

# **TECHNOLOGY TRENDS ANALYSIS**

Siddhartha raghuwanshi  
September,2025

# OUTLINE

- Executive Summary
- Introduction
- Methodology
- Results
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  - Dashboards
- Discussion
- Findings & Implications
- Conclusion
- Appendix

# EXECUTIVE SUMMARY

This survey analyzes developer trends across programming languages, databases, platforms, and frameworks. The insights highlight current technology usage and future preferences.

1

Evolving Trends in Programming Languages.

2

Emerging Trends in Database Systems.

3

Demographic Analysis.

4

Global Technology Gap.

5

Workplace Age Gap.

# INTRODUCTION

The developer survey provides insights into global technology adoption patterns, career aspirations, and tool preferences across diverse demographics.

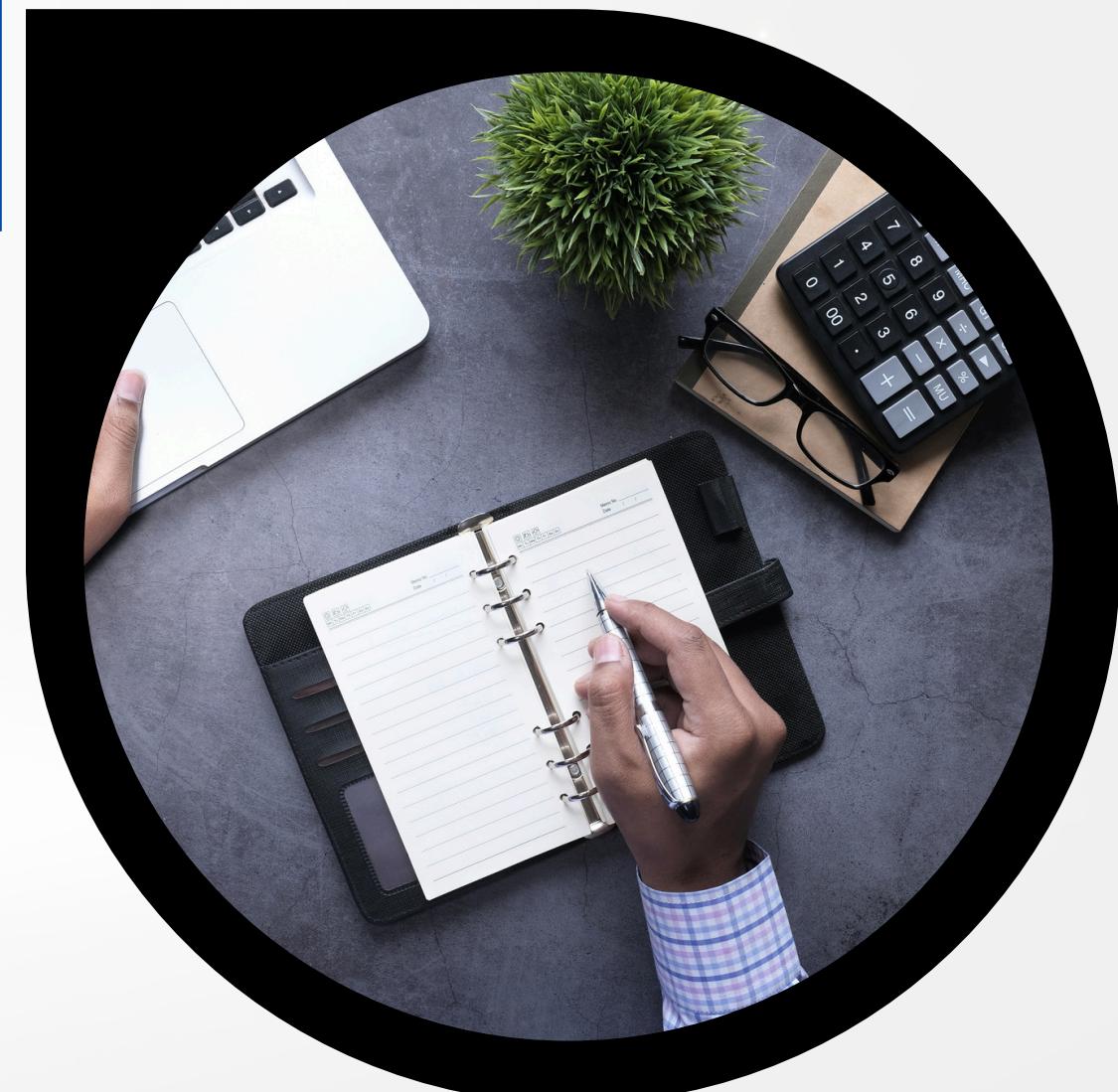
## PURPOSE

- Recognizing Future Skill Needs.
- What are the most in-demand skills for database professionals?
- Which programming languages have the highest demand?
- What platforms are most popular right now?
- What developers use today, what they seek tomorrow, and who they represent.

# METHODOLOGY

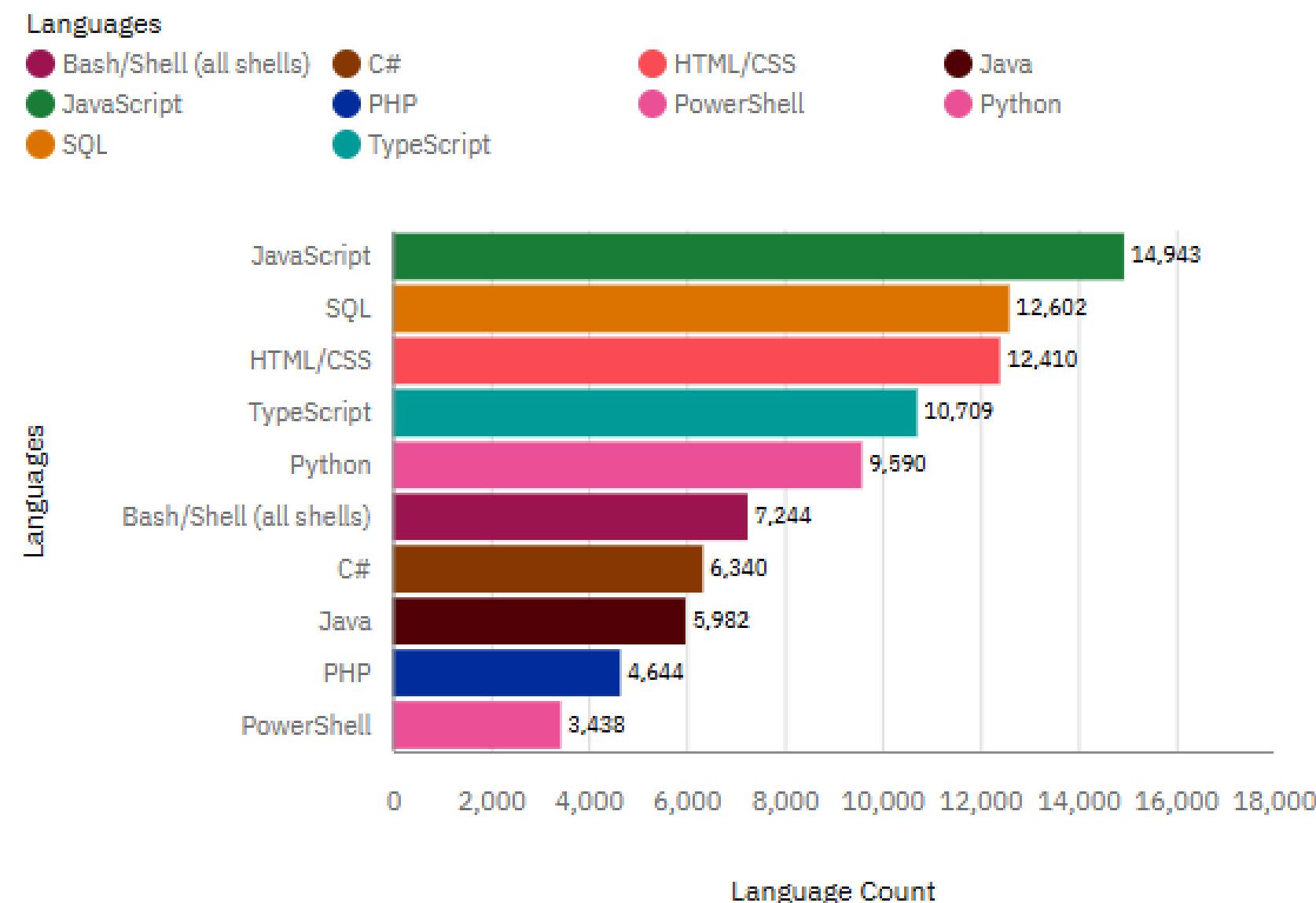
The study used a subset of data from the **Stack Overflow Developer Survey 2024**, collected through an online survey of developers worldwide. The process involved:

- **Data Gathering:** Extracting relevant responses from the survey dataset.
- **Data Exploration:** Reviewing patterns and distributions in developer responses.
- **Data Cleaning:** Handling missing values and standardizing multiple-value fields.
- **Data Visualization:** Creating plots to highlight trends in programming languages, databases, and frameworks.
- **Dashboarding:** Presenting findings through interactive visualizations for clearer insights.

