



# STACK OVERFLOW DEVELOPER SURVEY 2019

Muhammad Irfan Karim

16 June 2023

[linkedin.com/in/muhammad-irfan-karim-/](https://www.linkedin.com/in/muhammad-irfan-karim-/)

# OUTLINE

---



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

# EXECUTIVE SUMMARY

---



- Data contextualization and analysis goal.
- Methodology description.
  - Data gathering.
  - Data analysis.
  - Data visualizations.
- Results presentation supported with graphs and trends.
- Discussion of overall findings and implications regarding the results previously exposed.
- Final conclusions of the carried out research.

# INTRODUCTION

---



- Stack Overflow's annual Developer Survey is the largest and most comprehensive survey of people who code around the world.
- Results don't represent everyone in the developer community evenly.
- Nearly 90,000 developers.
- Trends to predict where the developers are going.
- Characterization of developers around the globe.

# METHODOLOGY

---



- Collect survey data & explore its content
  - Web Scraping
  - APIs.
  - Request library.
- Data Wrangling
- Exploratory data analysis
  - Analyzing data distribution.
  - Handling outliers.
  - Correlations.
- Data Visualization
  - Highlight distribution of data, relationships, the composition and comparison of data.
- Dashboards

# RESULTS

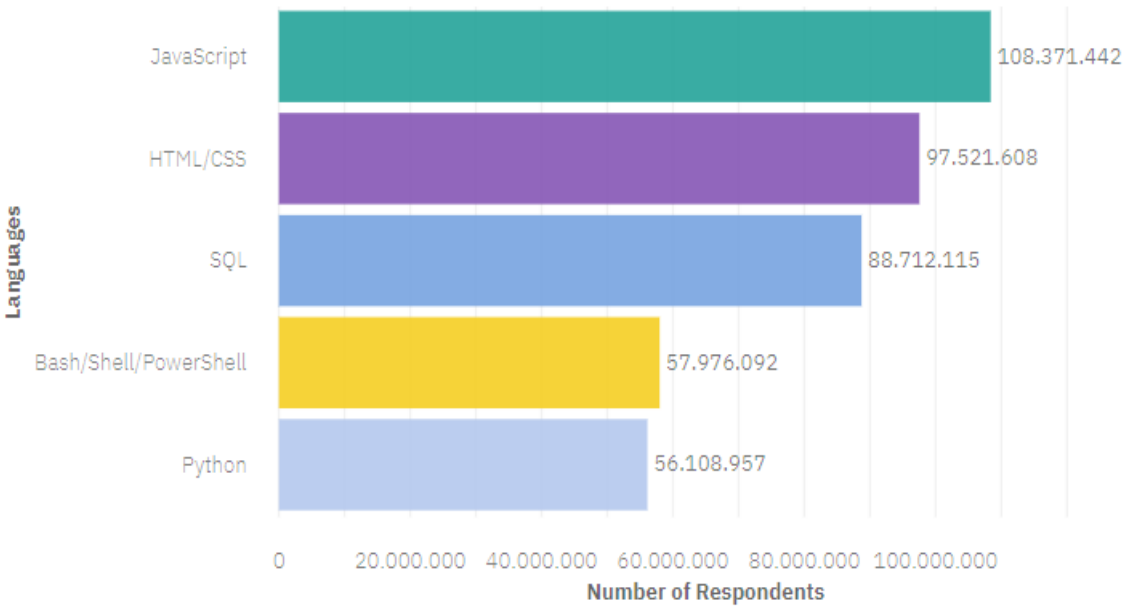
---



# PROGRAMMING LANGUAGE TRENDS

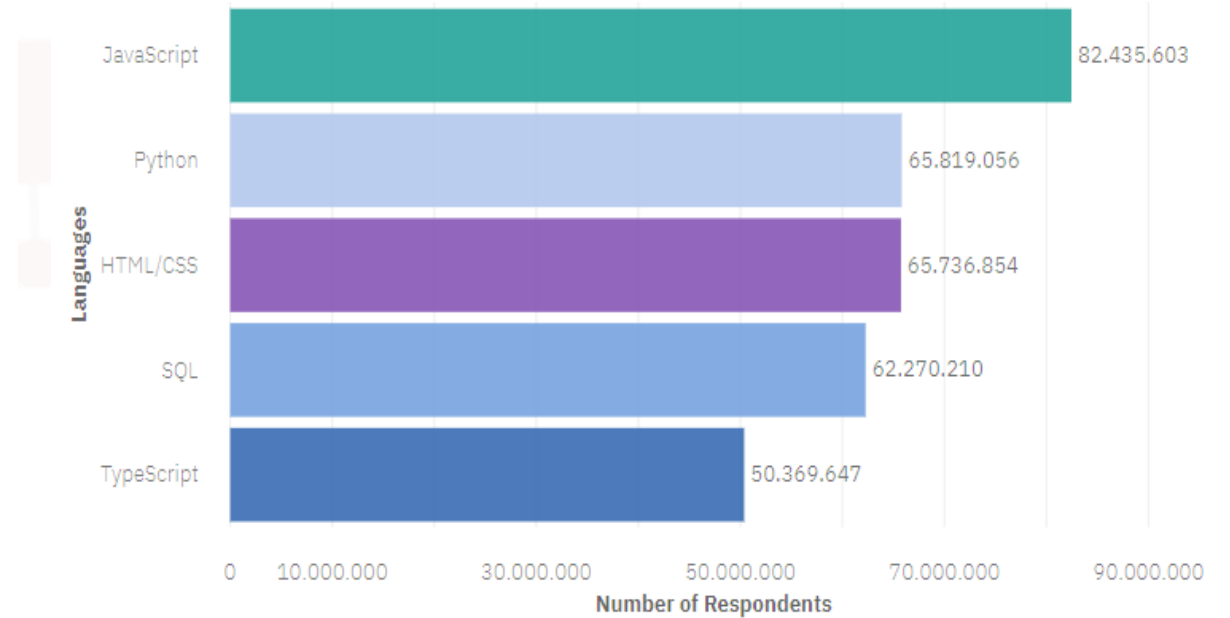
Current Year

Top 5 Programming Language Experience



Next Year

Top 5 Desired Language to Learn



# PROGRAMMING LANGUAGE TRENDS – FINDINGS & IMPLICATIONS

---

## Findings

- JavaScript seems to keep as leading language.
- Python fastest-growing.
- Great interest in TypeScript

## Implications

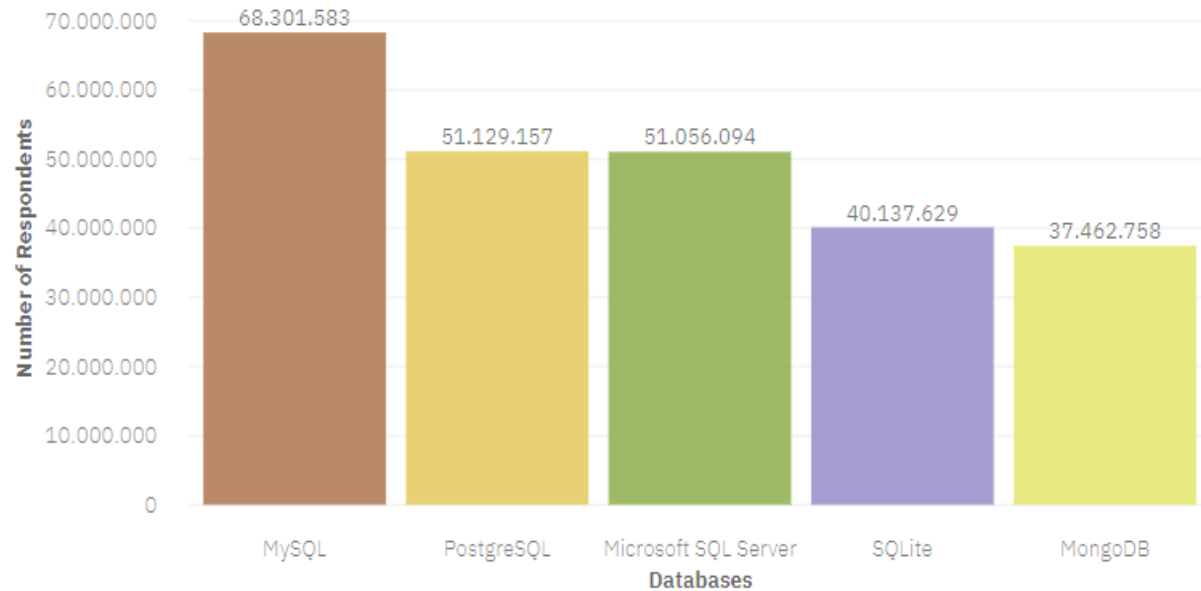
- Possible developers migration from JavaScript to TypeScript.



