OUTLINE

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

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EXECUTIVE SUMMARY

- Context and Objective

- Methodology Overview
  - Data Collection
  - Data Analysis
  - Visusal Data Respresentation

- Result Summary

- Discussion

- Conclusions

INTRODUCTION

- The 2023 Developer Survey by Stack Overflow is one of the most extensive surveys of coding professionals worldwide.

- Nearly 90,000 developers participated, offering a broad view of the developer community.

- While insightful, the results may not represent every segment of the developer community uniformly.

- Identifies key trends and predicts future directions for developers.

- Provides detailed insights into developers' demographics, technology usage, and educational backgrounds.

METHODOLOGY

- Data Acquistion Techniques
  - Web scraping
  - API utilization
  - Using requests libraries
- Data Preparation
  - Data wrangling
  - Conducting exploratory data analysis
  - Distribution analysis
  - Outlier handling
  - Analyzing correlations
- Data Visualization
  - Illustrating data distributions, relantionship, compositions, and comparisons
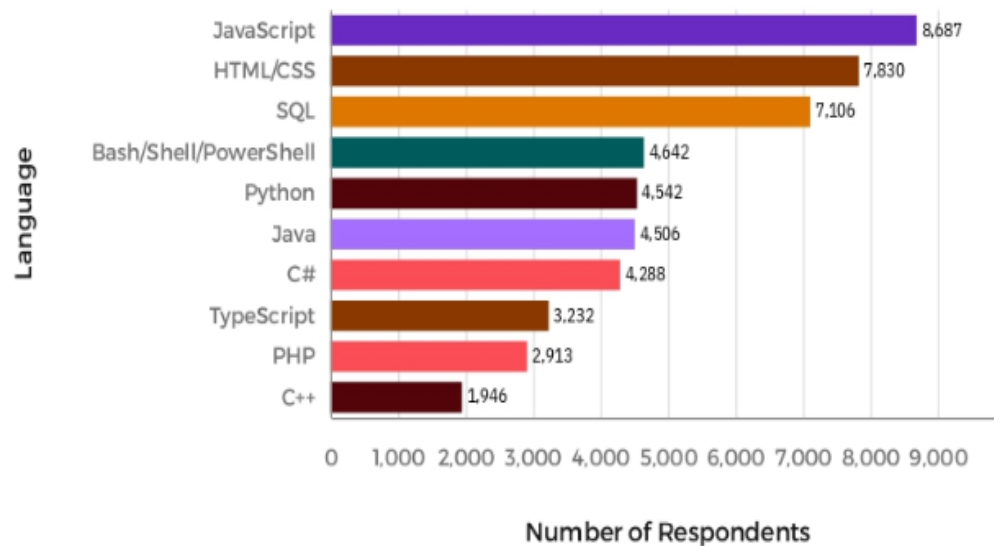- Dashboard Creation

