



# Stack Overflow Developer Survey

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# OUTLINE

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

# EXECUTIVE SUMMARY

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- The objective of data contextualization and analysis
- Explanation of Methodology
  - Data Collection
  - Data Analysis
  - Data Visualization
- Presentation of results with graphs/charts and trends
- Discussion of the main findings and their implications based on the results manifested
- Final conclusions of the performed research

# INTRODUCTION

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- Stack Overflow conducts the biggest and most thorough survey of coders worldwide every year
- Results are not equally representative of everyone in the developer community
- Dataset has close to 90,000 developers
- Trends to forecast the direction of the developers
- Description of developers across the world

# METHODOLOGY

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- Gather survey data & examine its content
  - Web Scraping
  - APIs
  - Request library
- Data Wrangling
- Exploratory data analysis
  - Analyzing distribution of data
  - Handling Outliers
  - Correlations
- Data Visualization
  - Emphasize distribution of data, relationships, the structure and comparison of data
- Dashboards

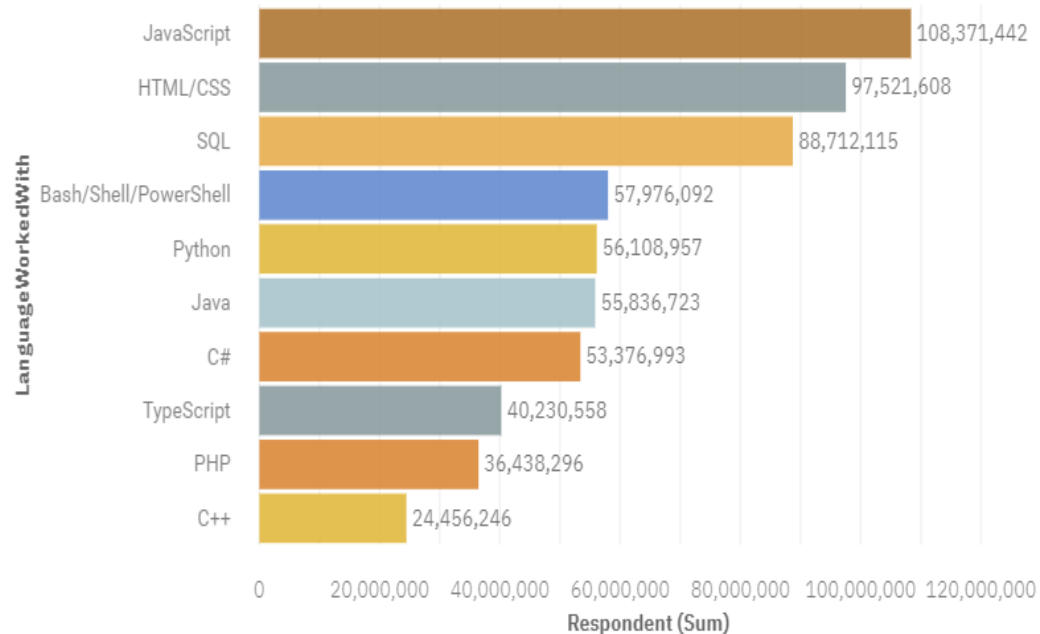
# RESULTS



# PROGRAMMING LANGUAGE TRENDS

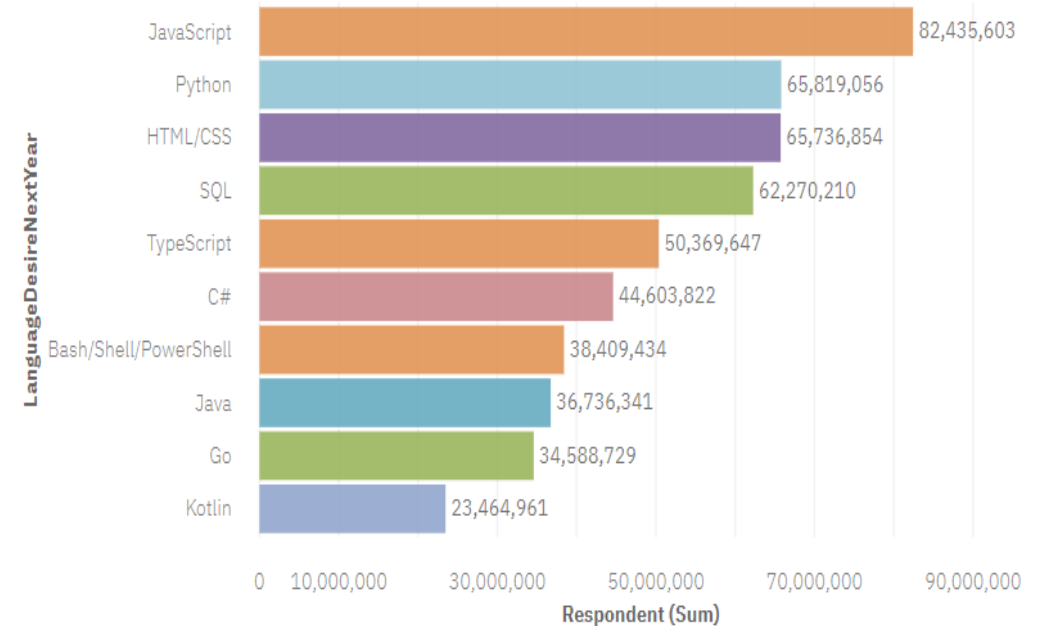
## Current Year

### Top 10 Languages



## Next Year

### Top 10 Next Desired Language





# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- JavaScript appears to remain as dominant language
- HTML/CSS quickest-growing language
- Least interest in C++

## Implications

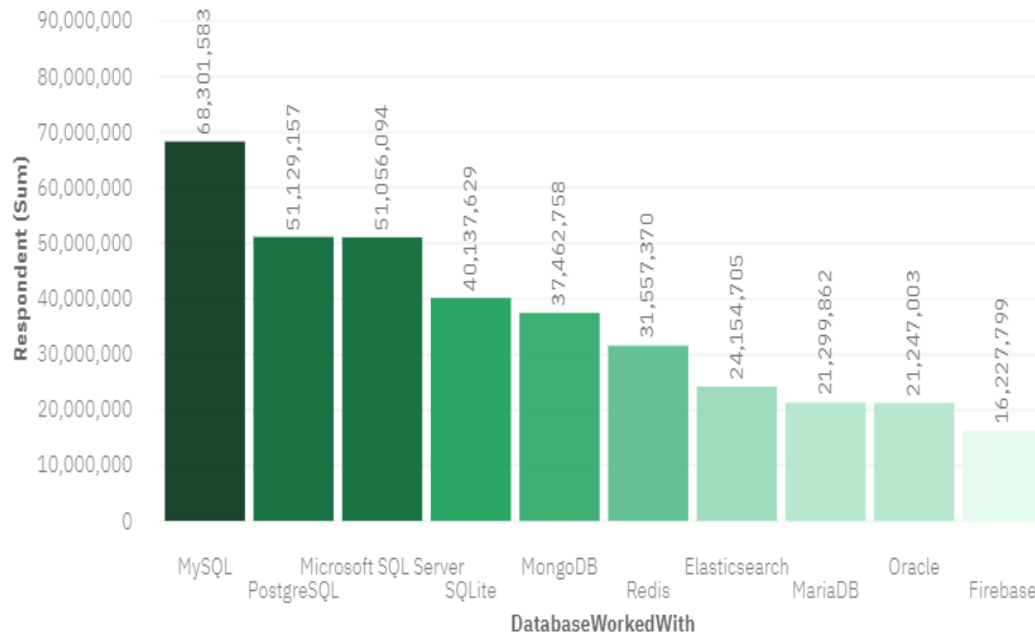
- Potential developer shift from JavaScript to HTML/CSS
- Declining interest in C++ and PHP
- Increasing interest in Go & Kotlin