# DATABASE TRENDS

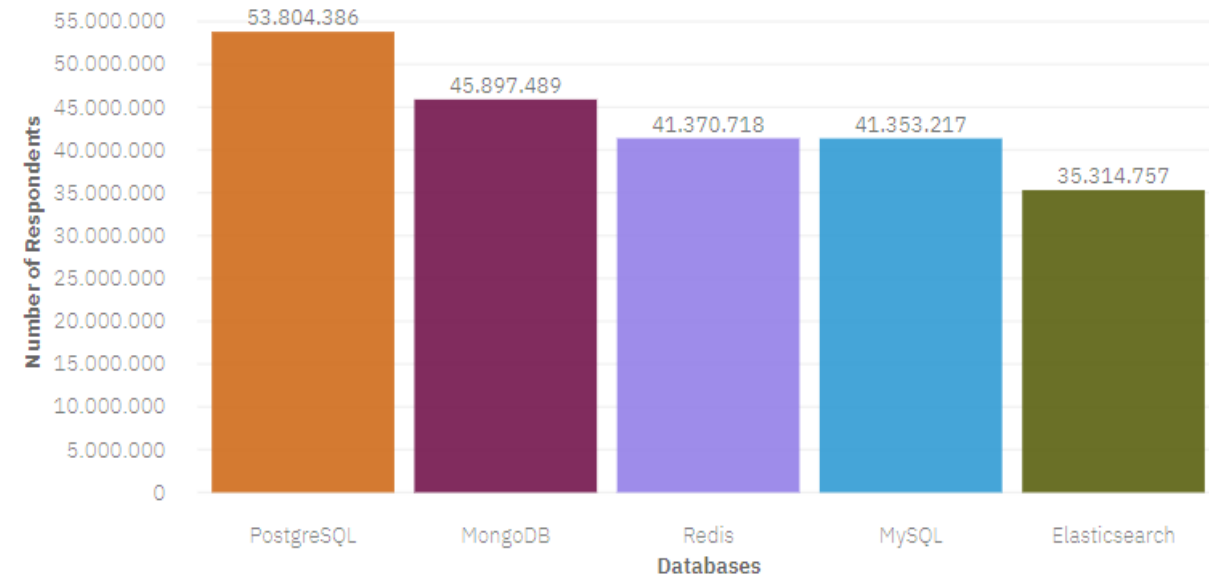
Current Year

Top 5 Databases Worked with



Next Year

Top 5 Desired Database to Learn



# DATABASE TRENDS – FINDINGS & IMPLICATIONS

---

## Findings

- MySQL as most used database.
- Lack of interest in Microsoft SQL Server and SQLite.
- Increasing interest in PostgreSQL and MongoDB.

