



IBM Data Analyst Capstone Project

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OUTLINE



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- Methodology
- Results
 - Visualization – Charts
 - Dashboard
- Discussion
 - Findings & Implications
- Conclusion
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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.
- 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 the distribution of data, relationships, composition, and comparison of data
- Dashboards

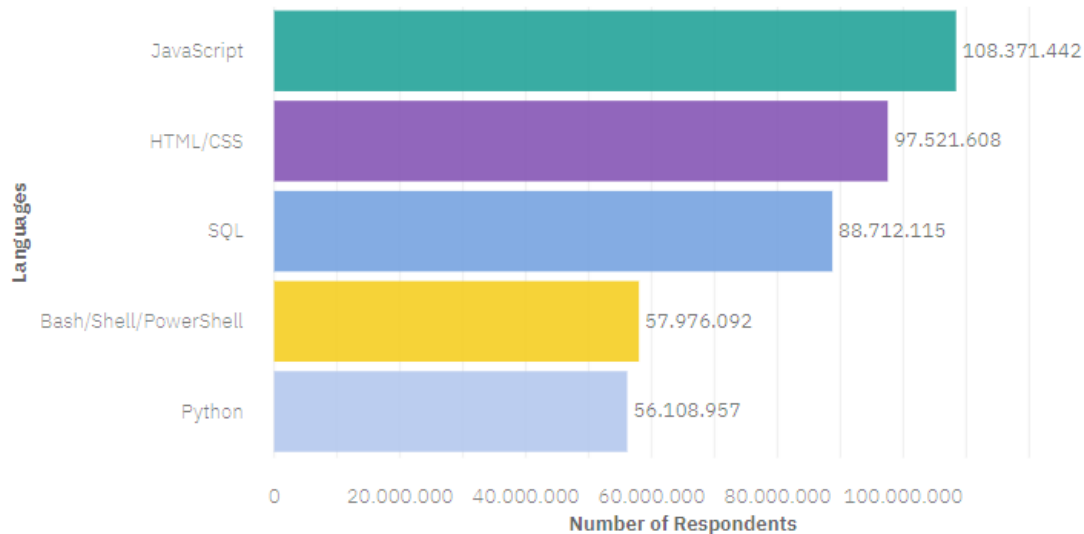
RESULTS



PROGRAMMING LANGUAGE TRENDS

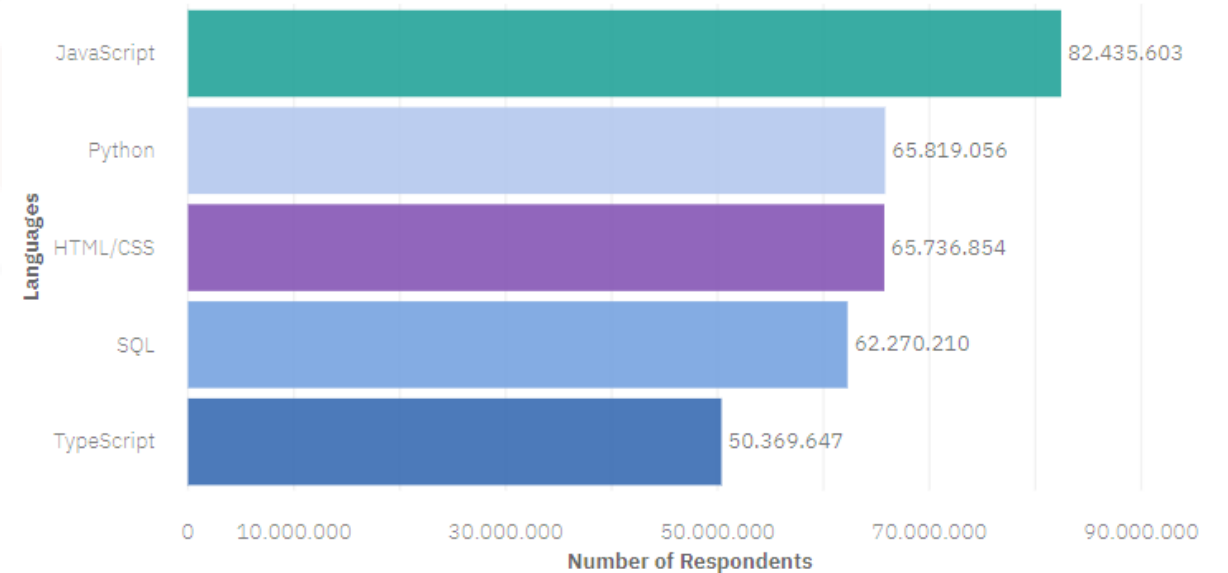
Current Year

Top 5 Programming Language Experience



Next Year

Top 5 Desired Language to Learn



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

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

Implications

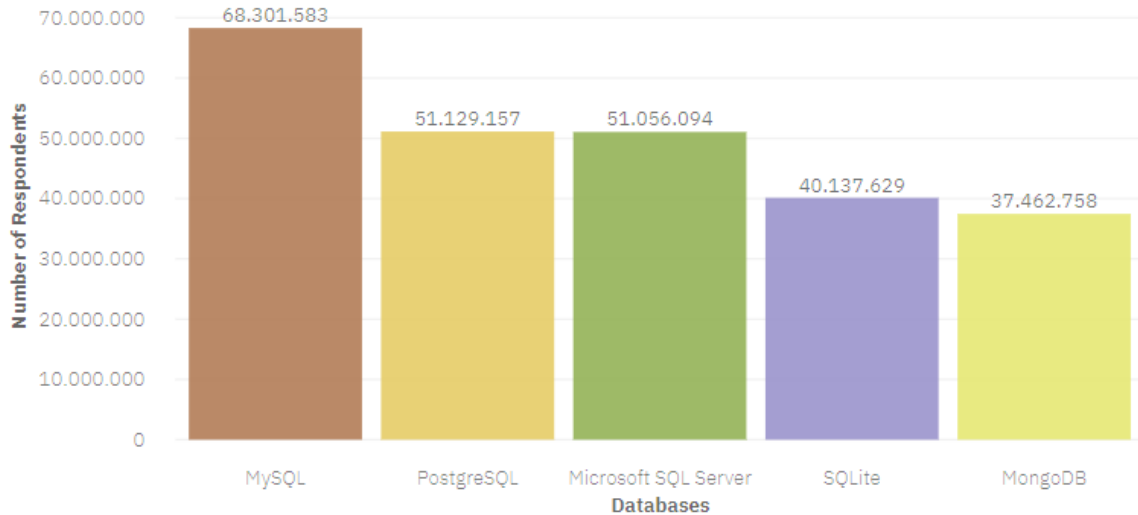
- Possible developer's migration from JavaScript to TypeScript.