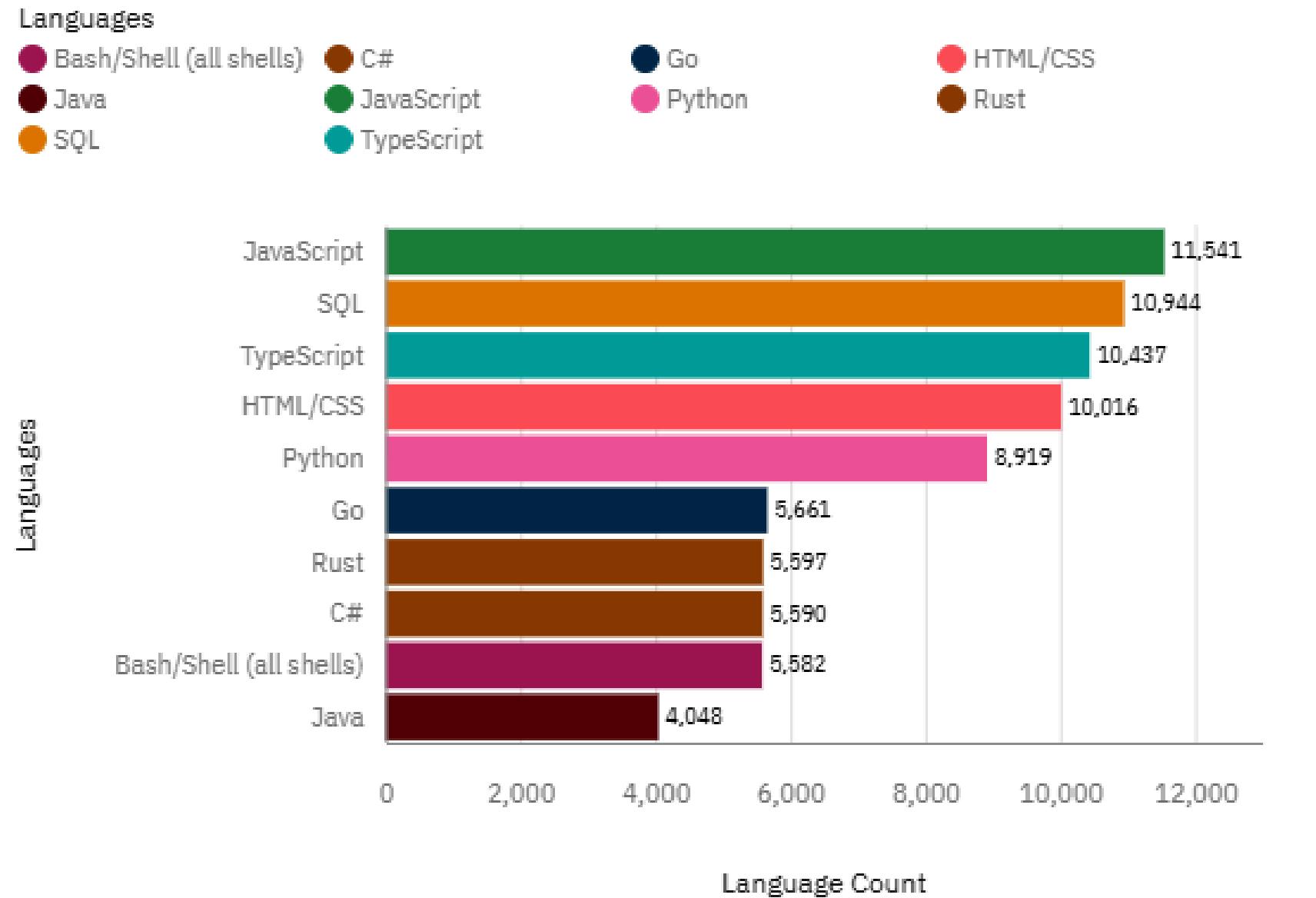


# PROGRAMMING LANGUAGE TRENDS

Top 10 Languages have worked with



Top 10 Languages want to work with



# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

## FINDINGS

JavaScript dominates both in current use and future preference, showing its continued relevance.

SQL and HTML/CSS are also highly used and remain strong in future interest, highlighting their foundational role.

Older languages like PHP, Java, and C# show declining enthusiasm: while still widely used, fewer developers list them as a future choice.

Python ranks higher demand in future.

## IMPLICATIONS

Rust and Go will likely gain traction in systems programming, cloud, and backend development signaling where future demand may rise.

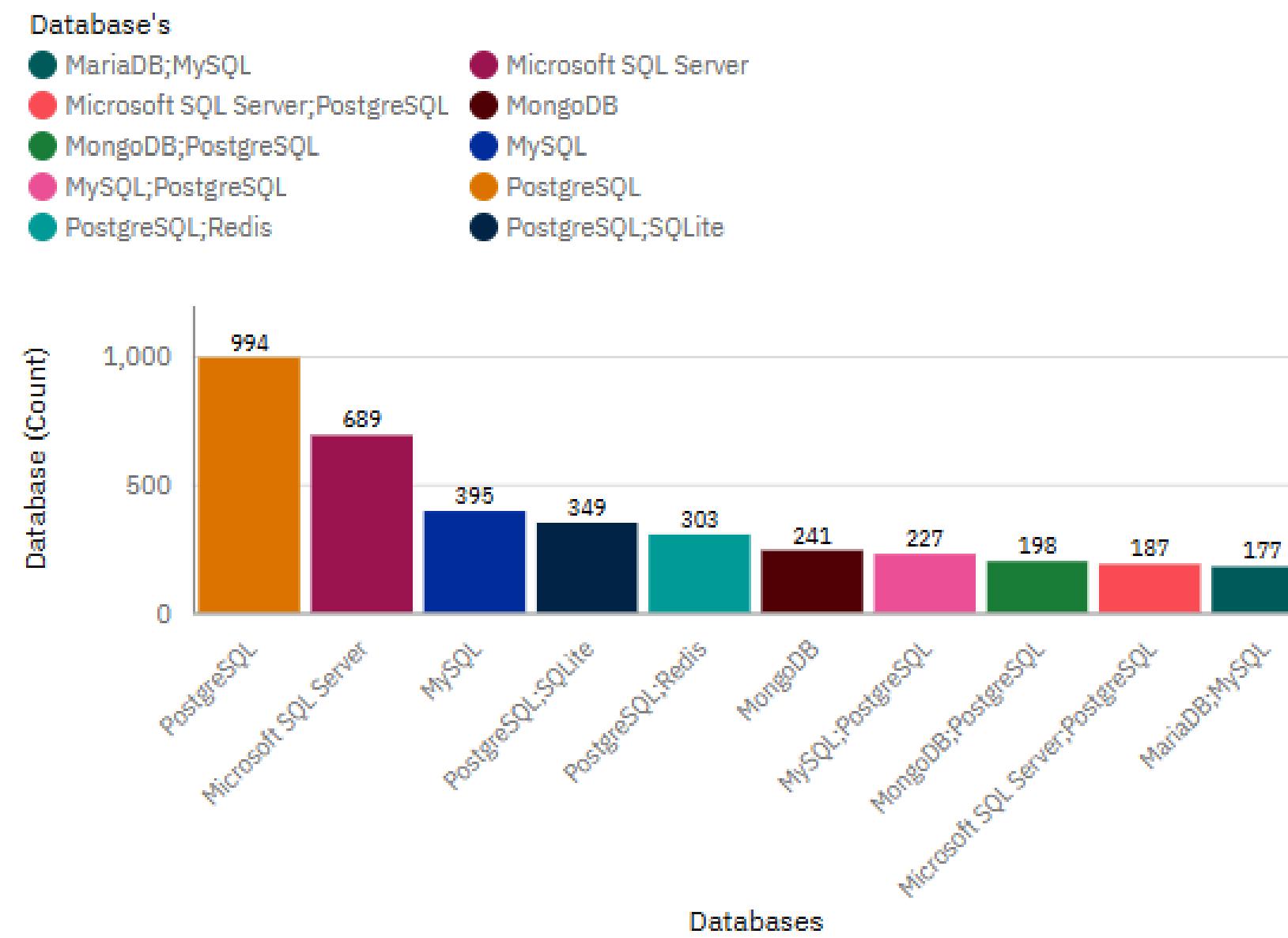
Mastery in JavaScript, SQL, TypeScript, and Python offers immediate and future opportunities.

