



Stackoverflow Developer Survey 2019

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OUTLINE



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

EXECUTIVE SUMMARY



- Dataset overview and analysis goal
- Methodology
 - Data gathering
 - Data analysis
 - Data visualization
- Trends in Programming Languages and Databases: Findings and Implications supported by graphs
- Discussion on the Overall Findings from the evidence-based results
- Final conclusions of the analysis

INTRODUCTION



- Stack Overflow is the largest and most trusted community for developers to learn and share their programming knowledge
- Stack Overflow Survey is the largest and most comprehensive one, but it does not represent everyone in the programmers' community
- Nearly 90.000 developers
- The Survey helps us:
 - To predict where the developers' community is going to
 - To find out the developer profile

METHODOLOGY



- Collection and Exploration of Survey Data
 - API
 - Getting data from web pages through requests library in Python
 - Web scraping through BeautifulSoup 4
- Data Wrangling
 - Remove duplicates and missing values
 - Normalization
- Exploratory Data Analysis
 - Finding data distribution
 - Handling outliers
 - Correlations
- Visualizing Data
 - Plots and Dashboards

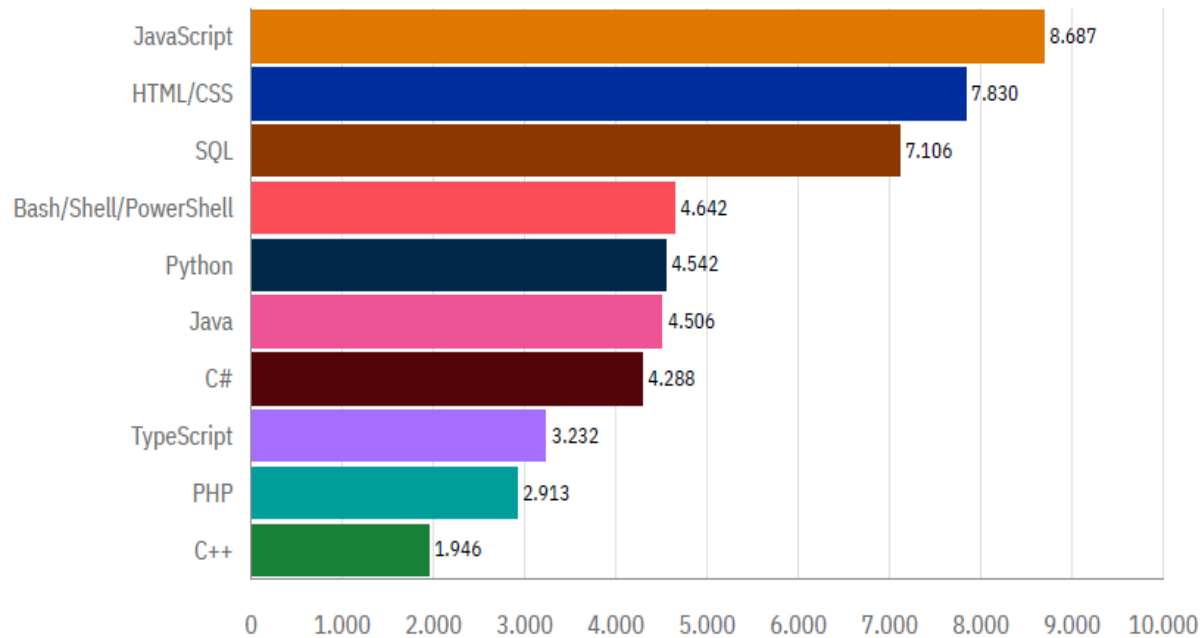
RESULTS



PROGRAMMING LANGUAGE TRENDS

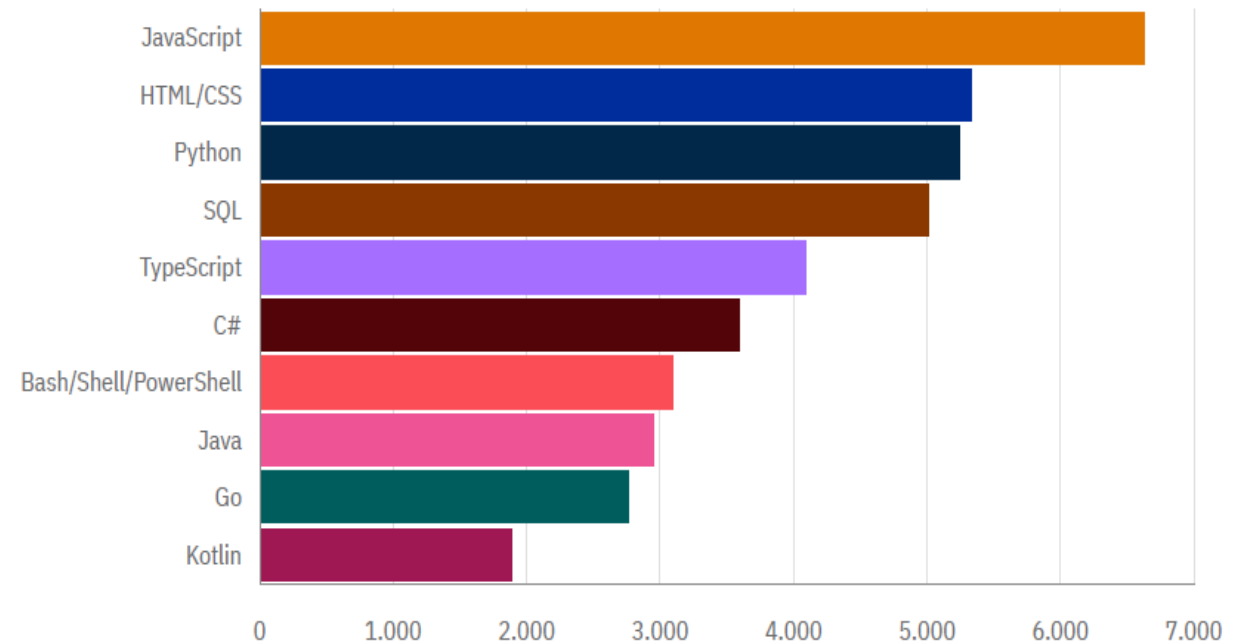
Current Year

Top 10 Languages



Next Year

Top 10 Languages wanted to learn



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript and HTML/CSS at the top of language trends
- Python is on the rise
- PHP and C++ declining