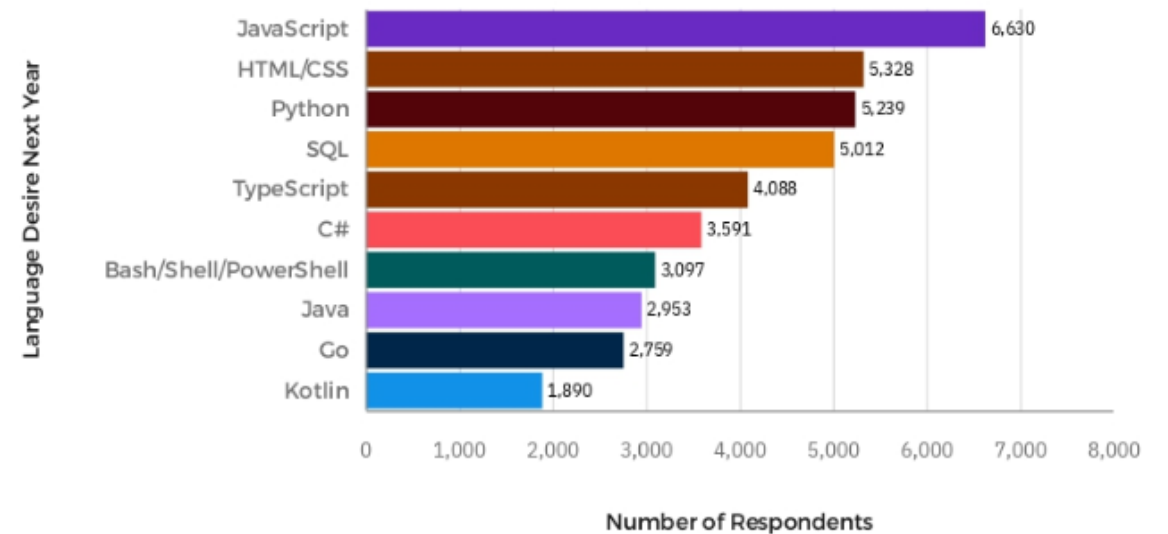# RESULTS

PROGRAMMING LANGUAGE TRENDS

Current Year

Top 10 Language Worked With

Language	Number of Respondents
JavaScript	8,687
HTML/CSS	7,830
SQL	7,106
Bash/Shell/PowerShell	4,642
Python	4,542
Java	4,506
C#	4,288
TypeScript	3,232
PHP	2,913
C++	1,946

Number of Respondents

Next Year

Top 10 Language Desire Next Year

Language Desire Next Year	Number of Respondents
JavaScript	6,630
HTML/CSS	5,328
Python	5,239
SQL	5,012
TypeScript	4,088
C#	3,591
Bash/Shell/PowerShell	3,097
Java	2,953
Go	2,759
Kotlin	1,890

Number of Respondents

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PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript is the most widely used language and also the most desired to learn
- Python shows significant growth in popularity
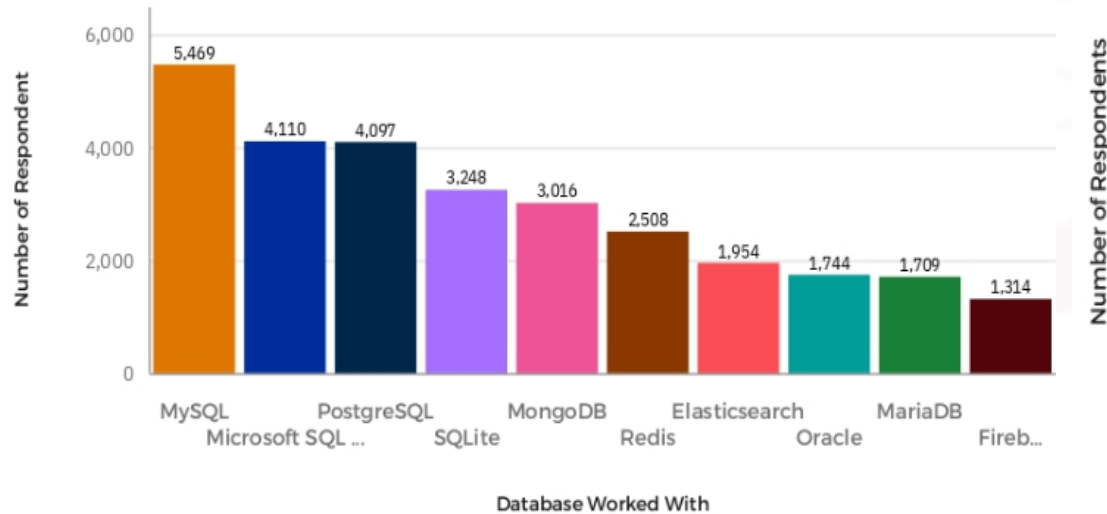- TypeScript is gaining traction, suggesting increasing adoption.

