STACK OVERFLOW DEVELOPER SURVEY 2019

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11th July 2023

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OUTLINE

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

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EXECUTIVE SUMMARY

- Data contextualization and analysis goal.

- Methodology description.

  o Data gathering.

  o Data analysis.

  o 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
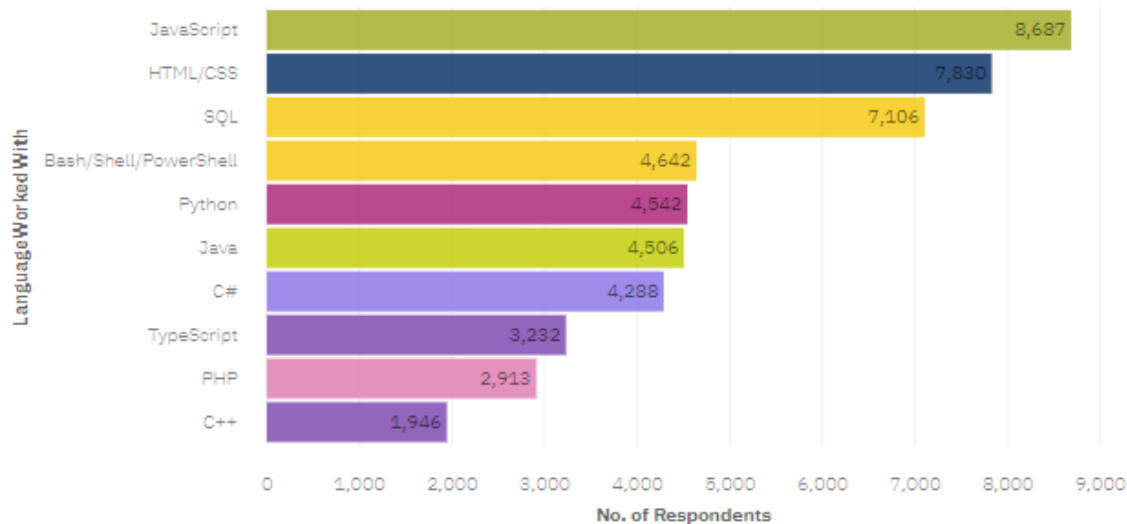- Highlight distribution of data, relationships, the composition and comparison of data.
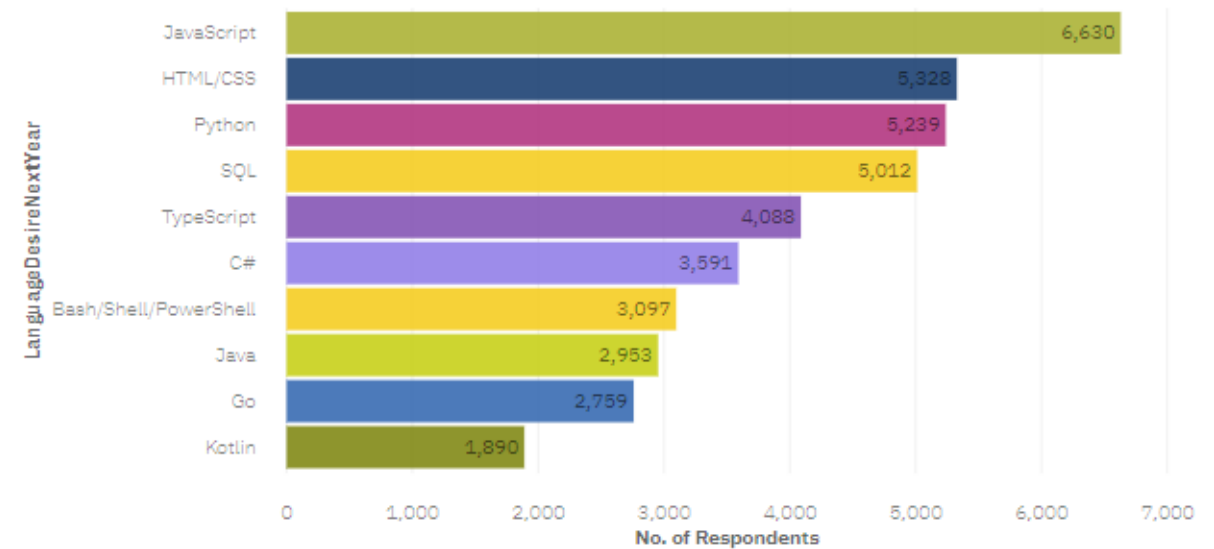- Dashboards