# DATABASE TRENDS

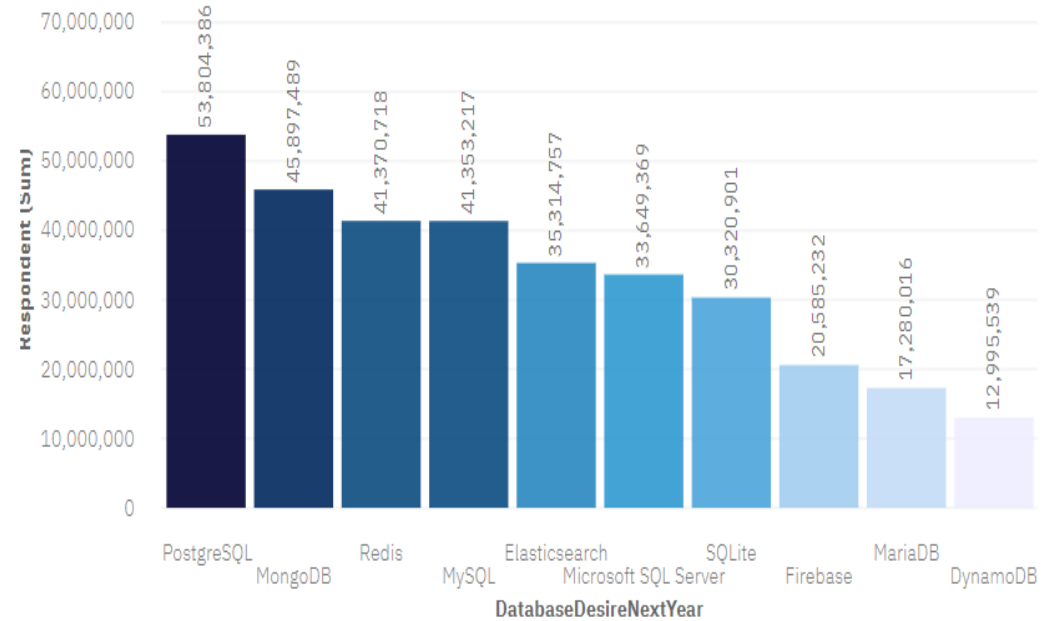
## Current Year

Top 10 Databases



## Next Year

Top 10 Next Desired Database



# DATABASE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- MySQL is the most dominant database
- Reducing interest in Microsoft SQL Server and SQLite
- Rising interest in PostgreSQL and MongoDB

## Implications

- Microsoft SQL Server and SQLite declining in the market
- PostgreSQL and MongoDB consolidation in the market

# DASHBOARD

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<https://dataplatform.cloud.ibm.com/dashboards/7abf6a47-752d-4e6f-85e3-399f4da2ea44/view/1d12ab043fe3139247d4e2e407ca2f032c31745de0bb8605d5827b495c697597f03a1b95c87c1d5bdf400d37a1e816589c>