## Implications

- Microsoft SQL Server and SQLite losing ground in the market.
- PostgreSQL and MongoDB establishment in the market.

# DASHBOARD

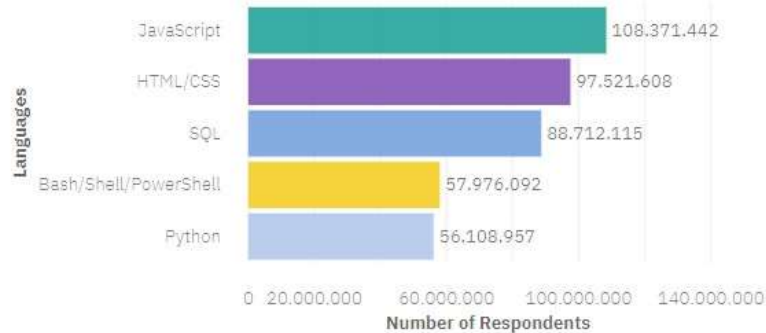
---



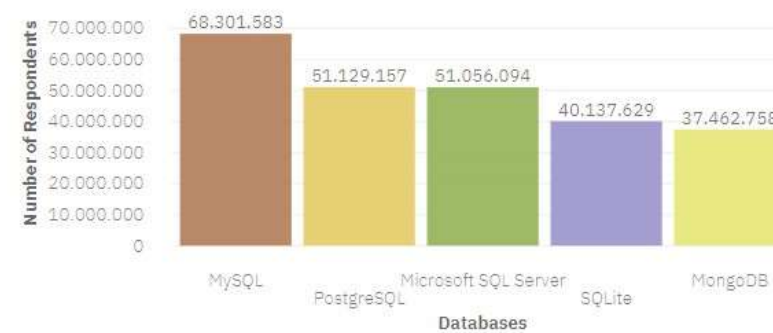
[https://ap1.ca.analytics.ibm.com/bi/?perspective=dashboard&pathRef=.my\\_folders%2FCapstone%2BData%2BAnalyst&action=view&mode=dashboard&subView=model00000188c3cca4ad\\_00000000](https://ap1.ca.analytics.ibm.com/bi/?perspective=dashboard&pathRef=.my_folders%2FCapstone%2BData%2BAnalyst&action=view&mode=dashboard&subView=model00000188c3cca4ad_00000000)