Implications

- Developers should focus on mastering JavaScript, HTML/CSS, Python, and SQL to stay competitive and meet industry demands.
- Emerging interest in TypeScript, Go, and Kotlin highlights the need to adapt to newer technologies that offer specific advantages in various development areas.
- Continuous learning and skill development in these languages are crucial for career advancement and staying updated with industry trends.
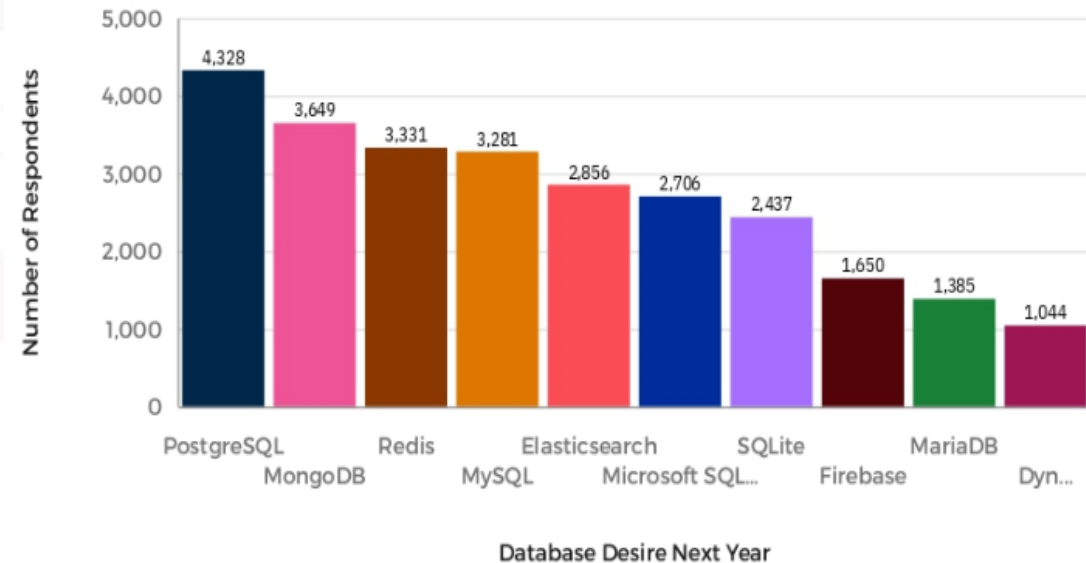
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DATABASE TRENDS

Current Year

Top 10 Database Worked With

Number of Respondent vs Database Worked With

- MySQL: 5,469
- Microsoft SQL ...: 4,110
- PostgreSQL: 4,097
- SQLite: 3,248
- MongoDB: 3,016
- Redis: 2,508
- Elasticsearch: 1,954
- Oracle: 1,744
- MariaDB: 1,709
- Fireb...: 1,314

Next Year

Top 10 Database Desire Next Year

Number of Respondents vs Database Desire Next Year

- PostgreSQL: 4,328
- MongoDB: 3,649
- Redis: 3,331
- MySQL: 3,281
- Elasticsearch: 2,856
- Microsoft SQL...: 2,706
- SQLite: 2,437
- Firebase: 1,650
- MariaDB: 1,385
- Dyn...: 1,044

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DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL and PostgreSQL are the most widely used databases
- The desire to learn PostgreSQL is high
- SQLite and MongoDB are also popular among developers.