DATABASE TRENDS

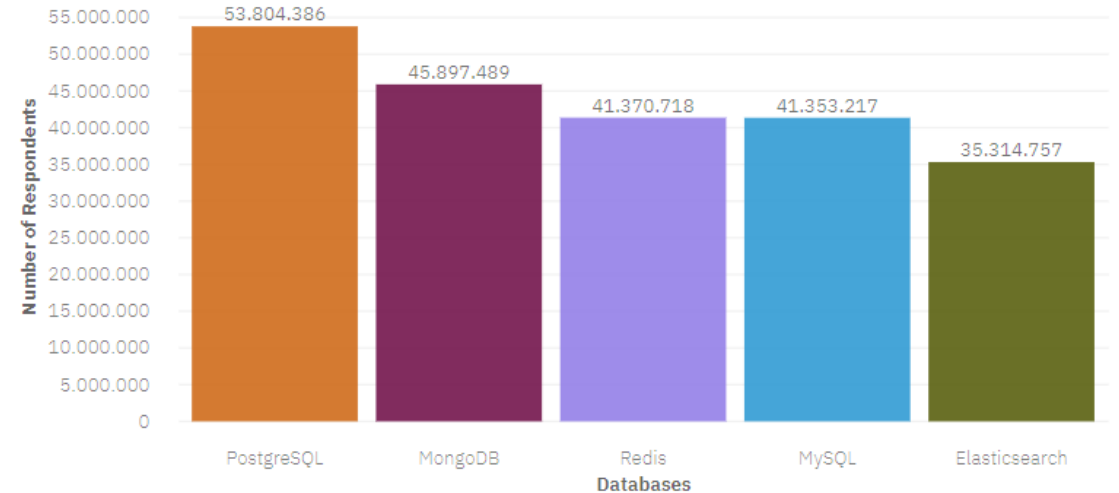
Current Year

Next Year

Top 5 Databases Worked with



Top 5 Desired Database to Learn



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL is the 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