# CURRENT TECHNOLOGY USAGE

Top 5 Programming Language Experience



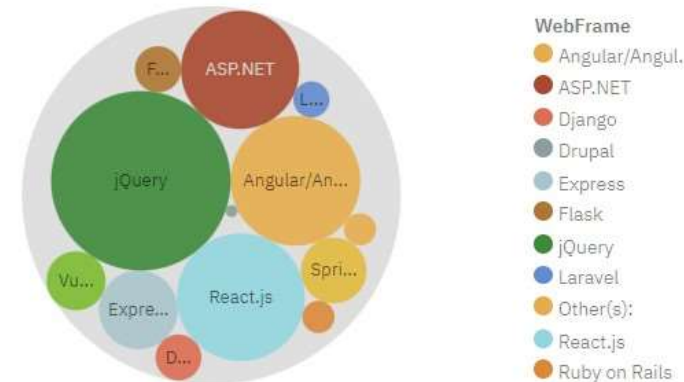
Top 5 Databases Worked with



Platforms Interacted

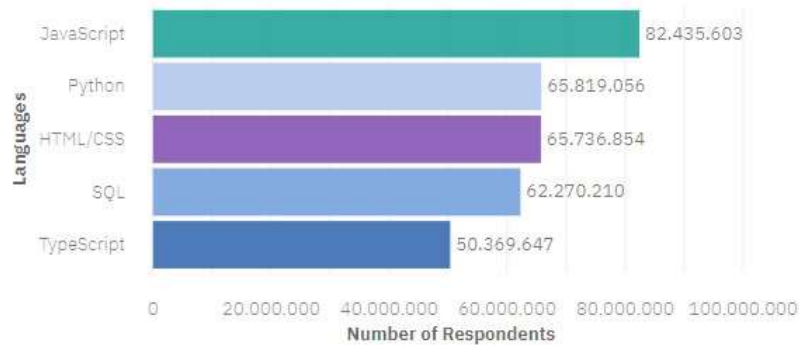


Top 10 WebFrames Used

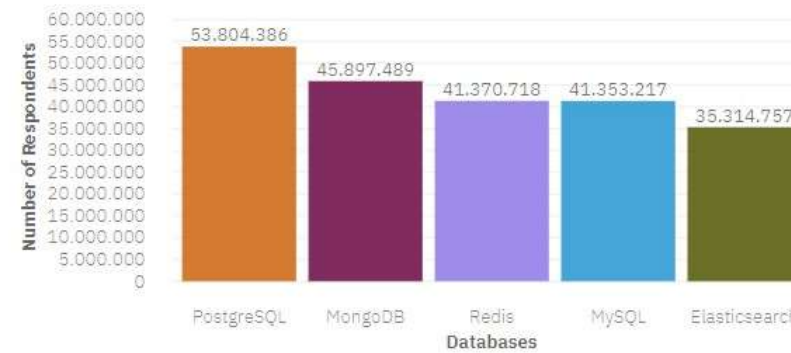


# FUTURE TECHNOLOGY TREND

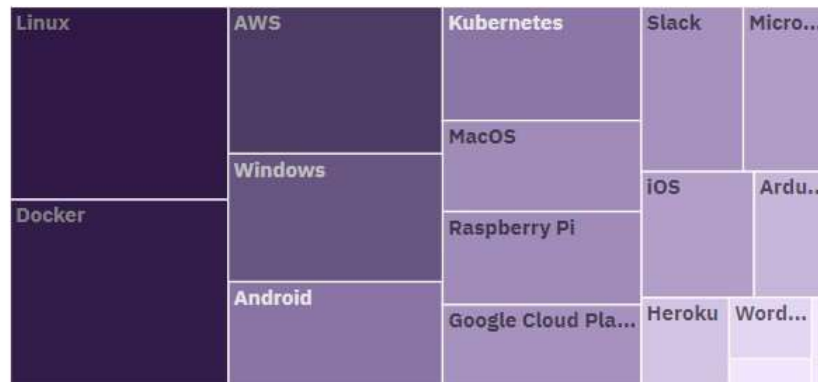
Top 5 Desired Language to Learn



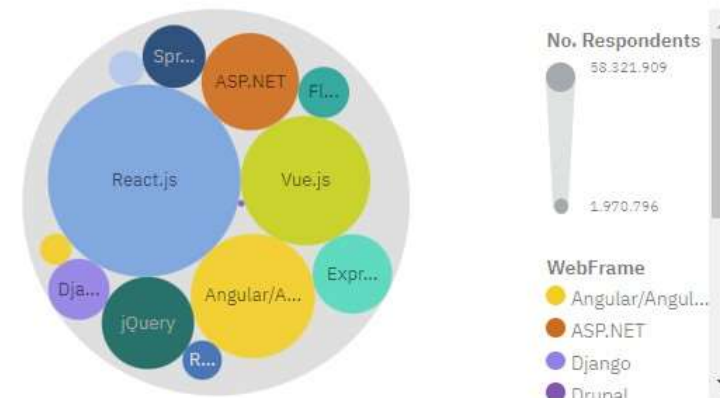
Top 5 Desired Database to Learn



Platform Next Year

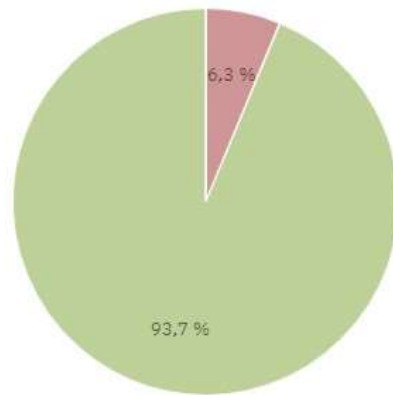


Top 10 WebFrame Next Year



# DEMOGRAPHICS

Respondent by Gender