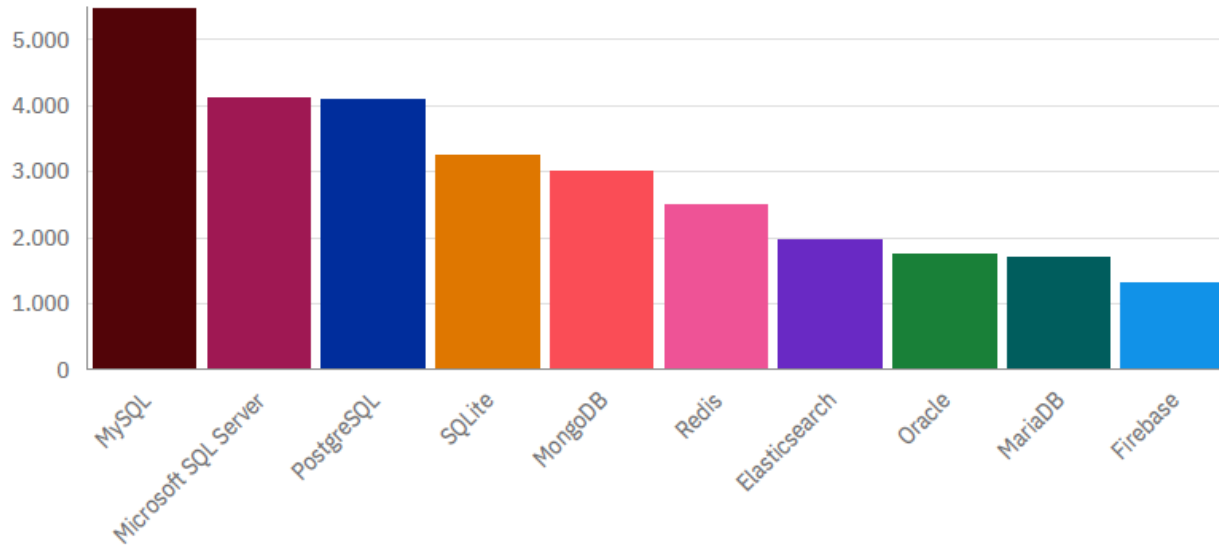
Implications

- Some languages still get appreciated by developers such as HTML and JavaScript
- Growing popularity of Python as Data Science language over SQL
- Some language seems to be dying such as PHP

DATABASE TRENDS

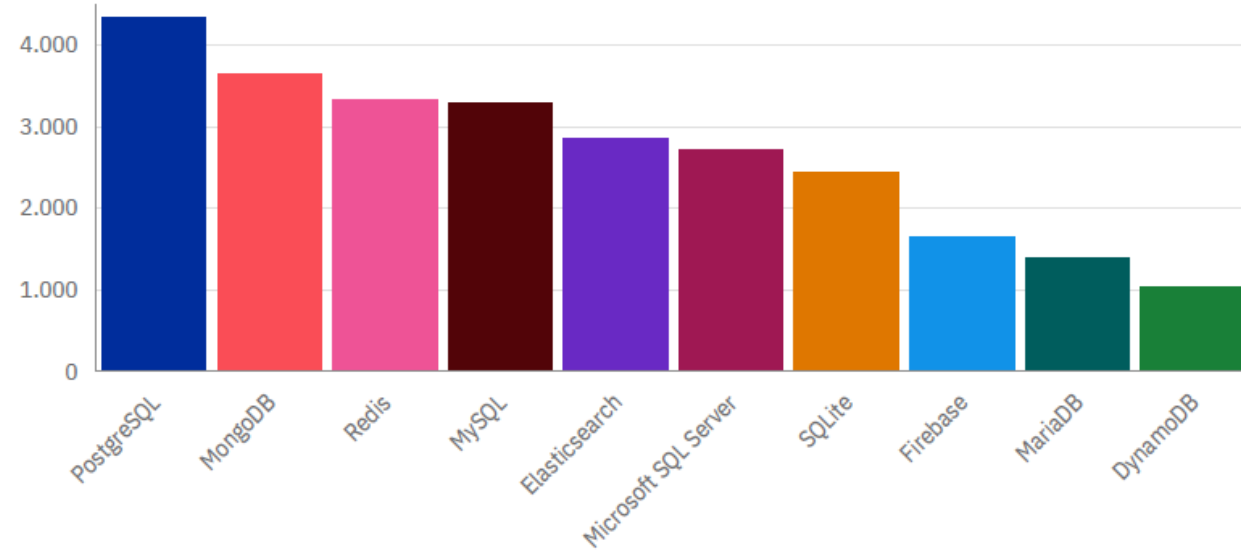
Current Year

Top 10 Databases



Next Year

Top 10 Databases wanted to learn



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL still the best database, but PostgreSQL on the rise
- Microsoft SQL Server losing pace in devs' interests
- Rising popularity of MongoDB

Implications

- In the contest PostgreSQL vs MySQL, devs look at the first with rising interest
- Alternatives like MongoDB and Redis win over Microsoft databases