SQL and HTML/CSS remain highly relevant, ensuring web and database development expertise stays essential.

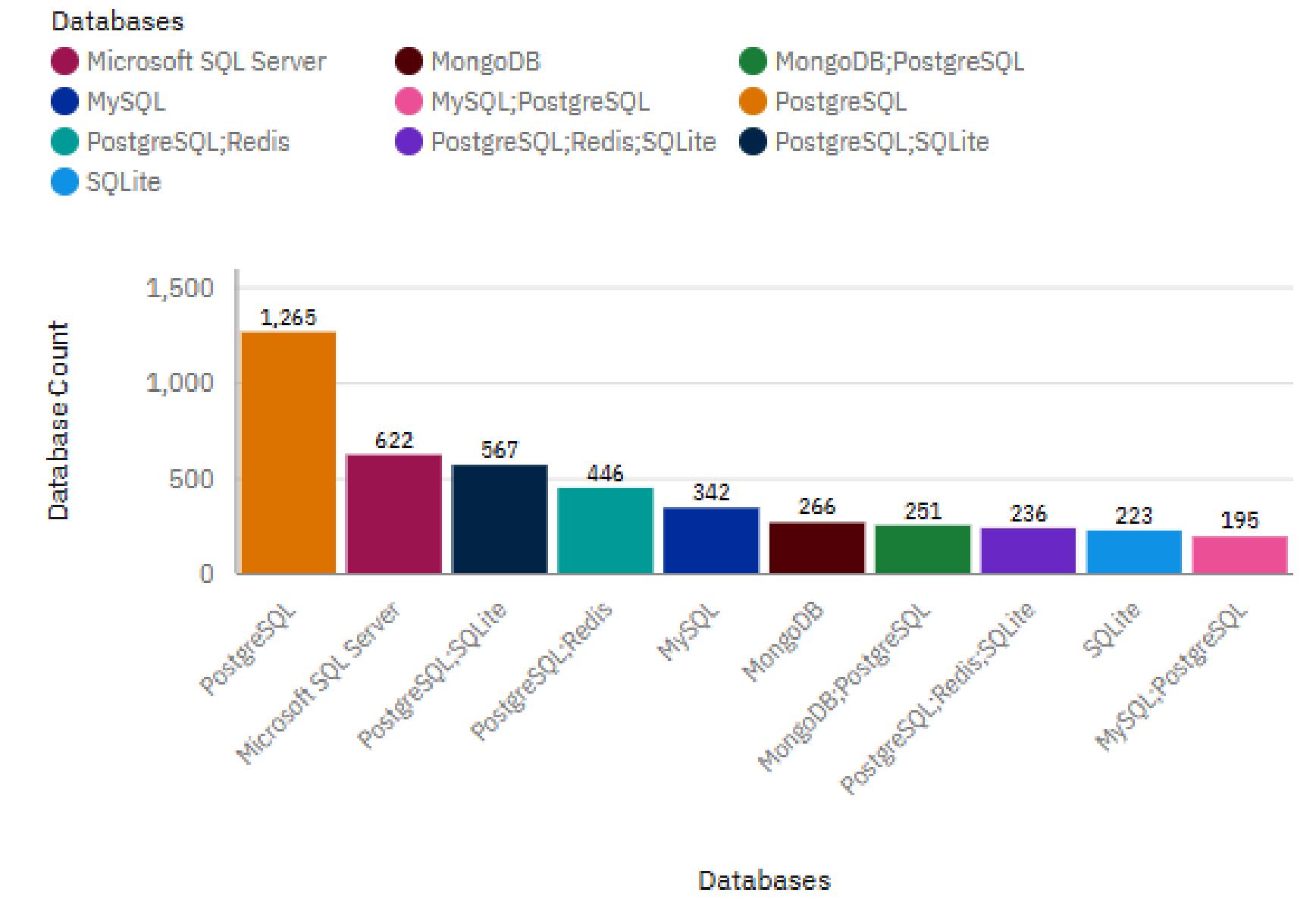
JavaScript dominates both in current use and future preference, showing its continued relevance.

# DATABASE TRENDS

Top 10 Databases Have Worked With



Top 10 Databases want to work with



# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

## FINDINGS

PostgreSQL leads both categories, being the most commonly worked with and the most desired for future work, indicating its strong popularity and perceived value.

Microsoft SQL Server ranks second in both actual usage and future interest, showing its entrenched role in developer skillsets and persistent demand.

MySQL usage is higher than future interest, while MongoDB shows stable interest, pointing to steady relevance but less aspirational growth.

Some databases, such as MariaDB and combinations like MySQL-PostgreSQL, rank lower in both usage and desire, suggesting niche application or lesser popularity.

## IMPLICATIONS

The dominance of PostgreSQL in both actual use and future interest suggests it is viewed as a versatile, modern, and reliable database management system, likely to see increased adoption and support in the developer ecosystem.

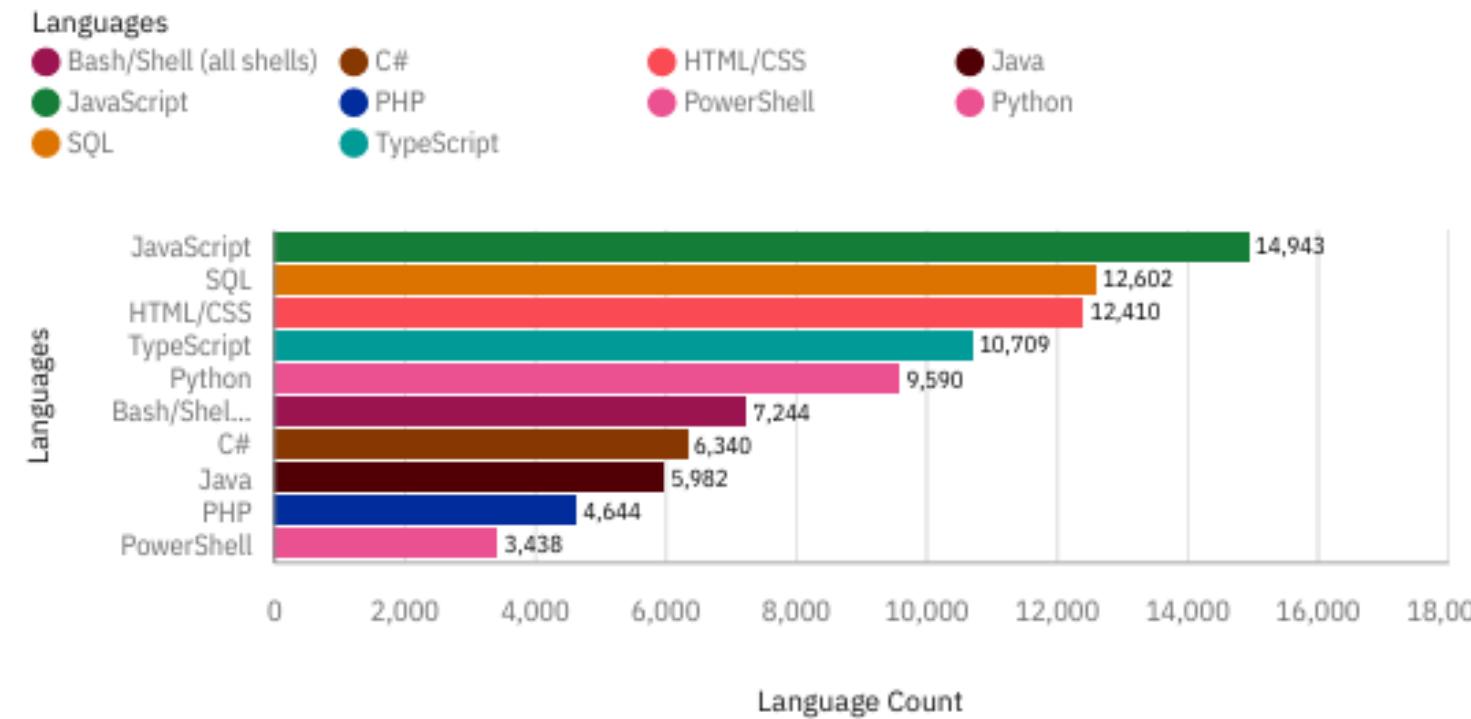
Greater interest in blends and secondary databases like PostgreSQL-SQLite and PostgreSQL-Redis points to expanding interest in specialized, flexible, or hybrid data storage approaches, perhaps driven by evolving project requirements or advancements in cloud and distributed systems.

Organizations and educators may want to focus training and project opportunities around PostgreSQL and innovative combinations, as these align best with both current developer expertise and future aspirations.