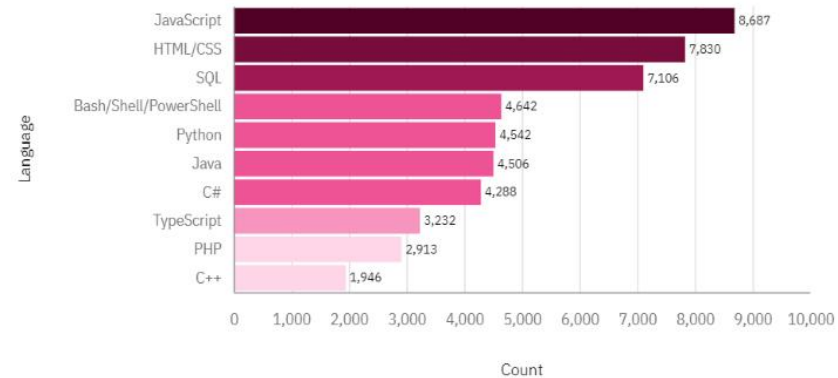


<https://github.com/ZohreAhmadi/IBM-Data-Analyst-Capstone-Project>

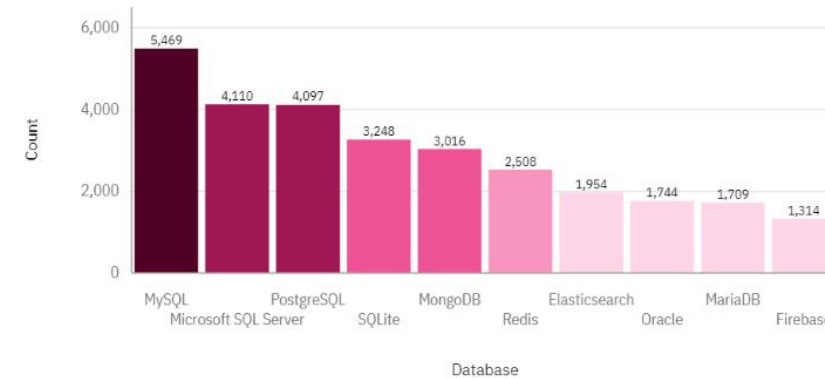
CURRENT TECHNOLOGY USAGE

Current Technology Usage

Top 10 Languages Worked With



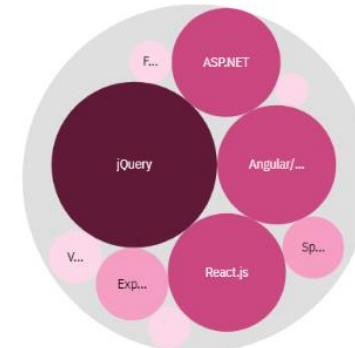
Top 10 Databases Worked With



Top Platforms Worked With



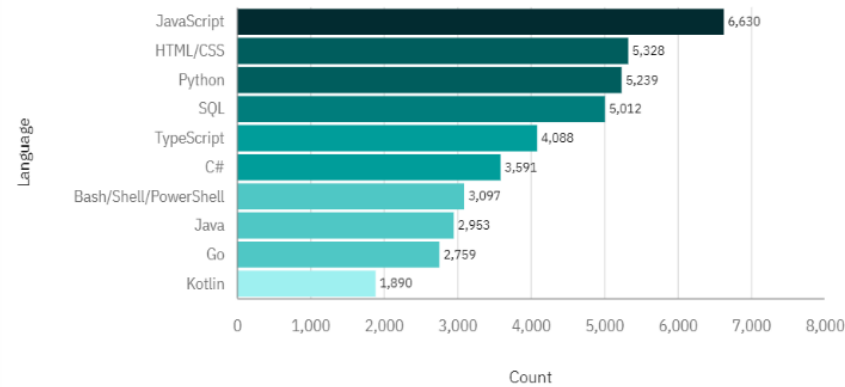
Top 10 Web Frameworks Worked With



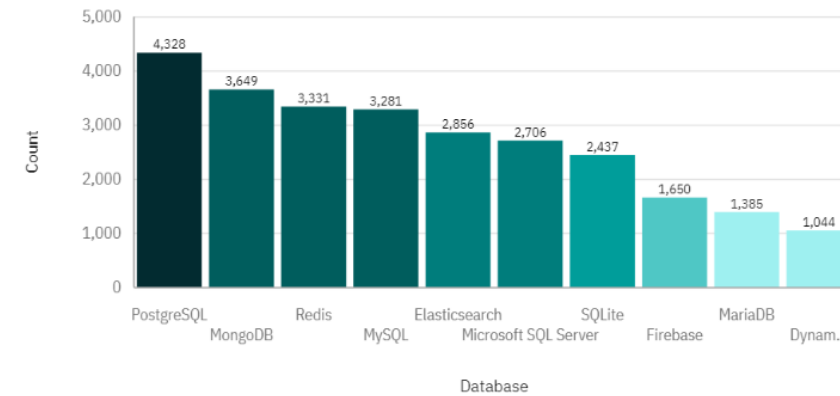