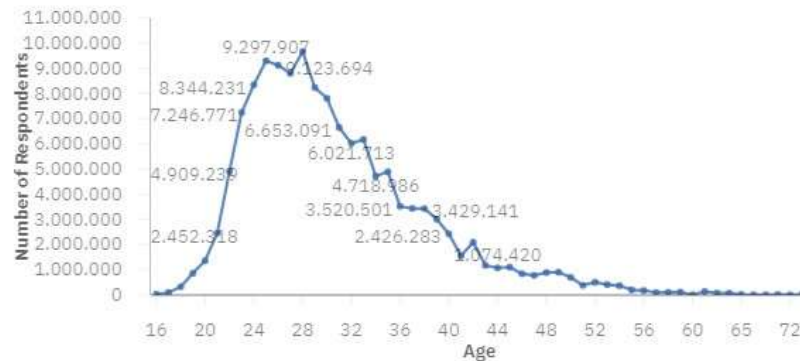


Gender  
● Woman  
● Man

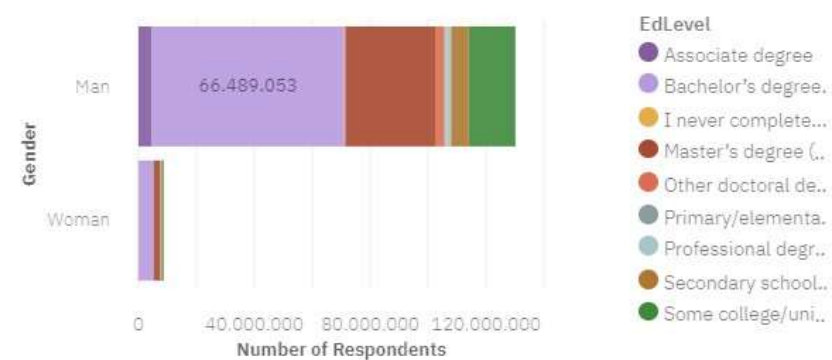
Respondent Locations



Respondent by Age



Formal Education Level / Gender



# DISCUSSION

---





# OVERALL FINDINGS & IMPLICATIONS

---

## Findings

- JavaScript widely used and TypeScript getting popular.
- Over 90% young male developers.
- Developers mostly located in developed countries.

## Implications

- JavaScript and TypeScript web frames gaining followers.
- Global polarization of developers location and gender.
- Young developers without postgrad studies on its majority.