DASHBOARD

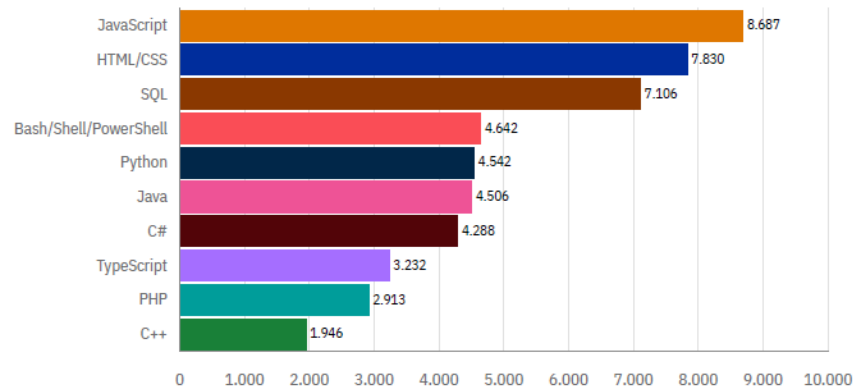


<https://github.com/dadeblm/IBM-Data-Analyst-Capstone-Project/blob/main/Capstone%20Project%20Dashboard.pdf>

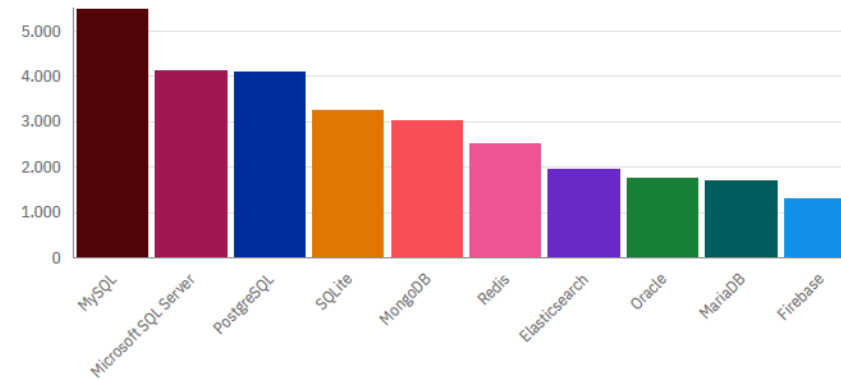
DASHBOARD TAB 1

Current Technology Usage

Top 10 Languages



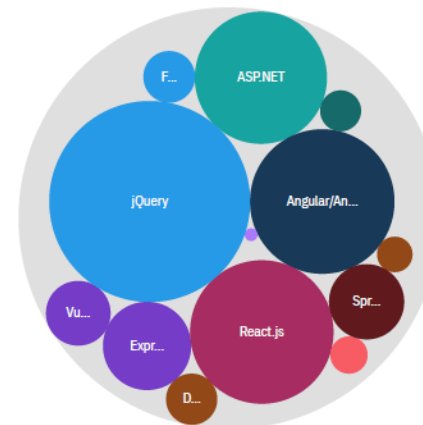
Top 10 Databases



The Most Popular Platforms



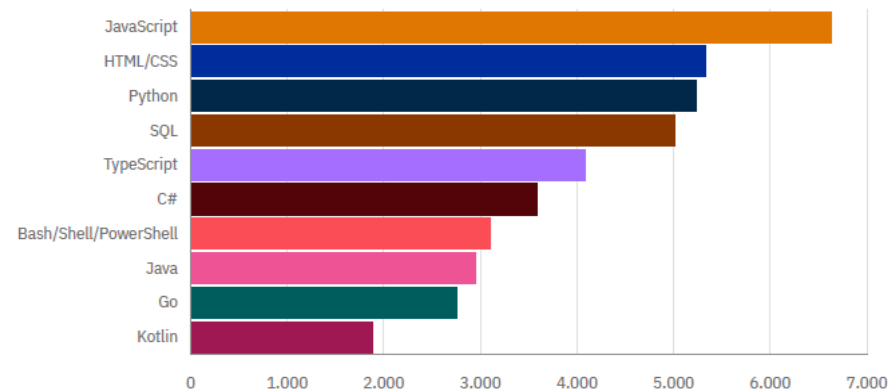
Top 10 Web Frames



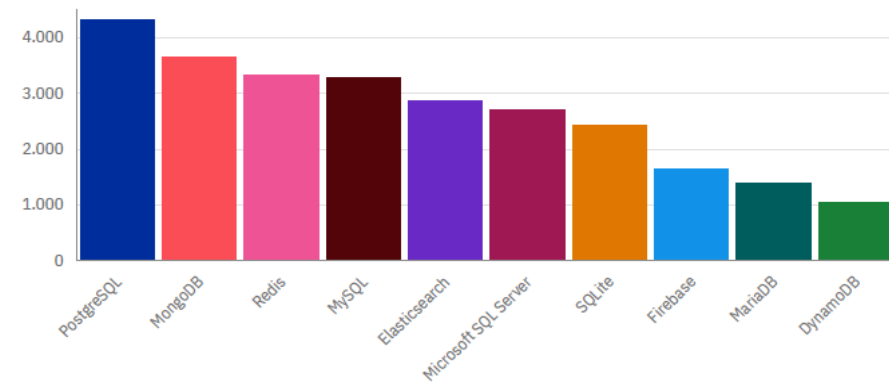
DASHBOARD TAB 2

Future Technology Trend