# Current Technology Usage

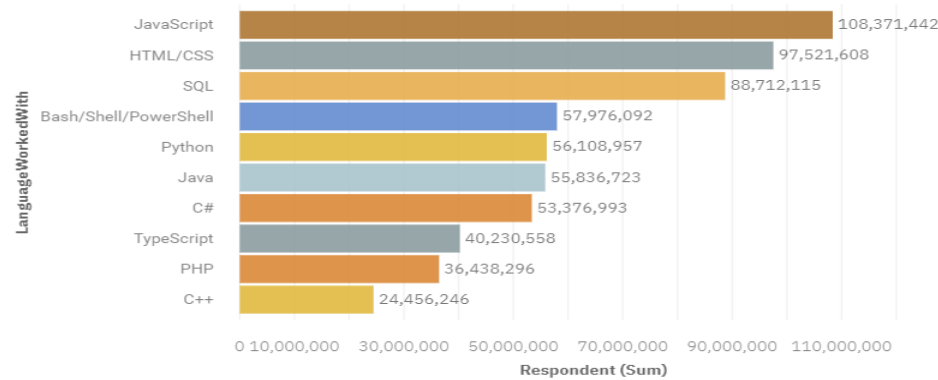
Filters

## Current Technology Usage

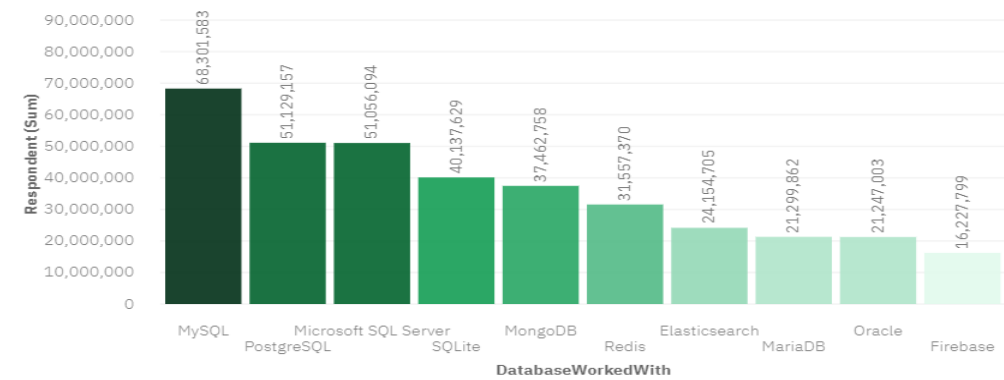
## Future Technology Trend

## Demographics

### Top 10 Languages



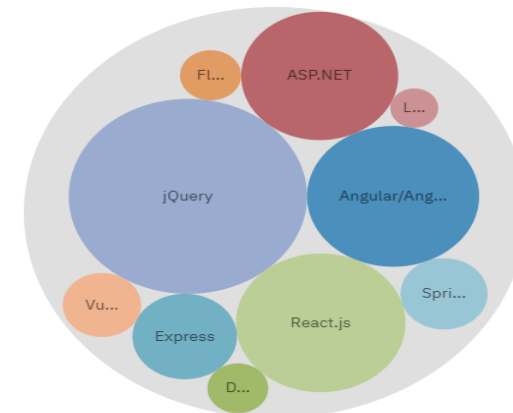
### Top 10 Databases



### Platform Word Cloud



### Top 10 Web Frame

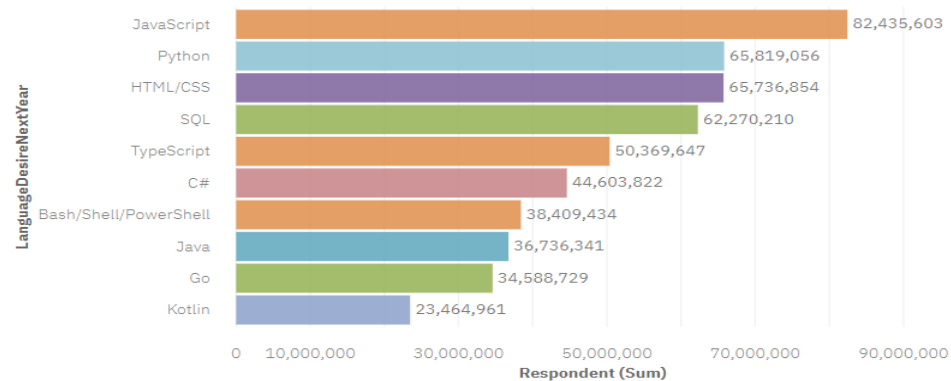


# Future Technology Trend

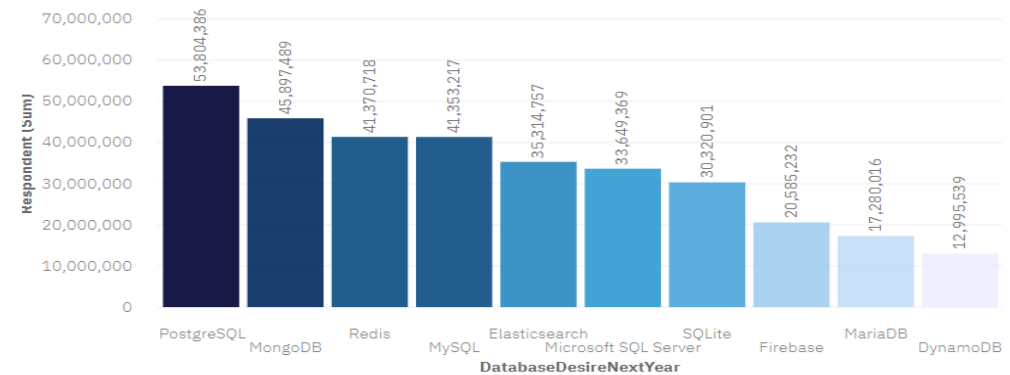
Filters

Current Technology Usage   **Future Technology Trend**   Demographics

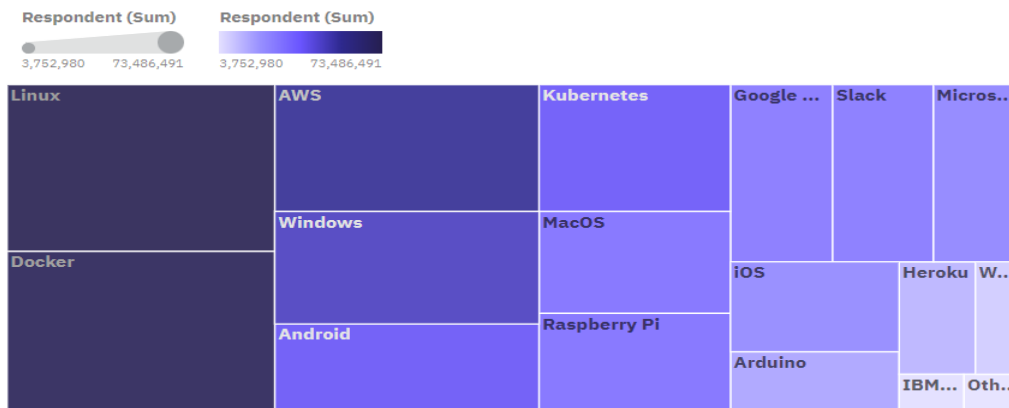
Top 10 Next Desired Language