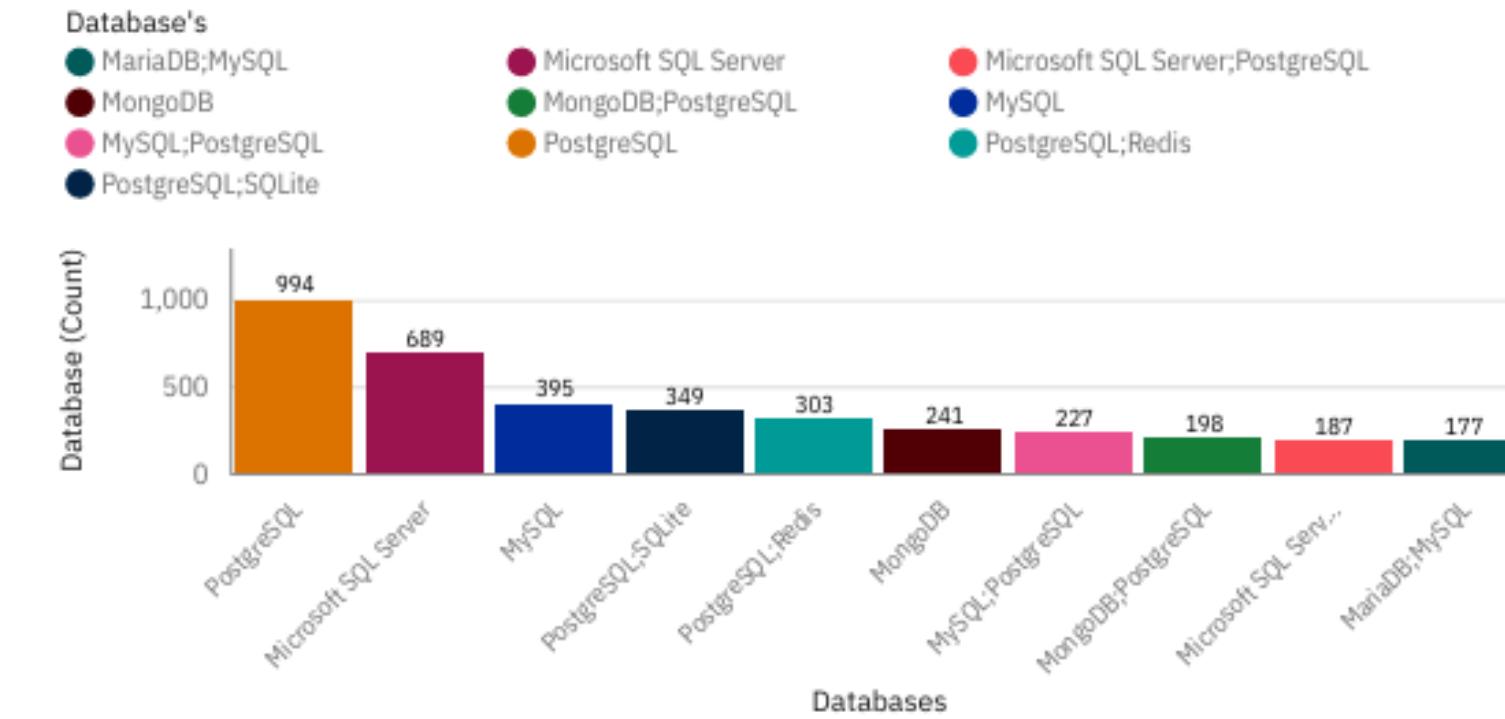
The consistent but less aspirational ranking of MySQL and Microsoft SQL Server implies these technologies remain foundational but may be seen as more traditional or mature, with growth plateauing compared to PostgreSQL.