Implications

- Developers should prioritize gaining expertise in MySQL and PostgreSQL due to their widespread usage and demand in the industry.
- Knowledge of MongoDB and SQLite is valuable for working on NoSQL and lightweight applications.
- Keeping up with these database trends can enhance a developer's skill set and improve job prospects in the evolving technology landscape.
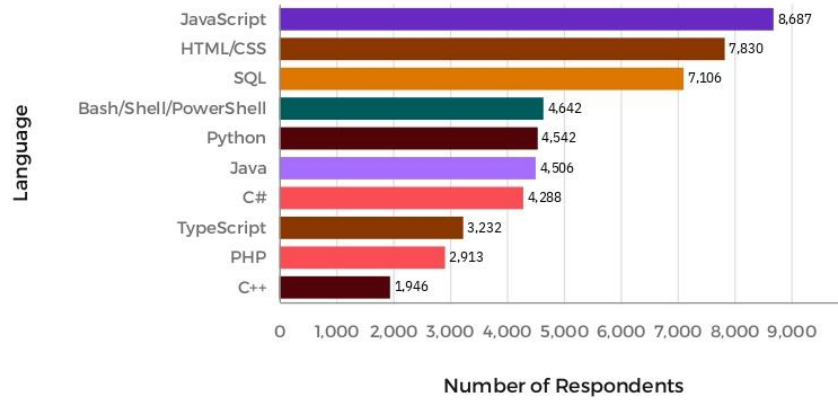
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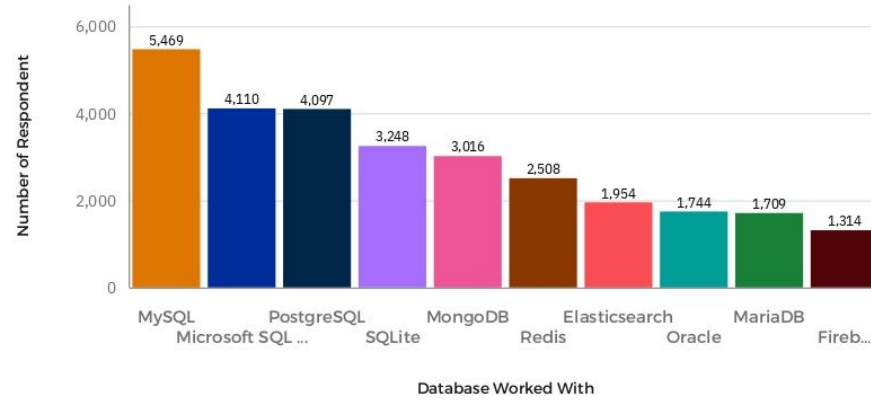**SKILLS NETWORK**

DASHBOARD

https://github.com/rahmadeaputri/IBM-Data-Analyst-Capstone-Project/blob/main/Dashboard-With-IBM-Cognos-Analytics.pdf
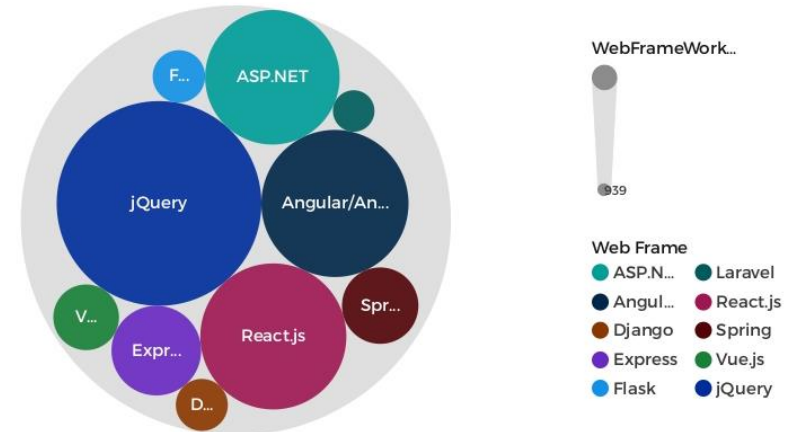
DASHBOARD TAB 1

Top 10 Language Worked With

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Top 10 Database Worked With

Database	Number of Respondent
MySQL	5,469
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Fireb...	1,314

Platform Worked With

AWS iOS Arduino Linux Android Windows Docker Slack Google Cloud Platform MacOS Microsoft Azure Raspberry Pi Kubernetes WordPress Heroku IBM Cloud or Watson Other(s)

Top 10 Web Frame Worked With

WebFrameWork...

Web Frame
- ASP.N...
- Angul...
- Django
- Express
- Flask
- Laravel
- React.js
- Spring
- Vue.js
- jQuery

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DASHBOARD TAB 2

Top 10 Language Desire Next Year

Language Desire Next Year

Language	Number of Respondents
JavaScript	6,630
HTML/CSS	5,328
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SQL	5,012
TypeScript	4,088
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Top 10 Database Desire Next Year

Number of Respondents

Database	Value
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Redis	3,331
MySQL	3,281
Elasticsearch	2,856
Microsoft SQL	2,706
SQLite	2,437
Firebase	1,650
MariaDB	1,385
Dyn...	1,044