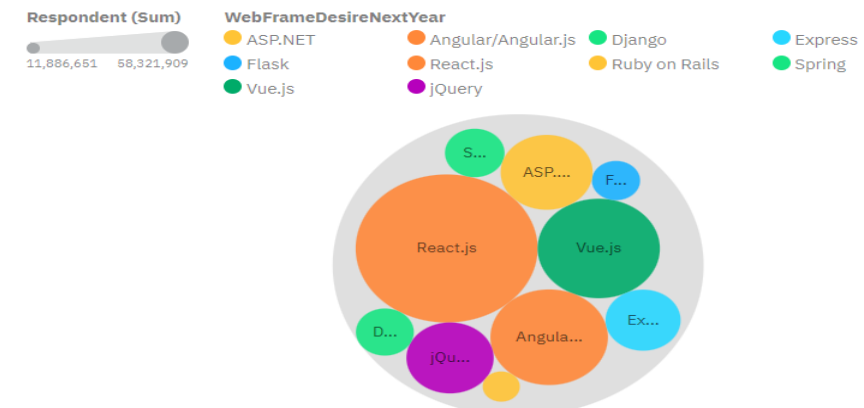
Top 10 Next Desired Database



Platform Desired Next Year



Top 10 Next Desired WebFrame



# Demographics

Filters

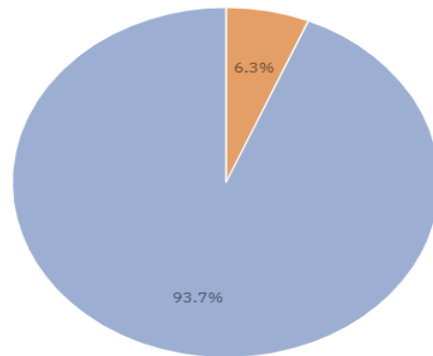
Current Technology Usage

Future Technology Trend

Demographics

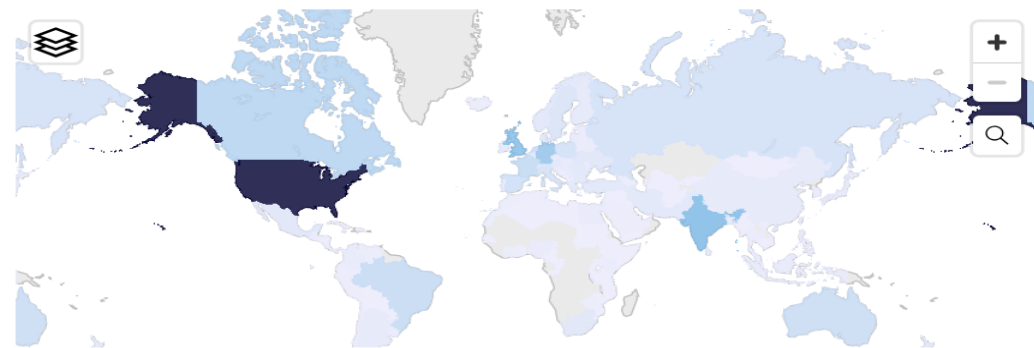
Respondent classified by Gender

Gender  
Woman Man

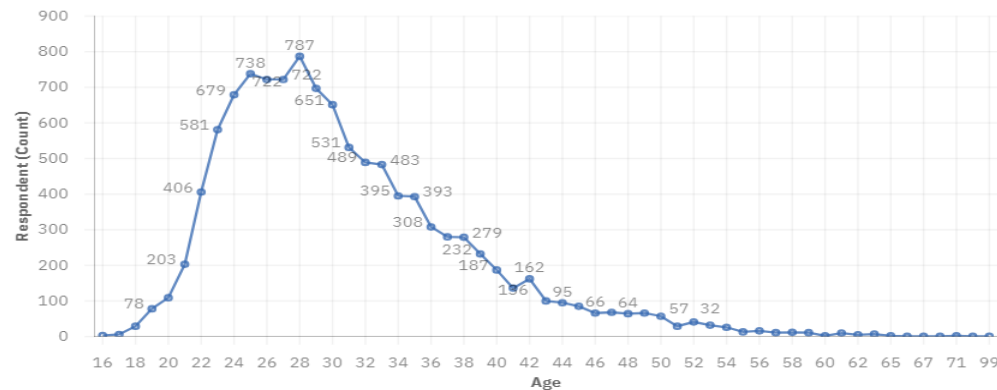


Respondent Count for Countries

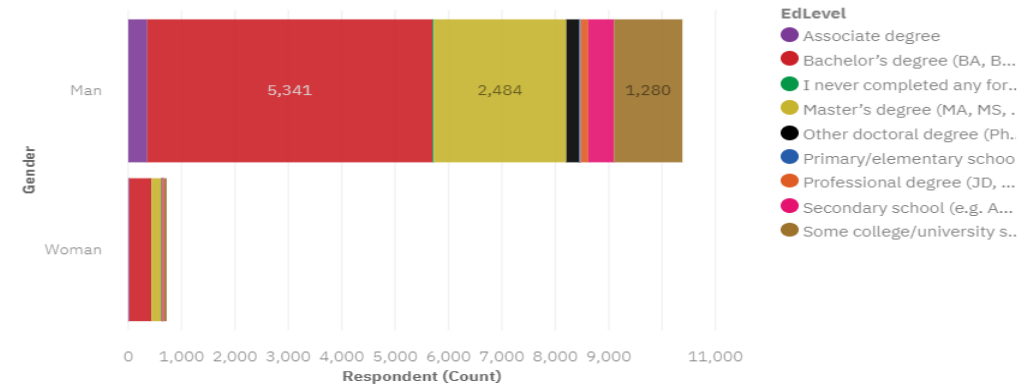
Respondent (Cou...  
1 3,127



Respondent Count by Age



Respondent Count by Gender, classified by Formal Education



# DISCUSSION

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# OVERALL FINDINGS & IMPLICATIONS

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## Findings

- JavaScript prevalent and HTML/CSS becoming popular.
- MySQL is most popular database
- More than 90% developers are young & male
- Developers mainly located in developed countries.

## Implications

- JavaScript and HTML/CSS web frames attracting followers
- Increasing popularity of PostgreSQL and MongoDB
- Global disparity of developers based on location and gender
- Young developers without postgrad studies are majority.