# CURRENT TECHNOLOGY USAGE

Top 10 Languages have worked with



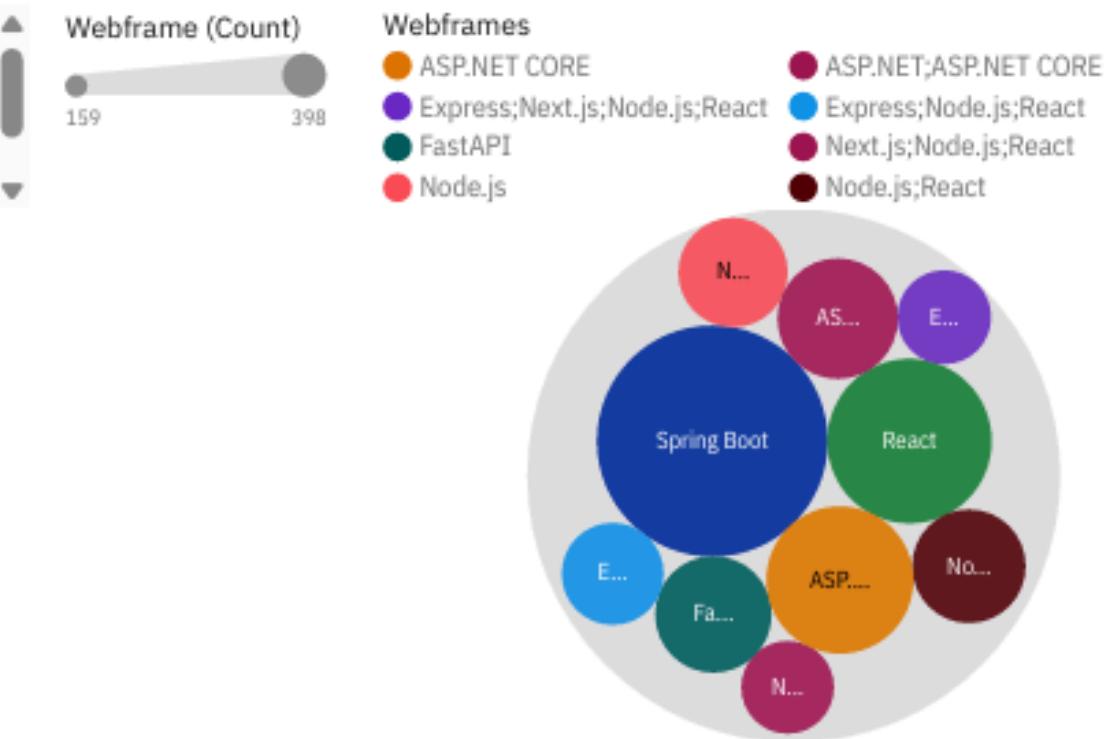
Top 10 Databases Have Worked With



Top 10 Platforms Have Worked With

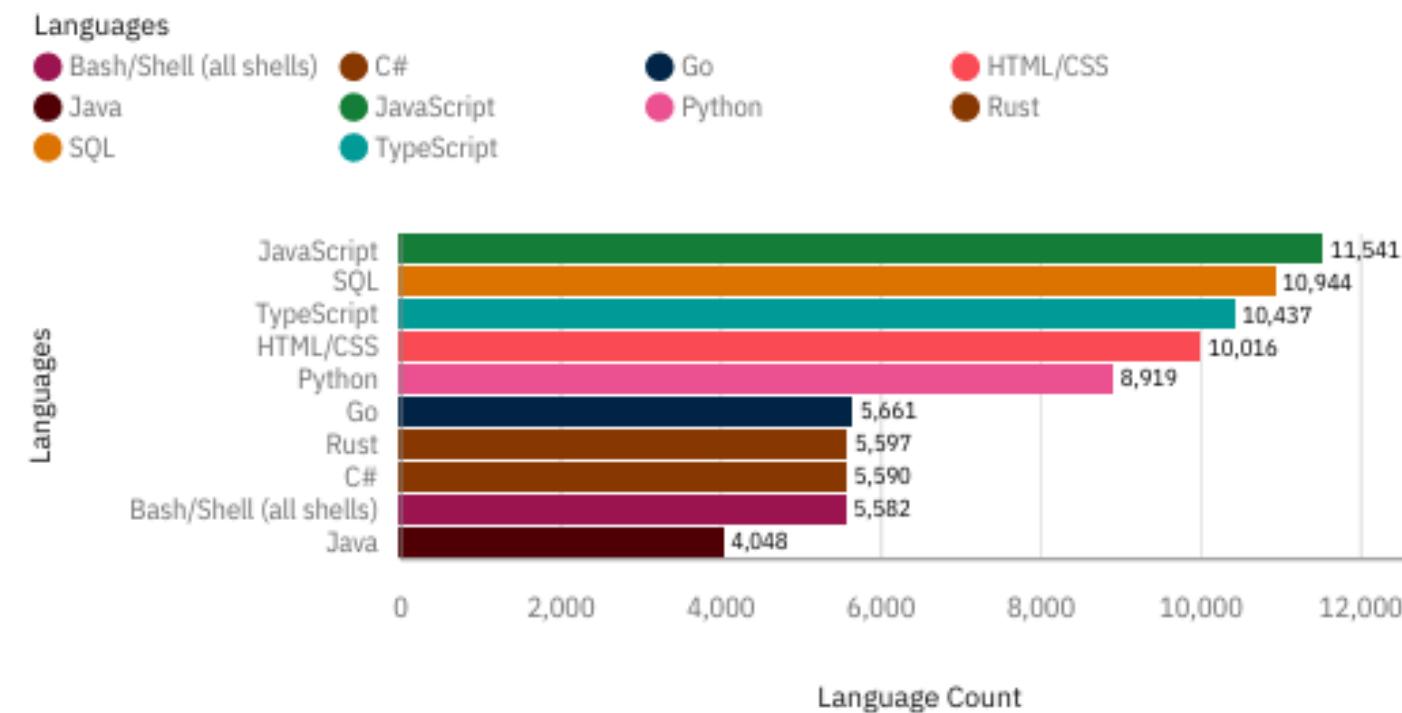


Top 10 Web frame Have Worked With

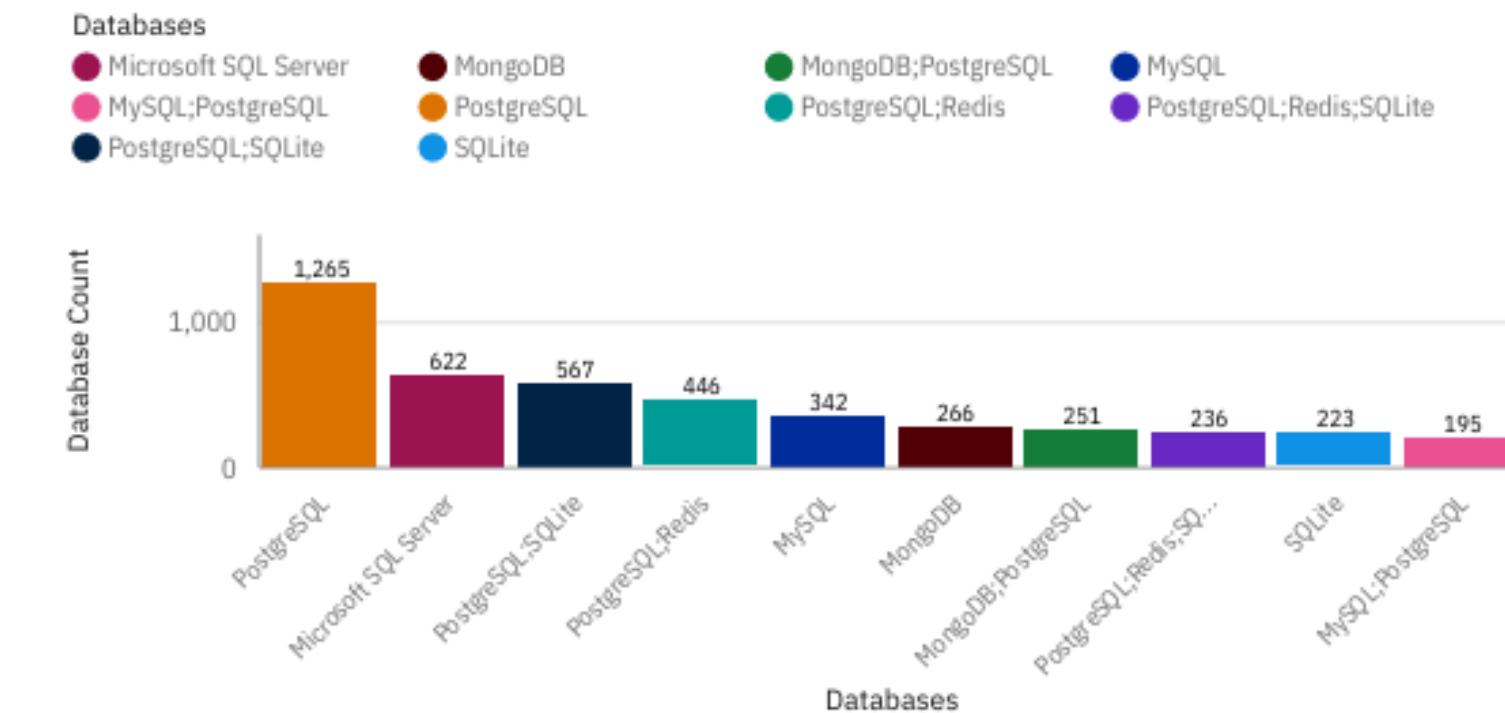


# FUTURE TECHNOLOGY TREND

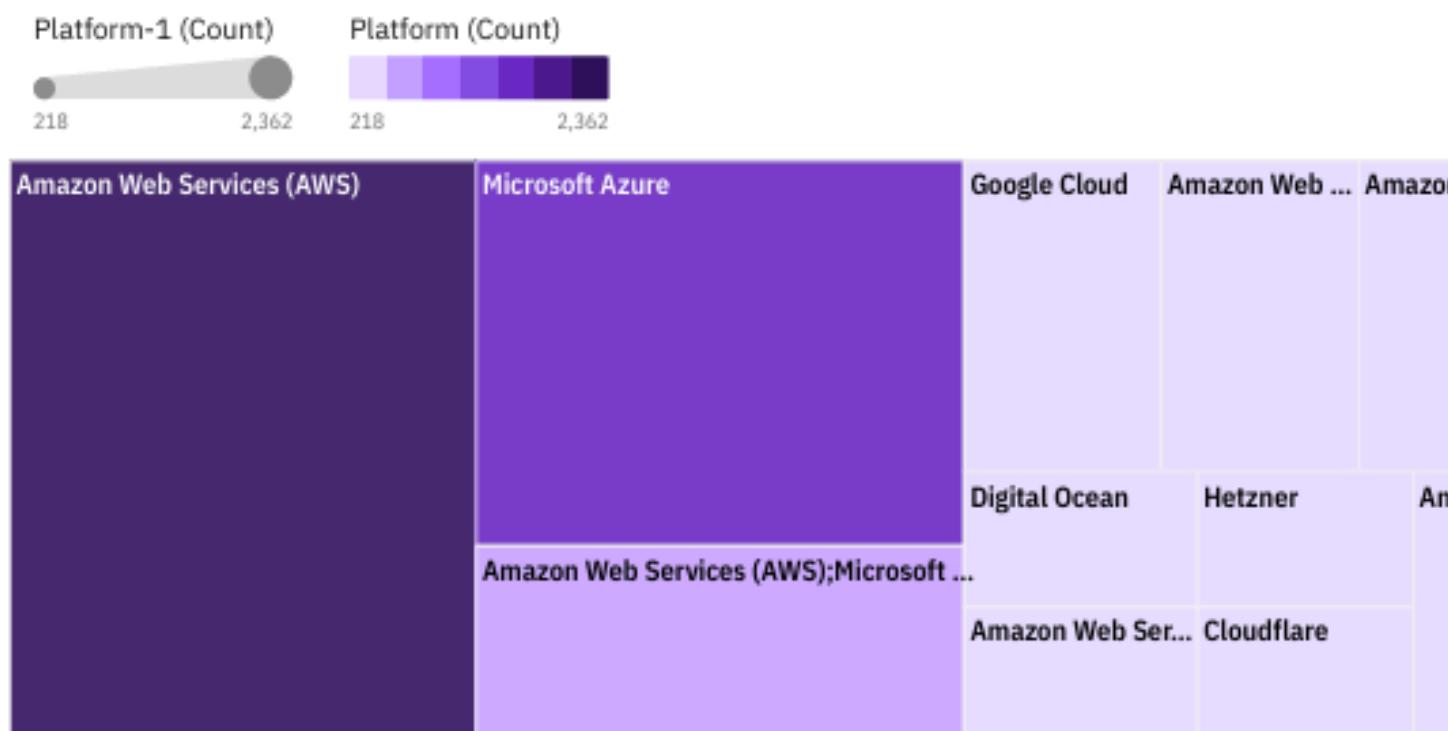
Top 10 Languages want to work with



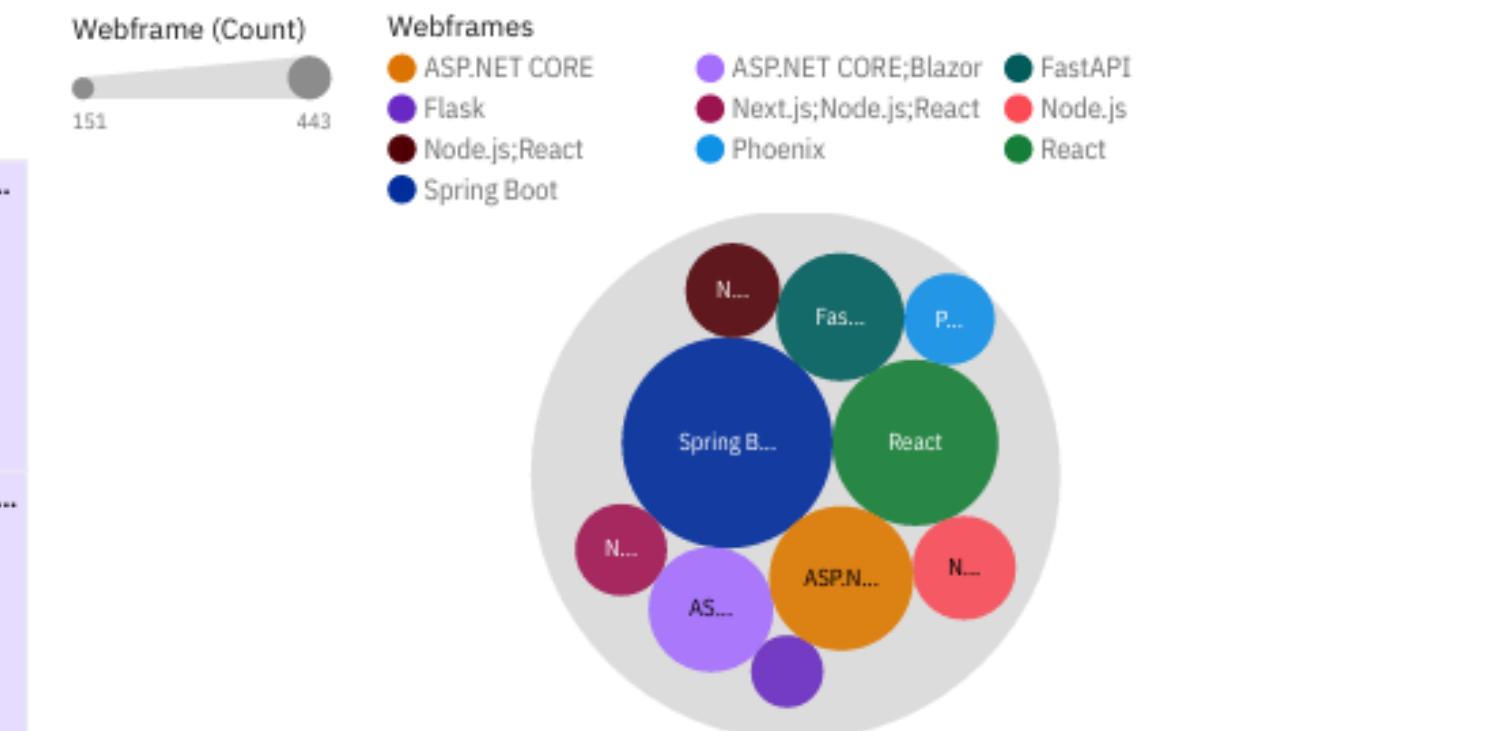
Top 10 Databases want to work with



Top 10 Platforms want to work with

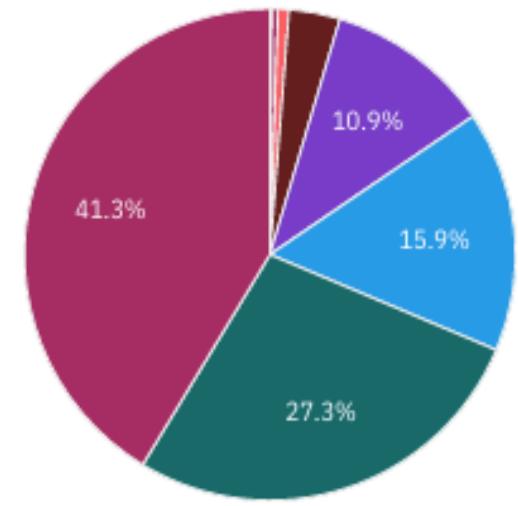


Top 10 Web frame want to work with

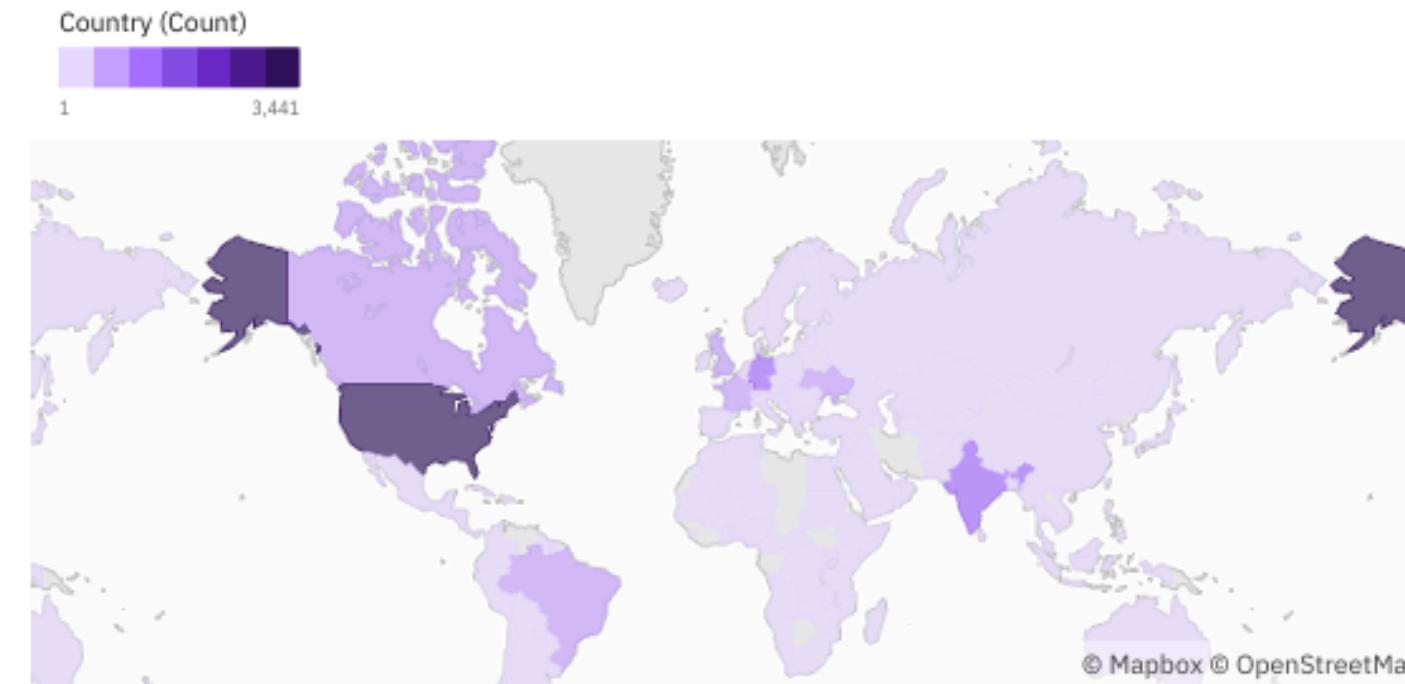