# CONCLUSION

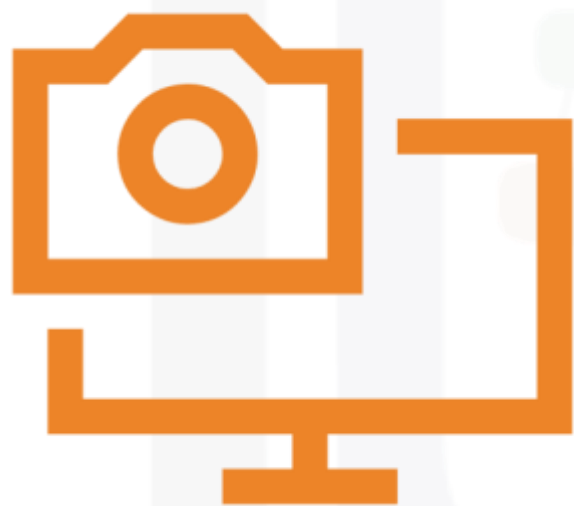
---



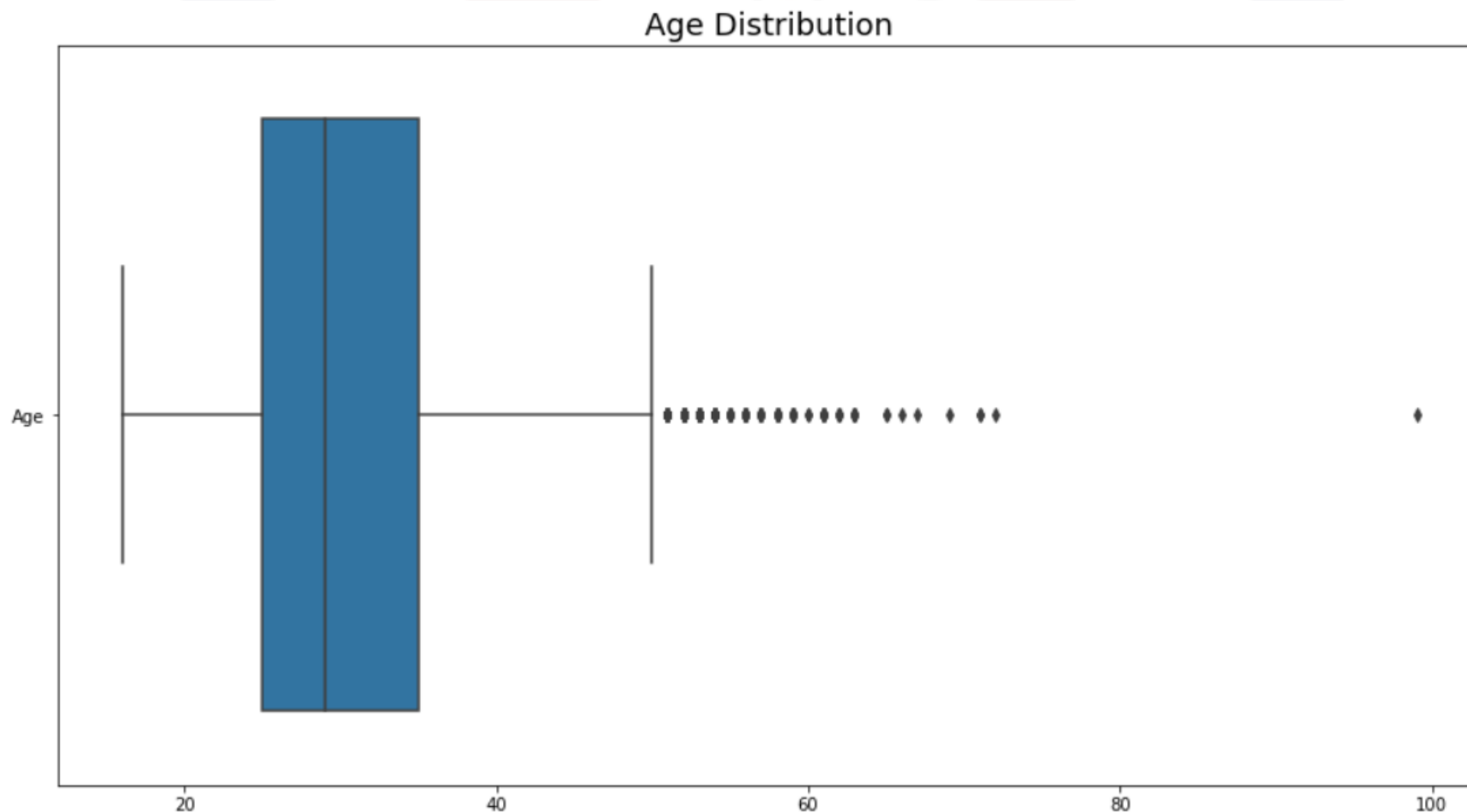
- Developers are people with very marked characteristics.
- A good idea of popularity trends of different tools, platforms and languages can be obtained.
- There is a job to be done to spread accessibility of this labor market to countries in development.