Database Desire Next Year

Platform Desire NextYear

Linux 5,865
Docker 5,804
AWS 4,442
Windows 3,888
Android 3,231
Kubernetes 3,201
MacOS 2,593
Raspbe... 2,525
Google ... 2,401
Slack 2,359
iOS 1,987
Heroku 1,121
Microsoft Azure 2,114
Arduino 1,399
Wor... 704
I... 3...
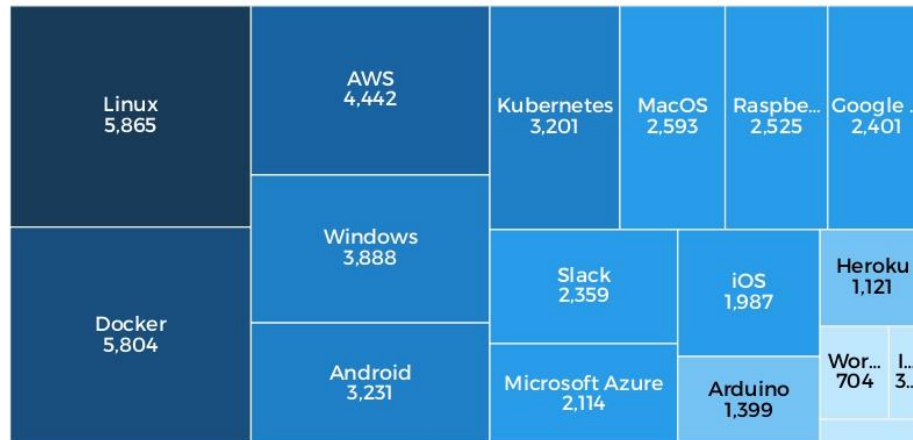
Web Frame Desire Next Year

Sp...
ASP.NET
React.js
Vue.js
Dj...
jQuery
Angular/A...
Expr...
F...
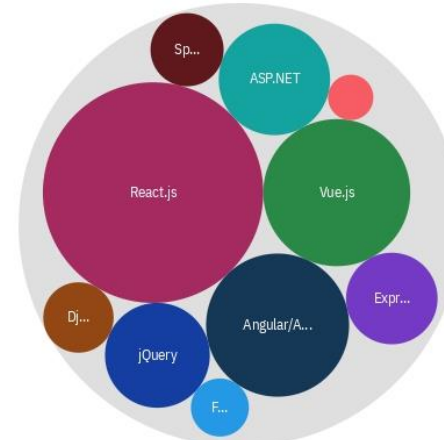
DASHBOARD TAB 3

Respondent Classified by Gender

6.5%

92.5%

Gender
- Woman;Man;Non-bin...
- Woman;Man
- Woman;Non-binary, ...
- Man;Non-binary, gen...
- Non-binary, genderq...
- Woman
- Man
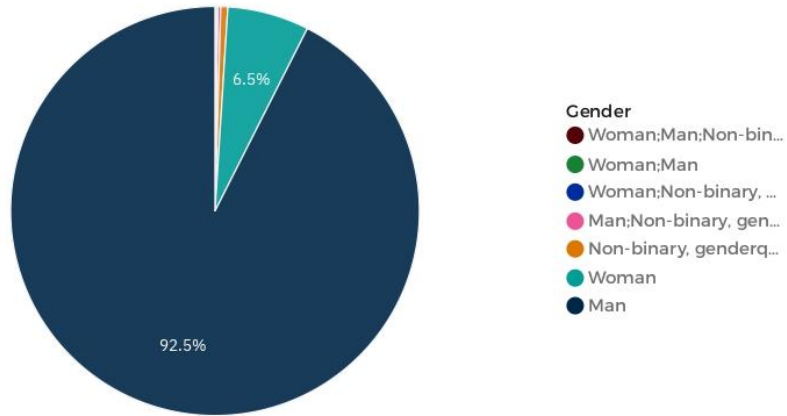
Respondent Count for Countries

Responde...

