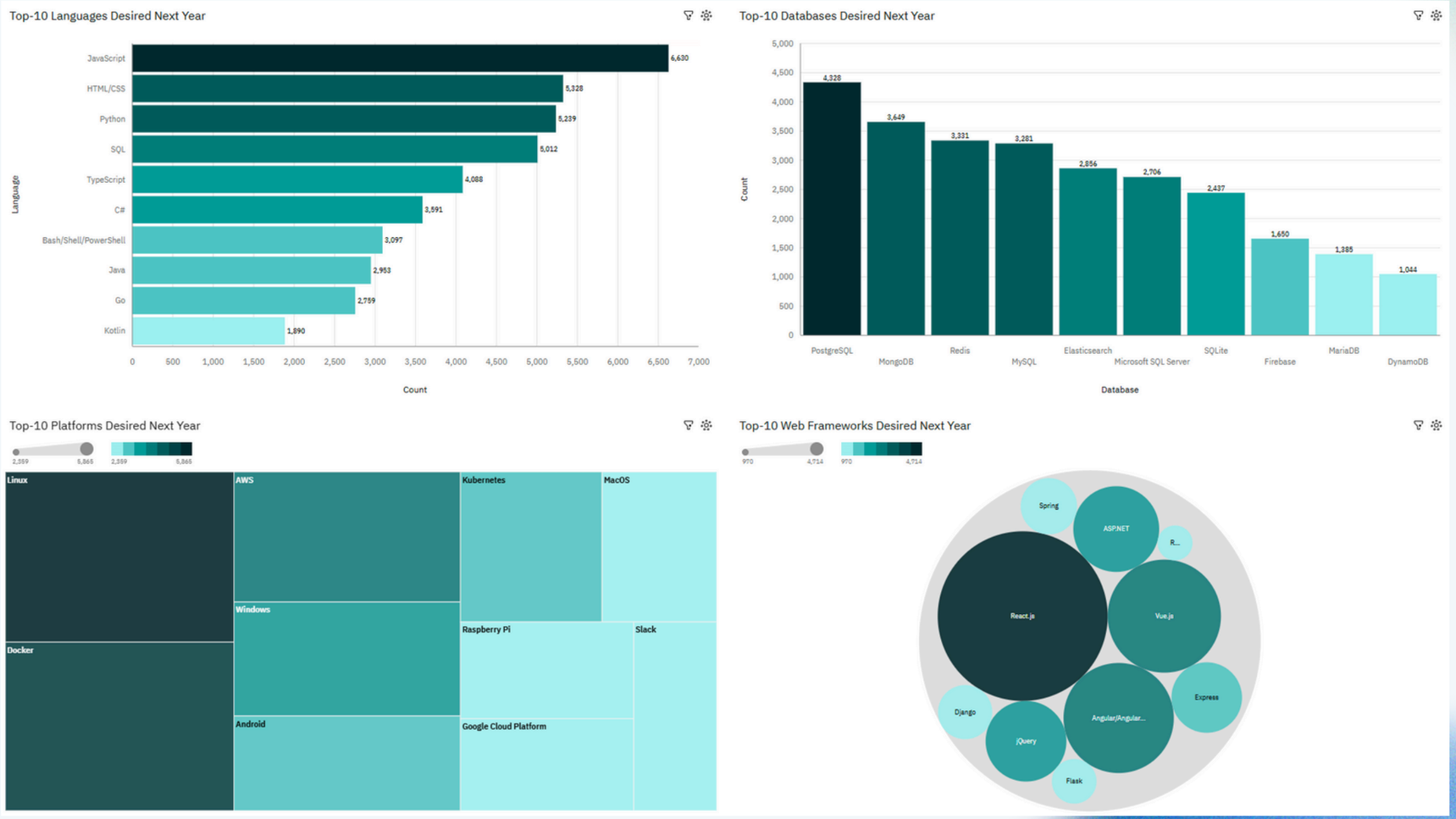
DASHBOARD TAB 2



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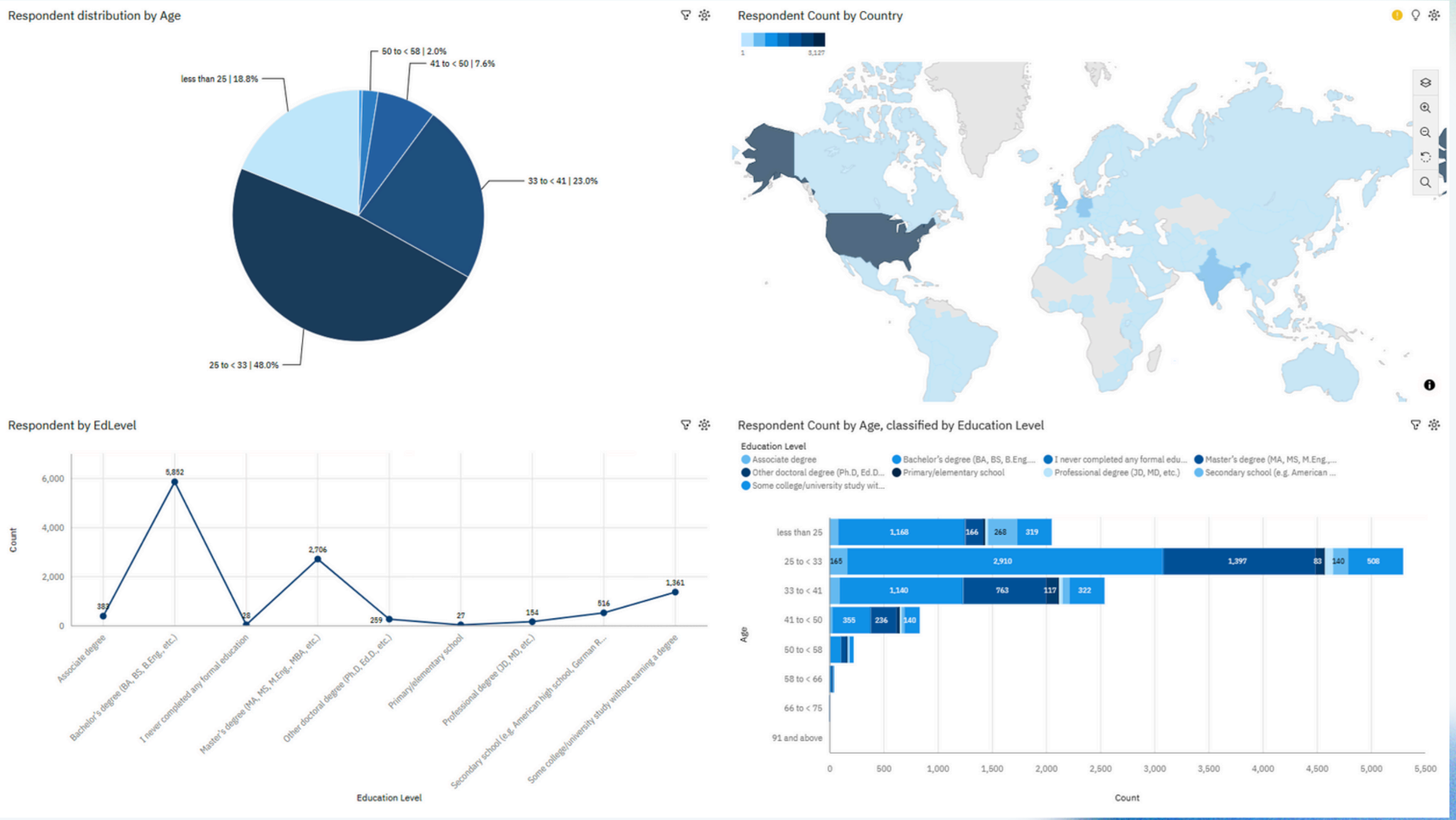
DASHBOARD TAB 3



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14

DISCUSSION

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OVERALL FINDINGS AND IMPLICATIONS

FINDINGS

- Most respondents were aged between 25 and 33.
- A large share of participants are based in the United States.
- The top priority when choosing a job is the set of languages, frameworks and technologies respondent is used to working with.
- C programming language continue to rank among the leaders in terms of job postings.
- The growing interest in Python is undoubtedly linked to some of the highest salaries on the market and its universal applicability, which could potentially make the language attractive to employers. However, data indicates that demand for Python developers lags significantly behind.
- Most of the respondents are people with a bachelor's degree, regardless of age group.