# APPENDIX

---

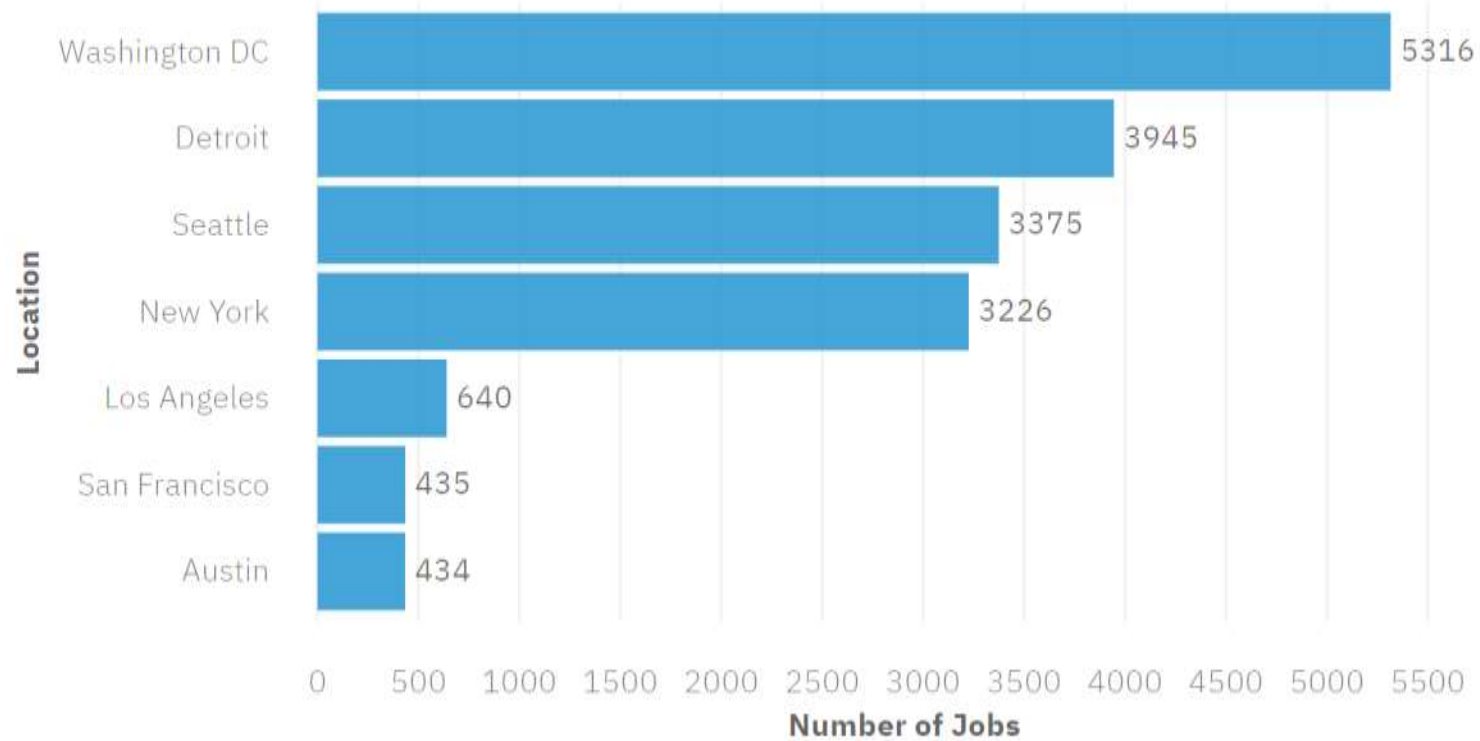


# AGE DISTRIBUTION BOXPLOT



# JOB POSTINGS

---



# POPULAR LANGUAGES