1

© Mapbox © OpenStreetMap
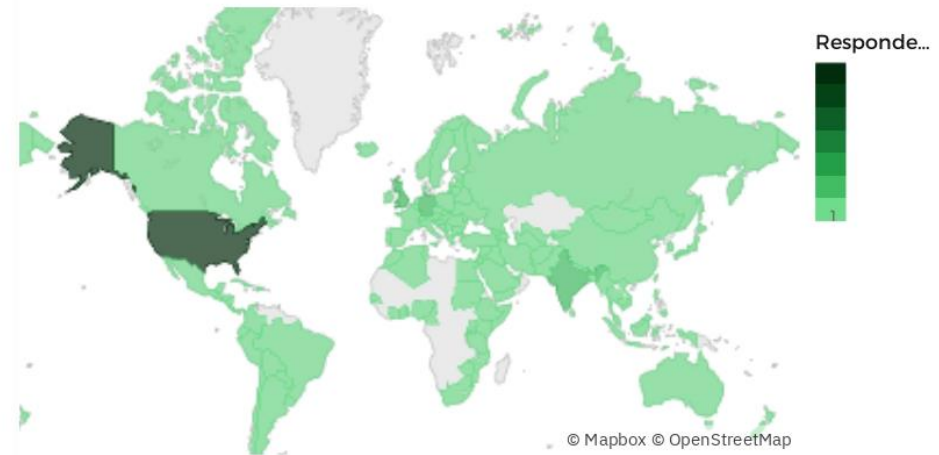
Respondent by Age
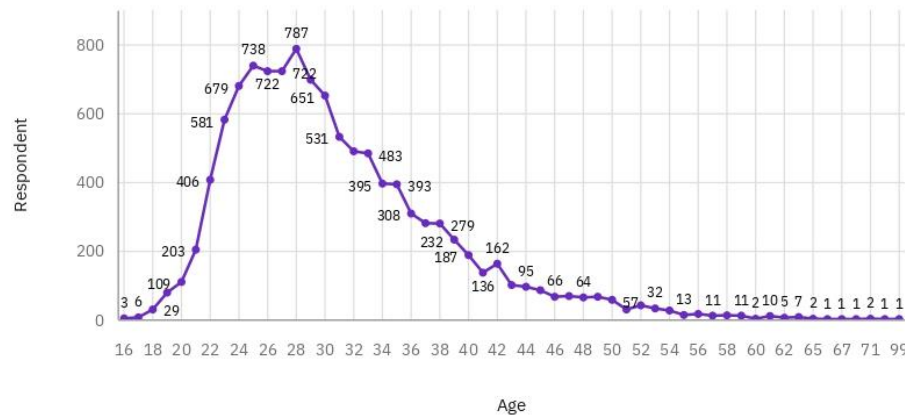
Formal Education Level / Gender

Man — 5,341 | 2,484 | 482 | 1,280

Woman

EdLevel
- Associate degree
- Bachelor's degr...
- I never complet...
- Master's degree...
- Other doctoral d...
- Primary/elemen...
- Professional de...
- Secondary scho...
- Some college/u...

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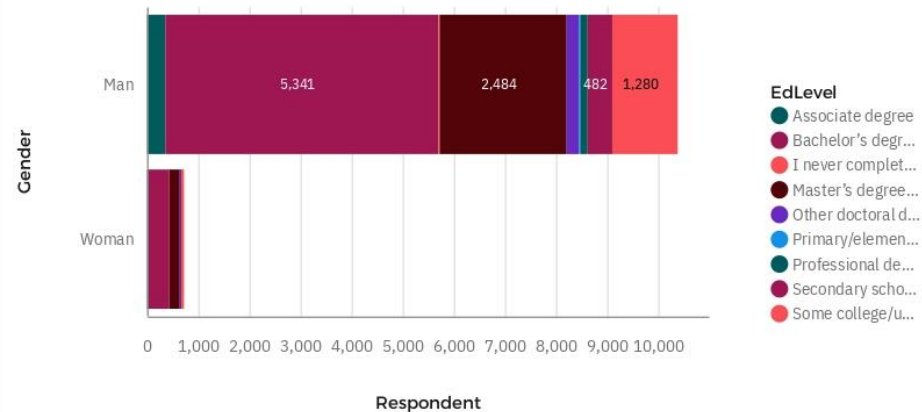
DISCUSSION

OVERALL FINDINGS & IMPLICATIONS

Findings

- JavaScript and HTML/CSS are the most commonly used languages among developers

- Python and Go are highly desired languages for developers to learn next year.

- A significant portion of respondents are male.