IMPLICATIONS

- PostgreSQL provides extensive functionality and makes SQL work more straightforward, mirroring the wider programming trend that prioritizes simplicity and usability.
- When working with complex datasets, the adaptability of NoSQL databases proves highly attractive.
- Platform-as-a-Service (PaaS) solutions are rising in popularity as they simplify and optimize developers' tasks.
- With data becoming increasingly widespread and valuable, efficient storage has grown in importance—fueling higher demand for data store technologies.

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CONCLUSION

When selecting languages and technologies, developers tend to focus on three key criteria:

01 Simplicity of usage

02 Less overhead and are more declarative rather than imperative tools

03 Tools that are less error-prone which can be accomplished by Typing

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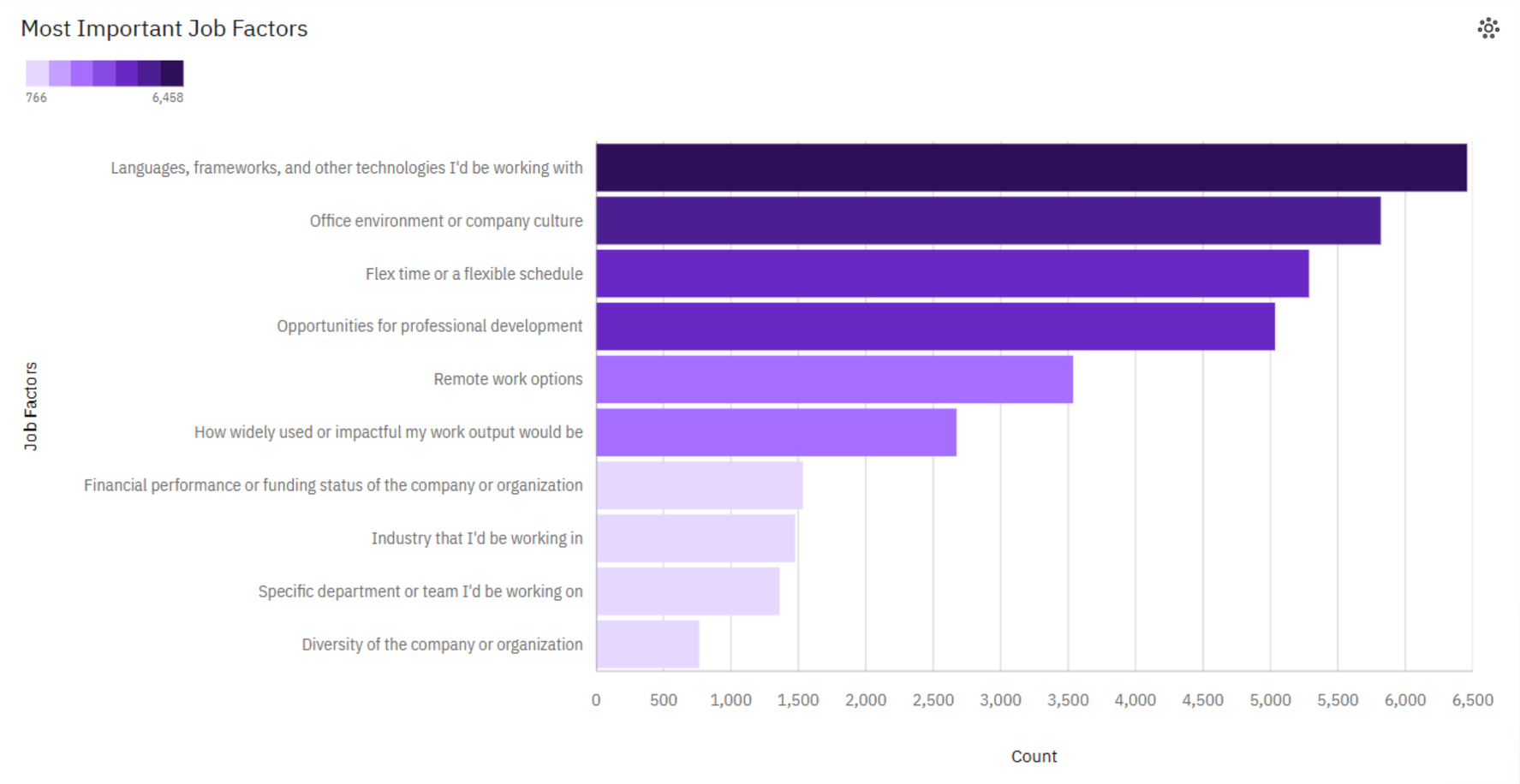
APPENDIX