# DEMOGRAPHICS

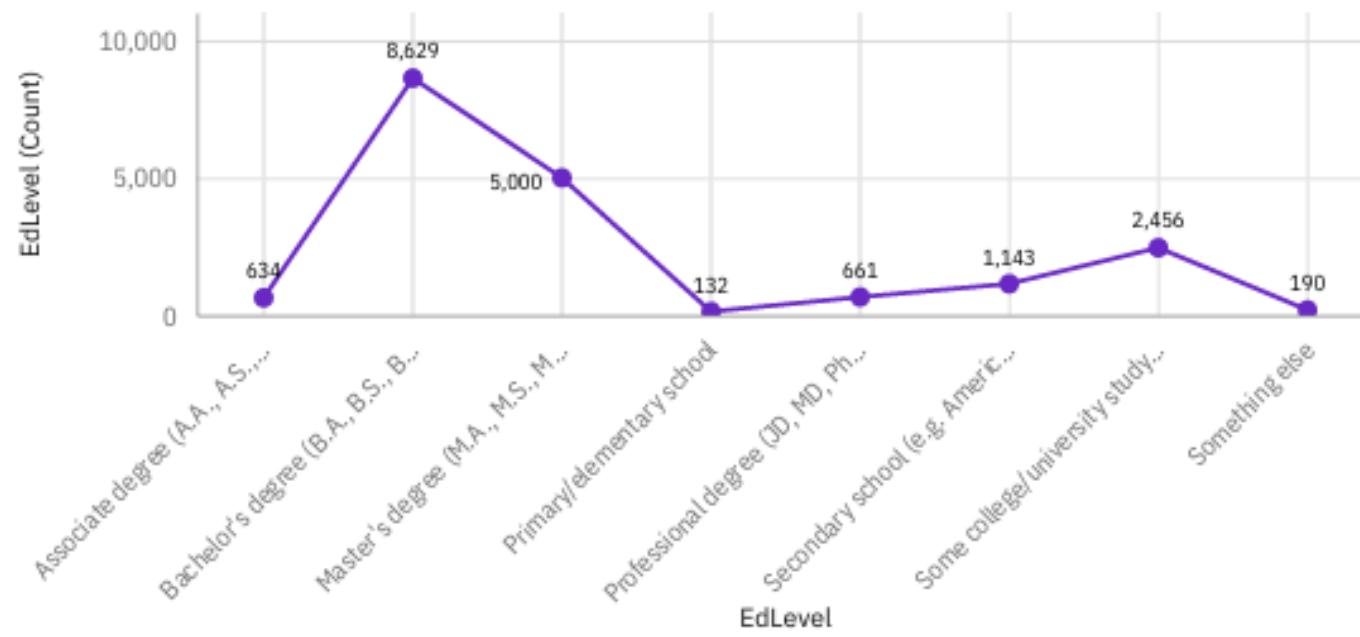
Respondent distribution by Age



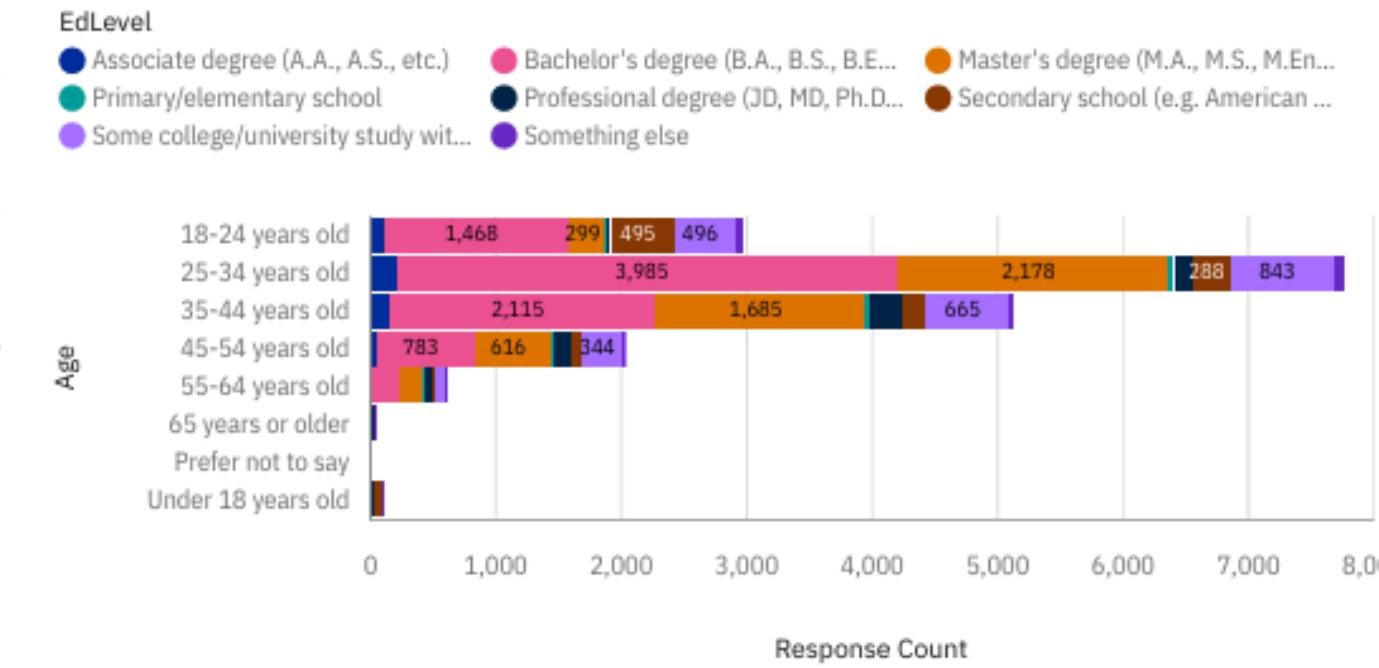
Respondent Count by Country



Respondent distribution by Formal Education Level



Respondent Count by Age, classified by Education Level



# DISCUSSION

- 1** Ongoing and Upcoming Technology Trends
- 2** Reducing the Technology Disparity Among Countries.
- 3** Involvement of Under-18s in Technology.
- 4** Ending Age and Education Bias in Employment.
- 5** Workforce Development and Reskilling.

# OVERALL FINDINGS & IMPLICATIONS

## Findings

- 1** Age Inequality in the Tech Workforce.
- 2** Quickly Shifting Technology Landscape.