FUTURE TECHNOLOGY TREND

Future Technology Trend

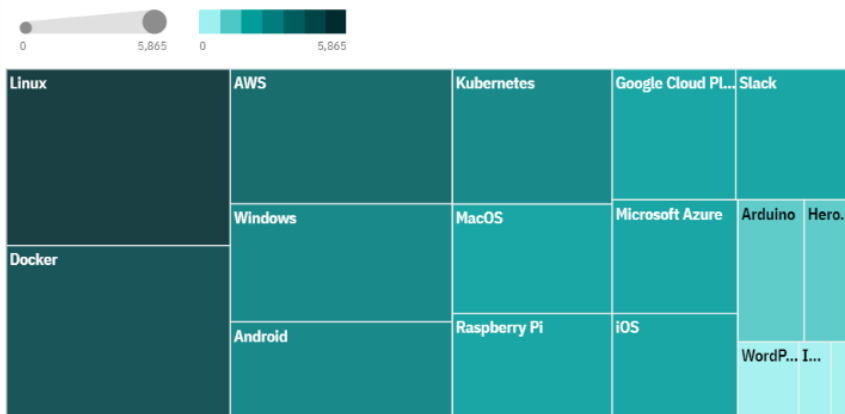
Top 10 Languages Desired Next Year



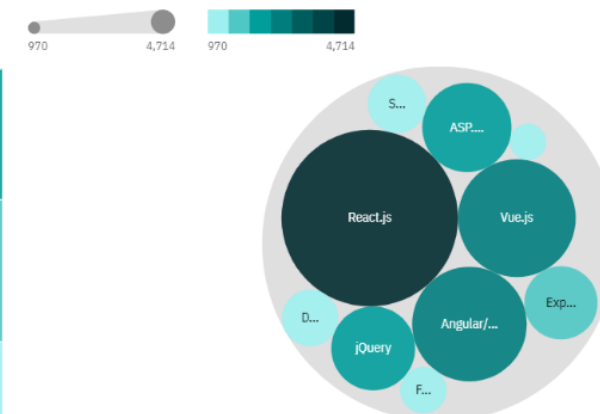
Top 10 Databases Desired Next Year



Top Platforms Desired Next Year



Top 10 Web Frameworks Desired to Work With Next Year



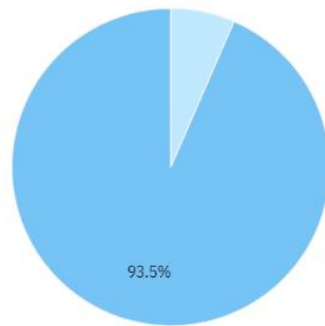
DEMOGRAPHICS

Demographics

Respondent Count by Gender

Gender

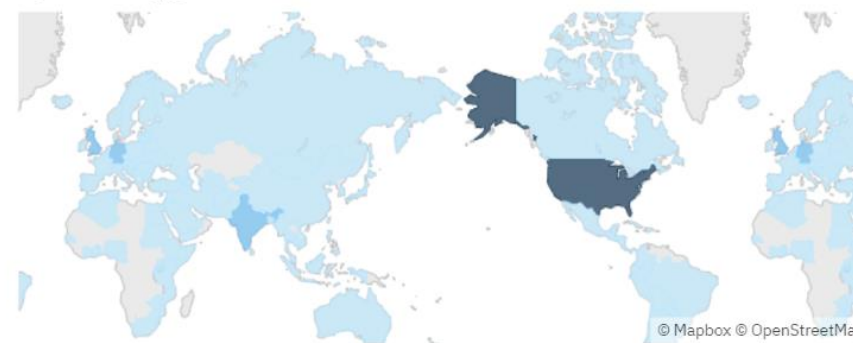
Woman Man