- The most important job factor is the language, frameworks, and other technologies respondents get used to work with

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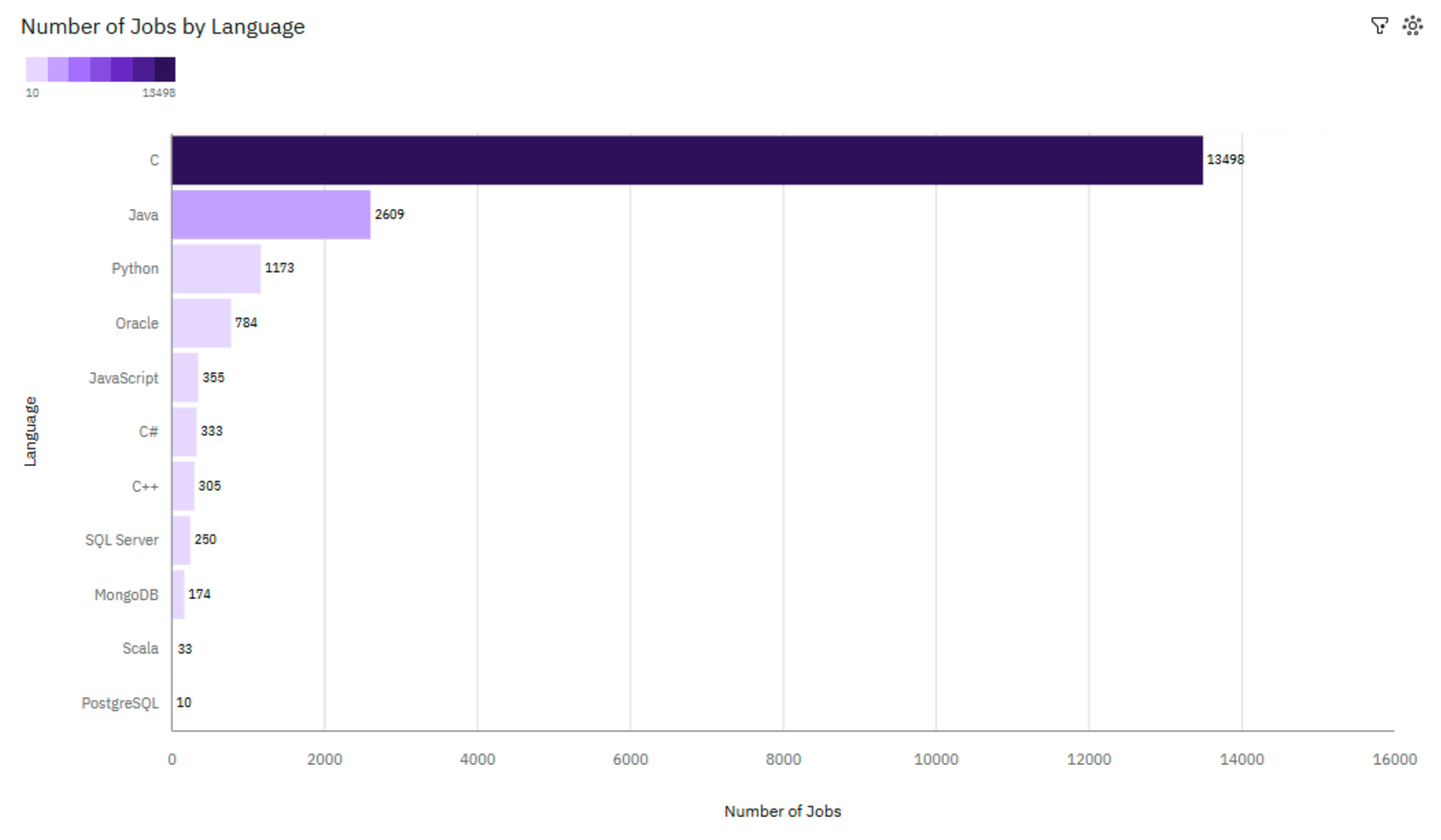
JOB POSTINGS