- 3** Cloud platforms such as AWS and Azure are expanding.
- 4** Spring Boot is an emerging in demand Web frame for the future.

## Implications

- 1** Adoption of Faster Deployment Cycles and Cloud Services Ahead.
- 2** Companies must stay adaptable to keep up with rapid transformations.
- 3** Expanding technology reach to underdeveloped nations.
- 4** Influence on Hiring Practices.

# CONCLUSION

1

The majority of programmers originate from developing countries.

2

Developers aged 25–34 make up a large proportion of the workforce.

3

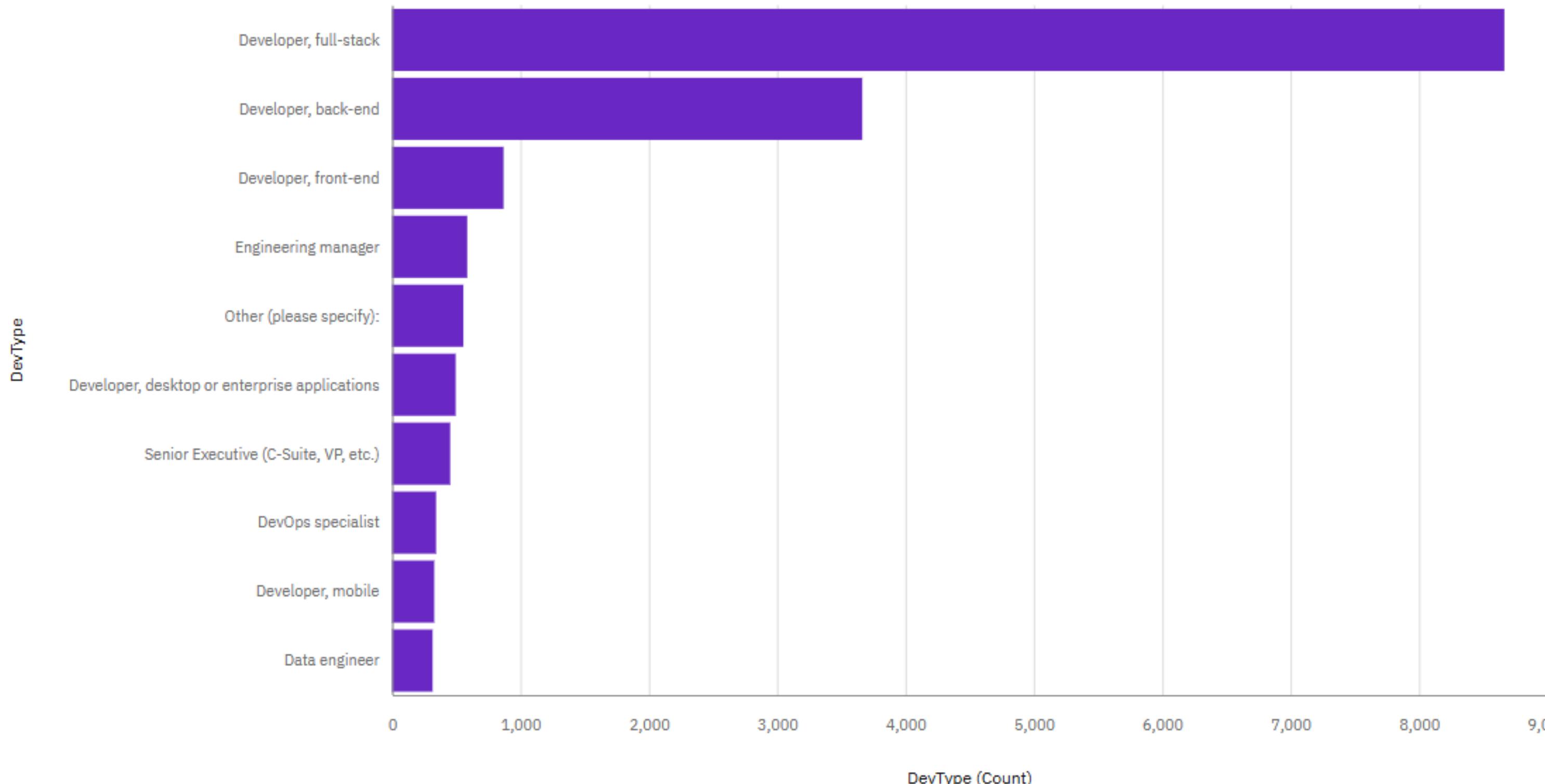
We have to keep monitoring Current Tech Landscape and upcoming Year's Trends.