# CONCLUSION

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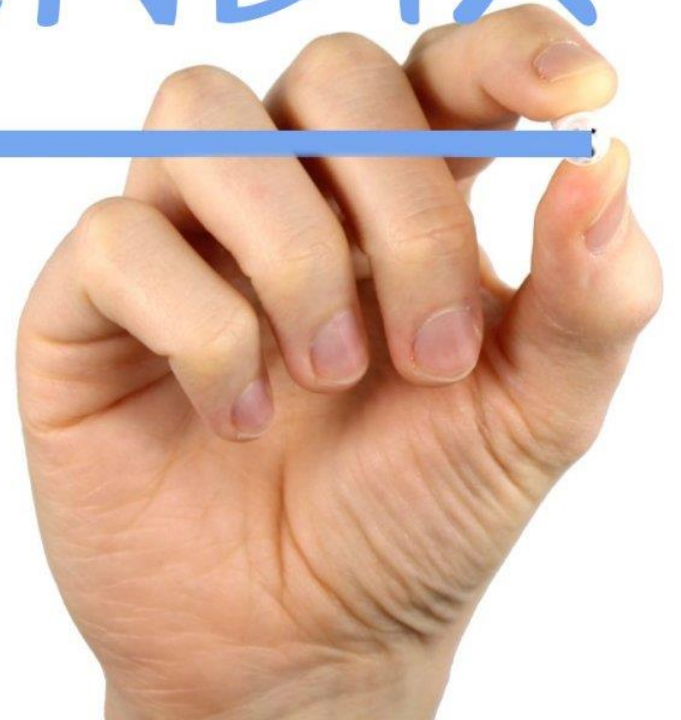
- Developers have very distinctive features
- A clear notion of the popularity trends of various tools, platforms, and languages can be acquired
- There is a task to be done to increase accessibility of this labor market to developing countries

# APPENDIX

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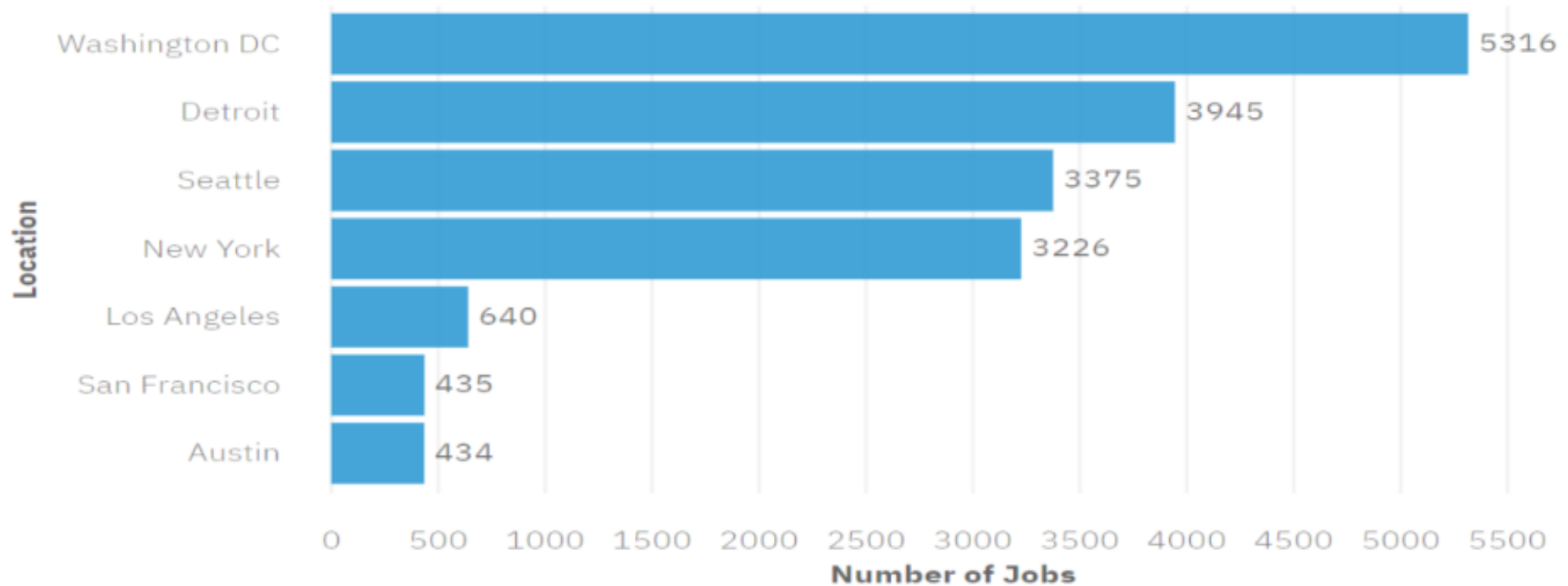


APPENDIX



# JOB POSTINGS

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# POPULAR LANGUAGES