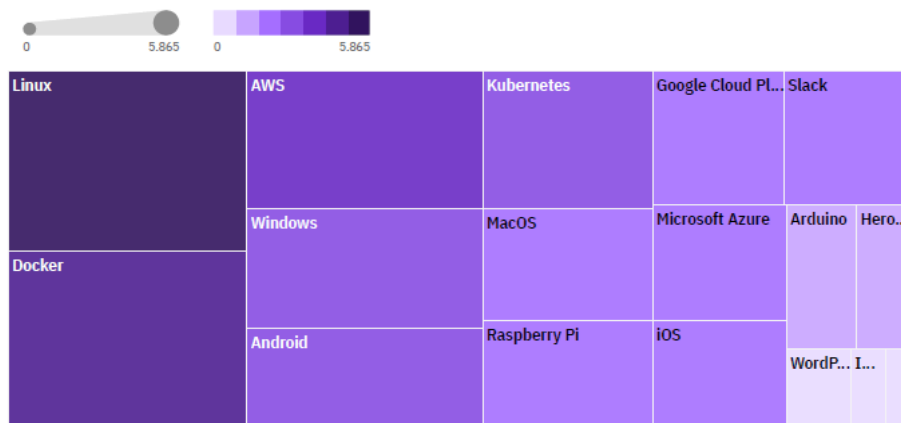
Top 10 Languages wanted to learn



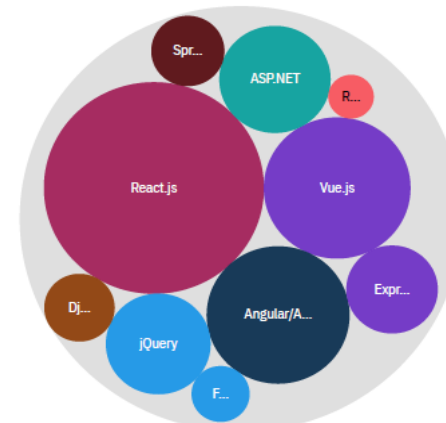
Top 10 Databases wanted to learn



Most Desired Platforms



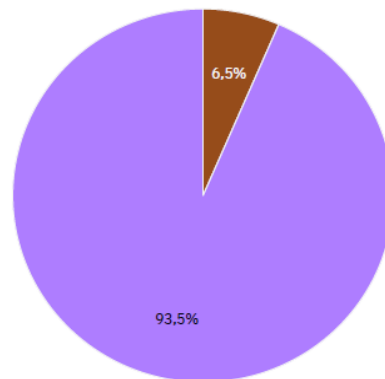
Most Desired Webframes



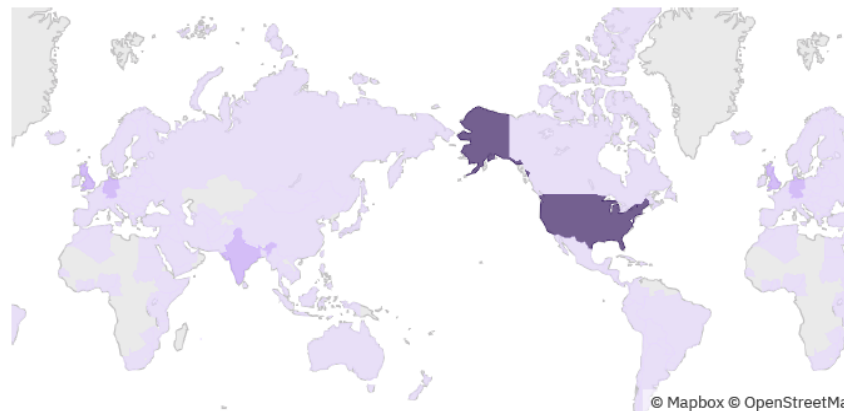
DASHBOARD TAB 3

Demographics

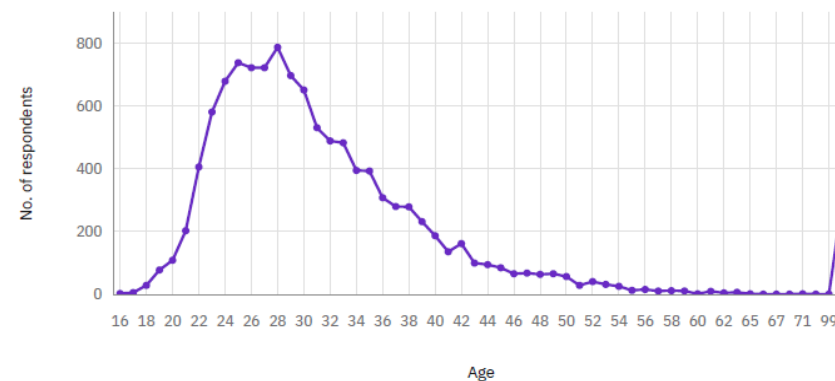
Respondent per Gender



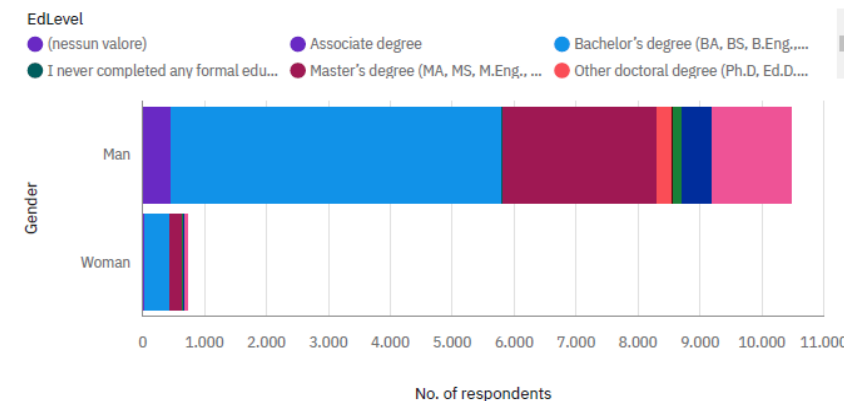
Respondent per Country



Respondent per Age



Education level of Respondents per Gender



DISCUSSION



OVERALL FINDINGS & IMPLICATIONS

Findings

- Linux dominates the future technology trends
- Overwhelming majority of male respondents
- Profiling Devs: young, American and BA-level

Implications

- Popularity can not be taken for granted: Windows losing positions as working platform
- Technology gender gap: devs' world needs diversity and inclusion
- Dev profile geographically localized: developing countries need access to the profession