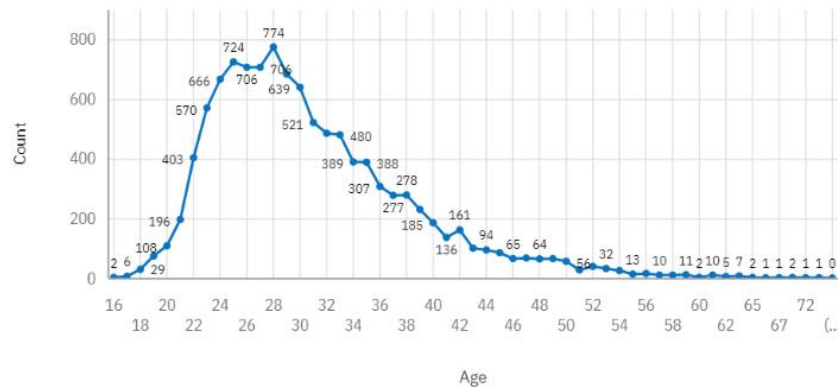
Respondent Count by Country

Country (Count)

1 3,058



Respondent Count by Age



Respondent Education Level Count by Gender

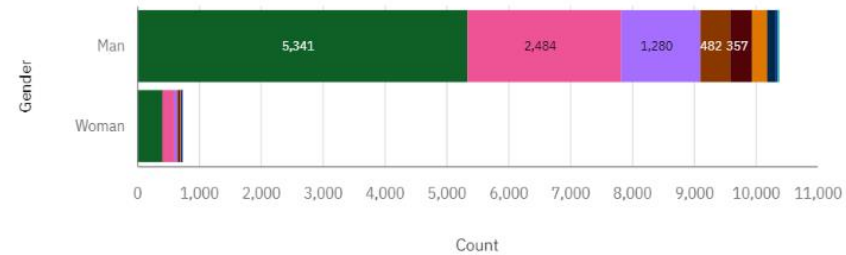
Education Level

● Bachelor's degree (BA, BS, B.Eng., etc.)

● Master's degree (MA, MS, M.Eng., MBA, etc.)

● Some college/university study without earning a degree

● Secondary school (e.g. American high school, German Realschule or Gymnasium, etc.)