4

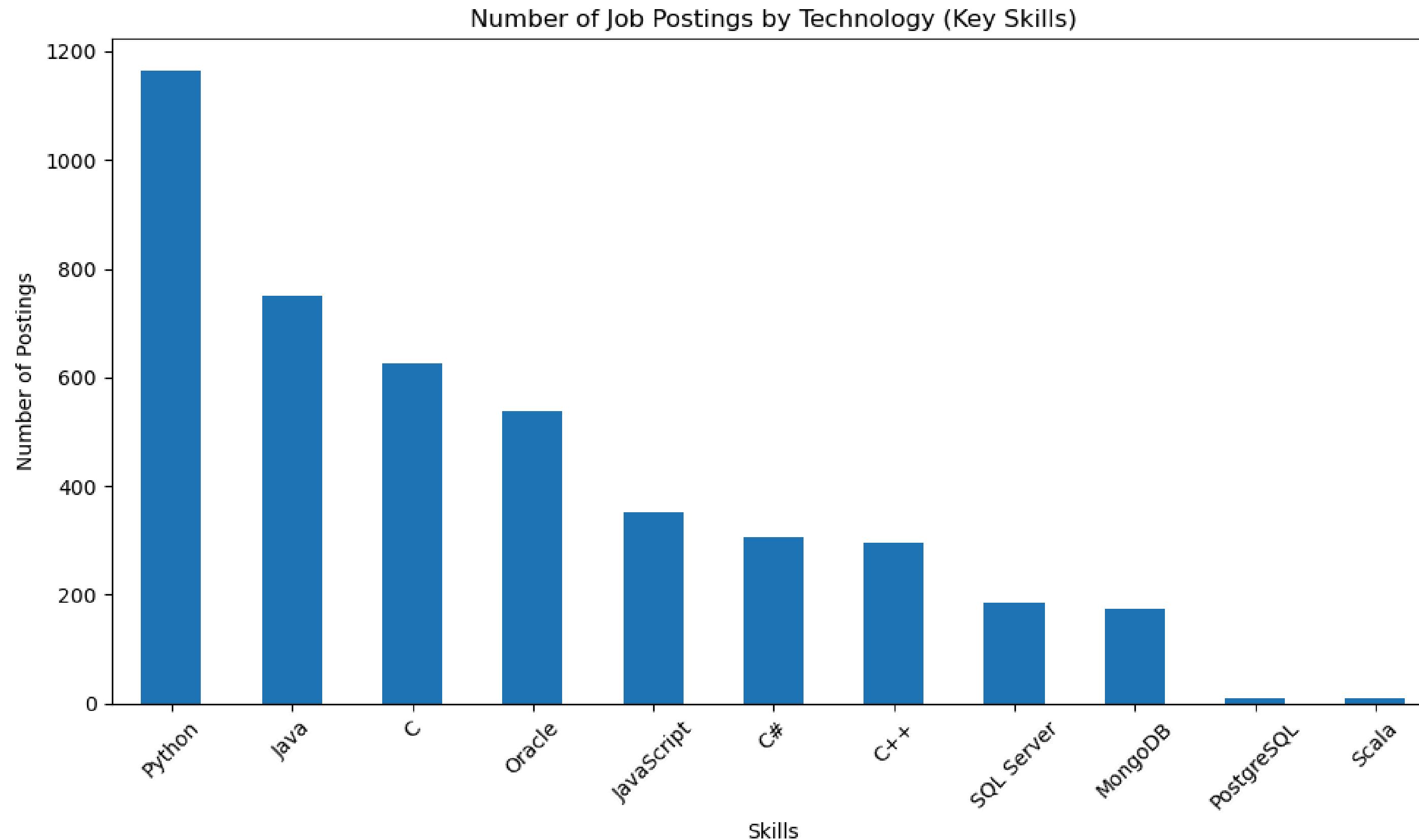
A large proportion of developers have a bachelor's degree.

# APPENDIX

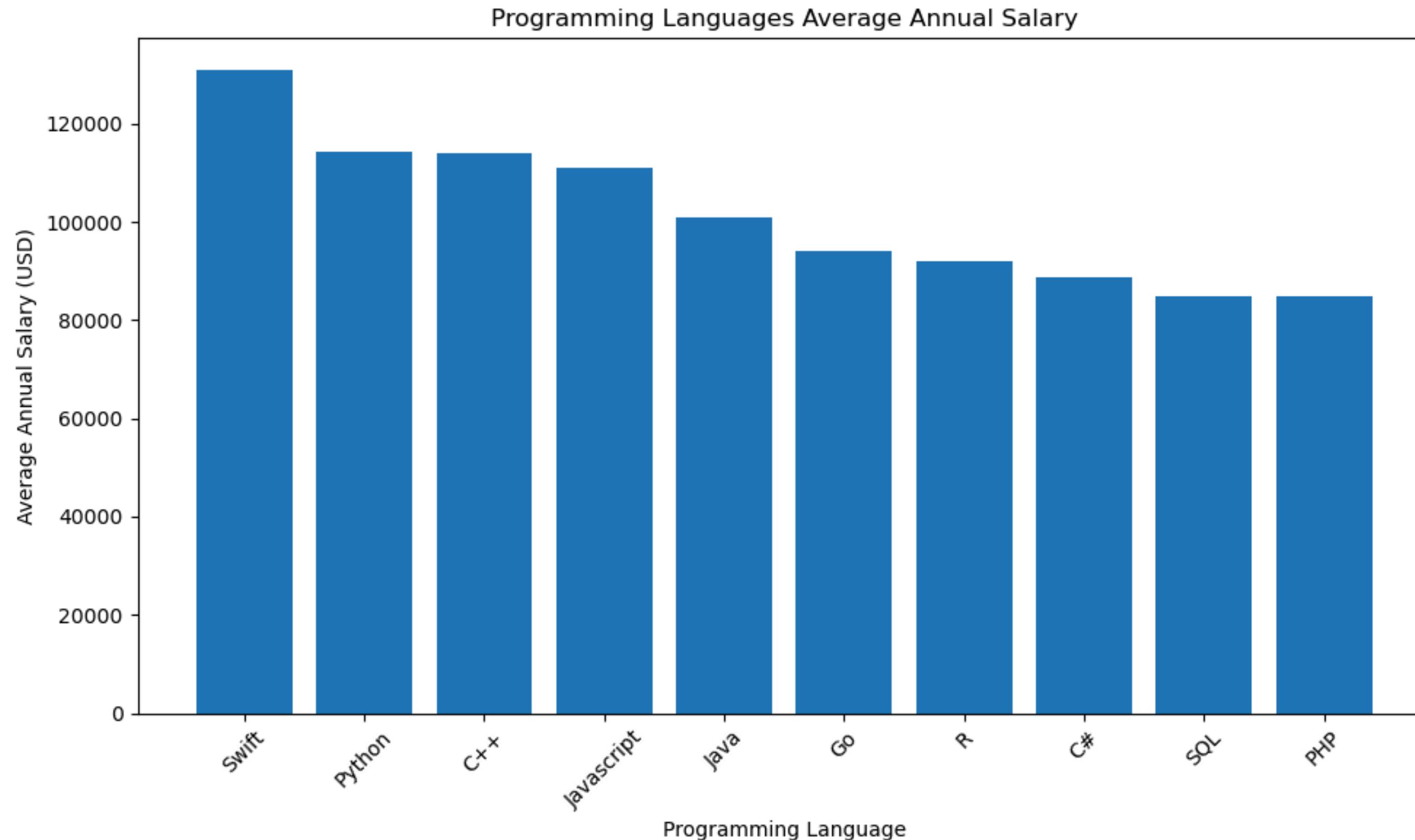
## RESPONDENT BASED ON DEVELOPER-TYPE



# JOB POSTING

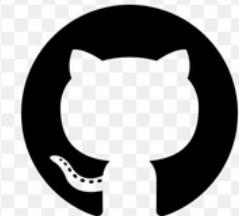


# PROGRAMMING LANGUAGE SALARY INSIGHTS



# THANK YOU

PROJECT LINK-



<https://github.com/Siddhartha-Raghuvanshi/Technology-Trends-Survey-2024.git>