Implications

- Mastery of JavaScript and HTML/CSS is crucial for developers to remain competitive in the job market, especially for web development roles.

- Learning Python and Go can open up new opportunities for developers in fields like data science, machine learning, and scalable system development.

- There is a need for initiatives and programs that encourage diversity and inclusion in the tech industry, aiming to balance gender representation among developers.
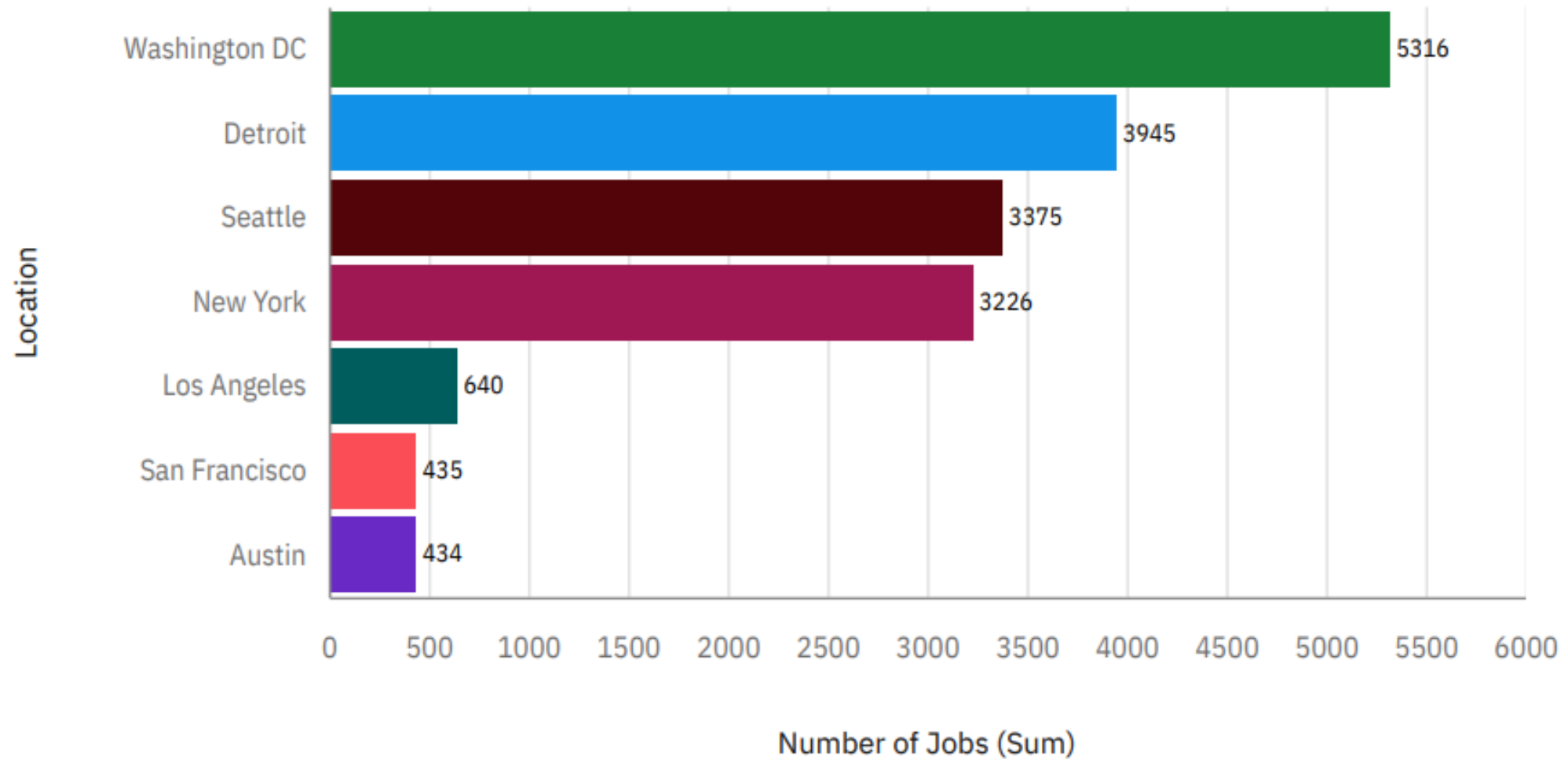
CONCLUSION

- Developers exhibit distinct and noticeable characteristics.