DISCUSSION



OVERALL FINDINGS & IMPLICATIONS

Findings

- JavaScript is widely used and TypeScript getting popular.
- Over 90% of 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

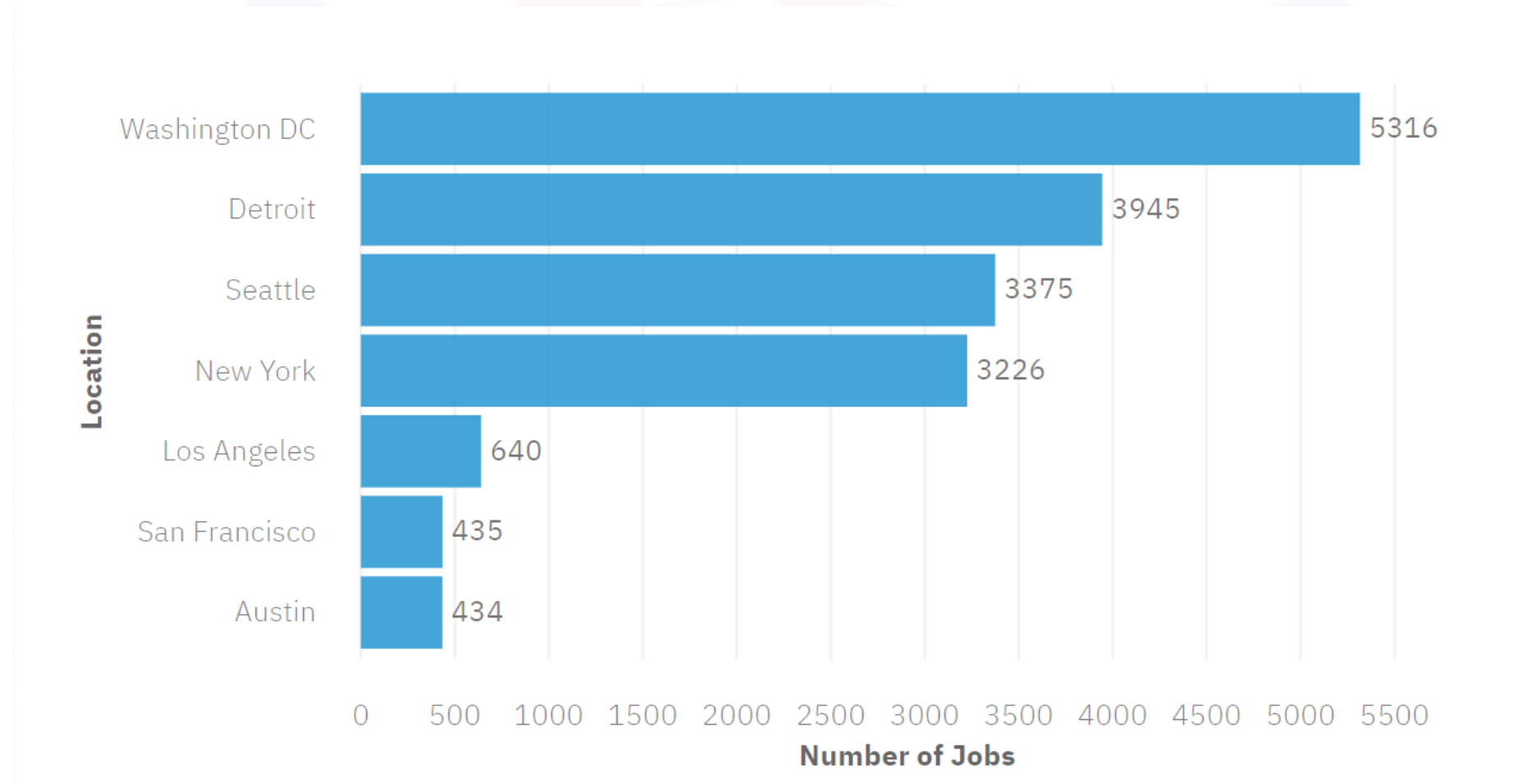


- Developers are people with very marked characteristics.
- A good idea of popularity trends of different tools, platforms and languages can be obtained.
- There is a job to be done to spread accessibility of this labor market to countries in development.

APPENDIX



JOB POSTINGS



POPULAR LANGUAGES