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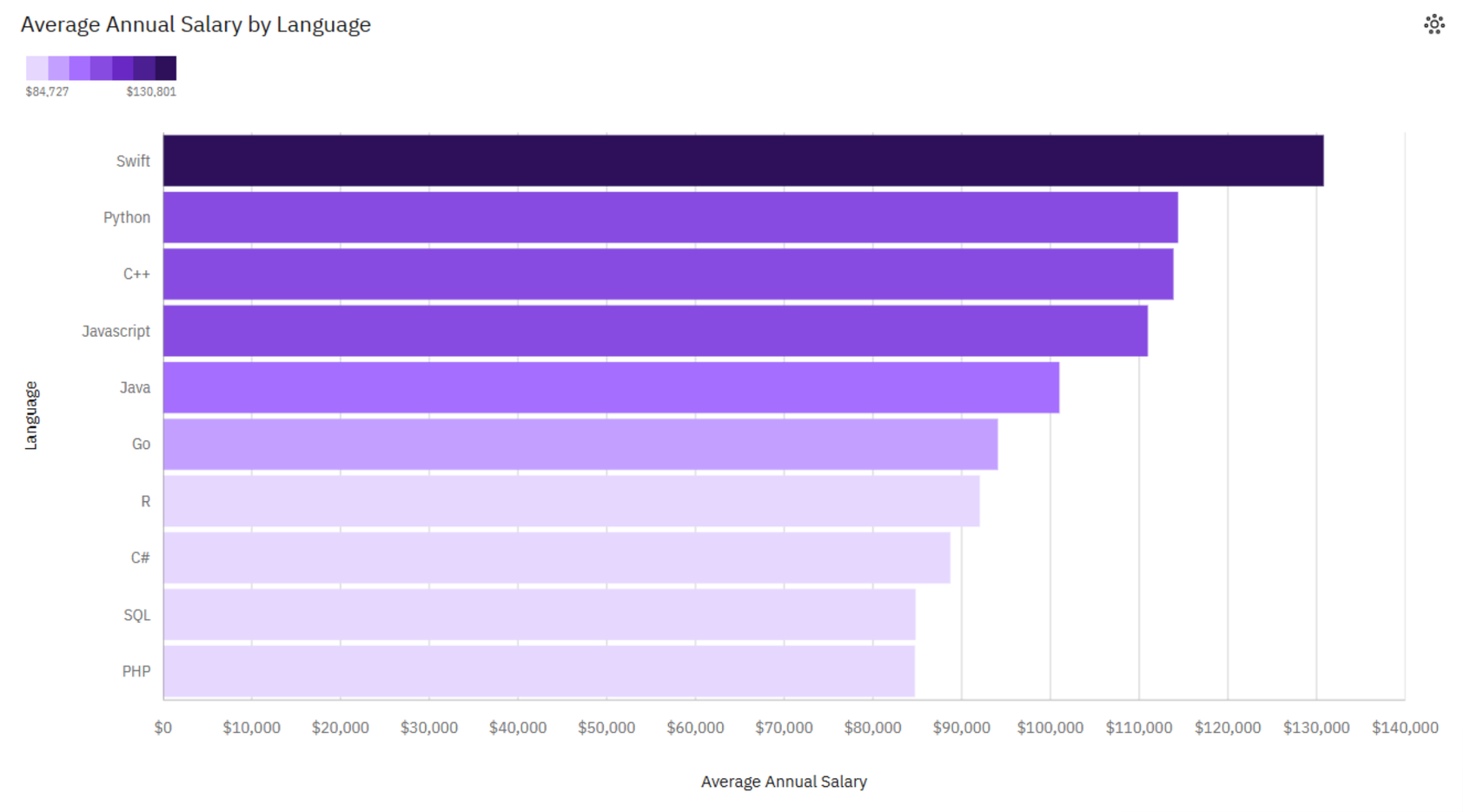
POPULAR LANGUAGES



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