CONCLUSION

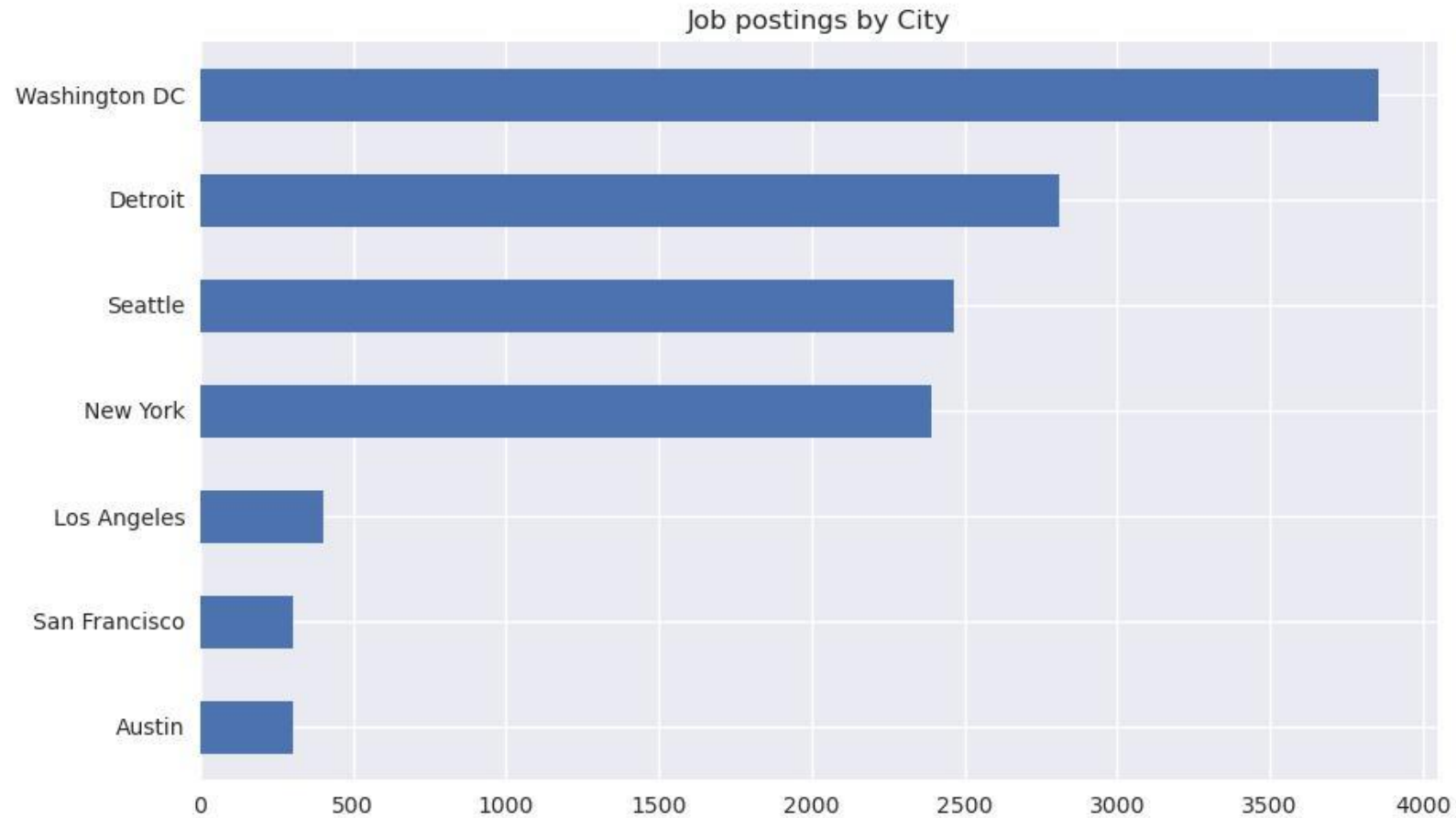


- The profile of developers has very specific features (age, gender, nationality)
- The Survey offers a good look on tech trends, as well as programming languages of the future
- Extremely huge work has to be done to make the profession more inclusive
- A risk of sectarianism: developing countries need access to the asset to support their growth

APPENDIX



JOB POSTINGS



POPULAR LANGUAGES