- Insights into popularity trends of various tools, platforms, and programming languages can be gained.

- Efforts are needed to broaden access to this labor market for developing countries
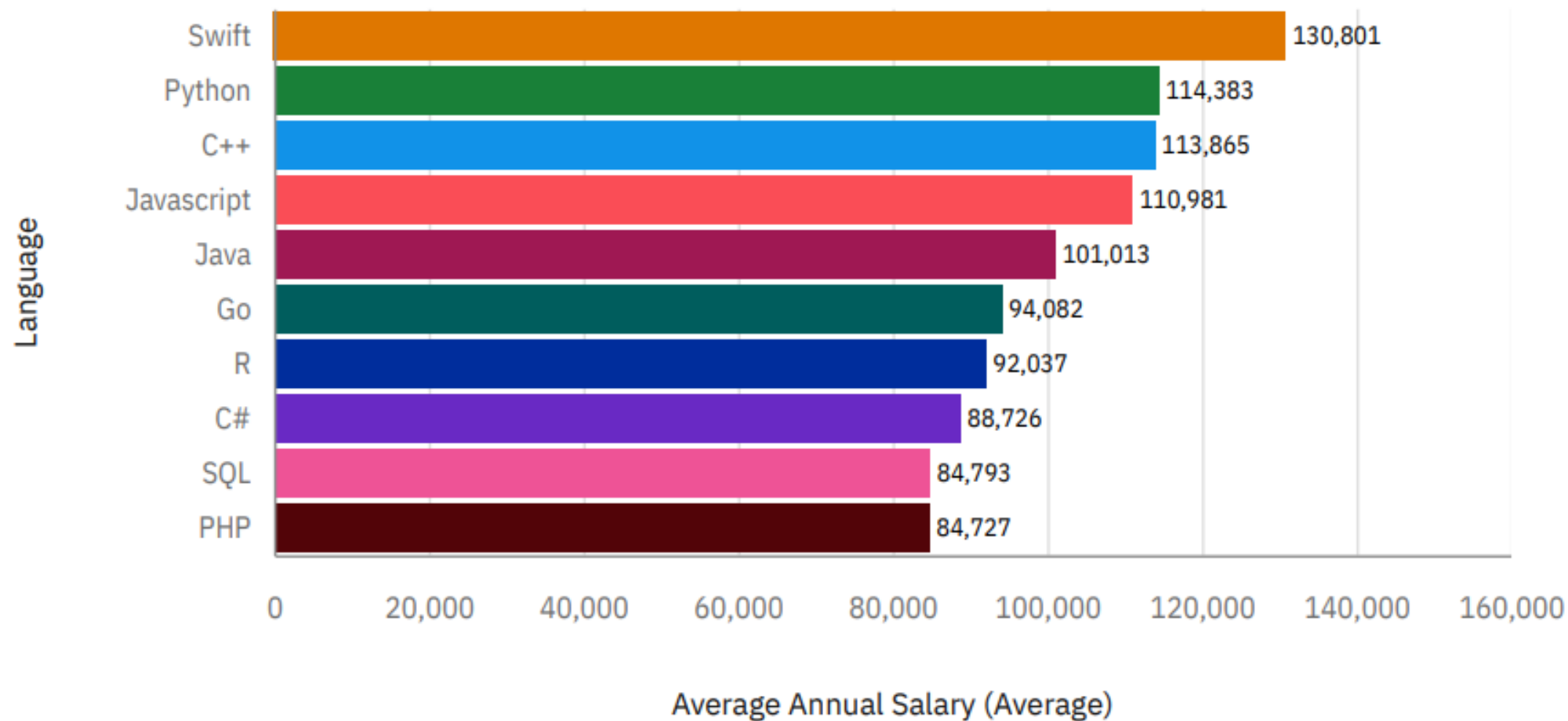
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APPENDIX

JOB POSTINGS

POPULAR LANGUAGES

AGE DISTRIBUTION BOXPLOT