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RESULTS

PROGRAMMING LANGUAGE TRENDS

Current Year

Next Year

Top 10 Languages Worked With

Language	No. 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

Top 10 Language Desire Next Year

Language	No. 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

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PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

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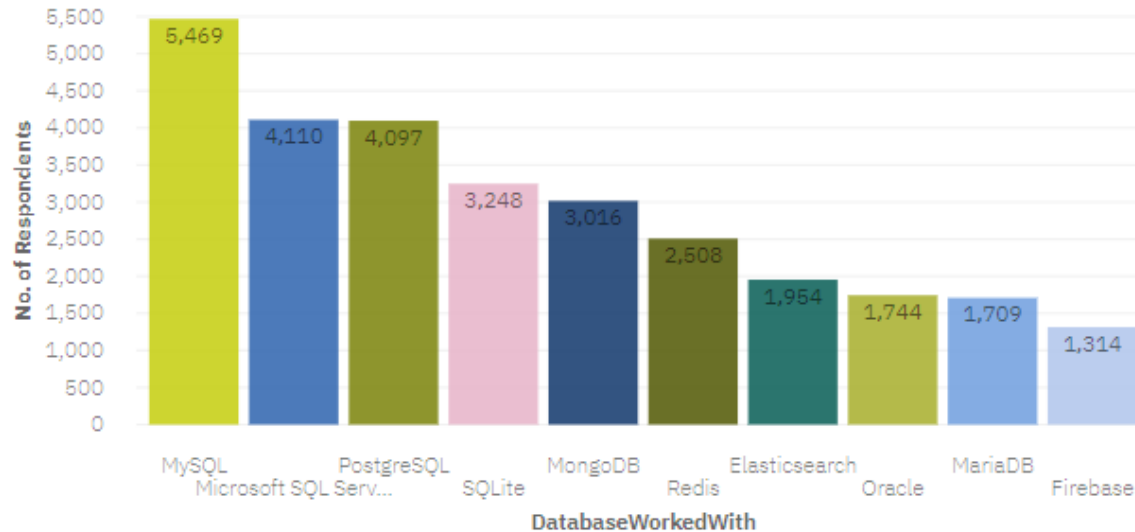- Python fastest-growing.
- Great interest in TypeScript

Implications

- Possible developers migration from JavaScript to TypeScript.

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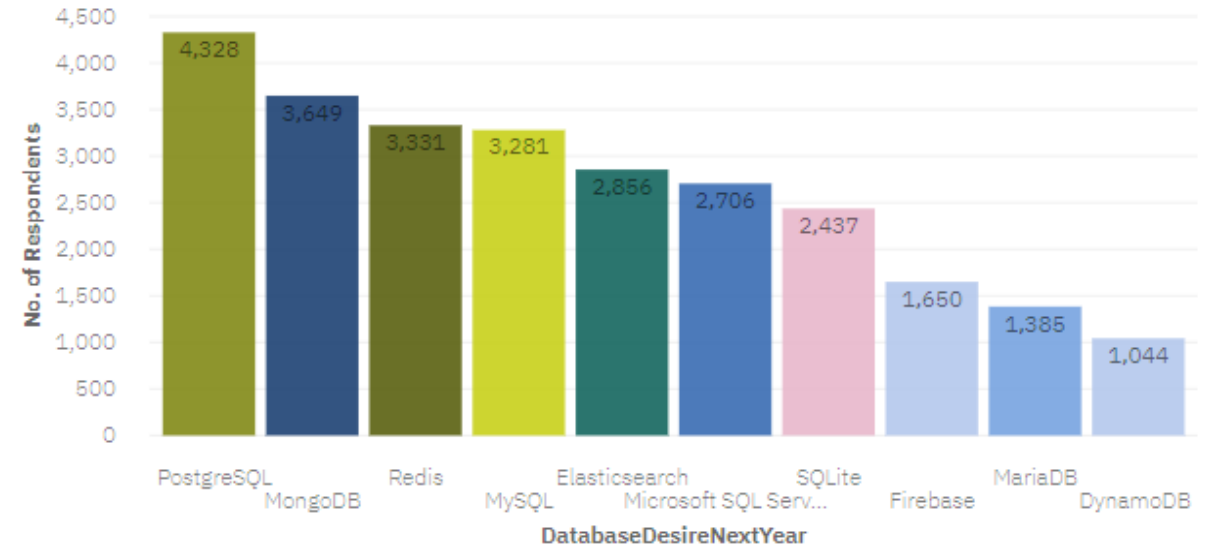
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DATABASE TRENDS

Current Year

Next Year

Top 10 Database Worked With

Top 10 Database Desire Next Year

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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.
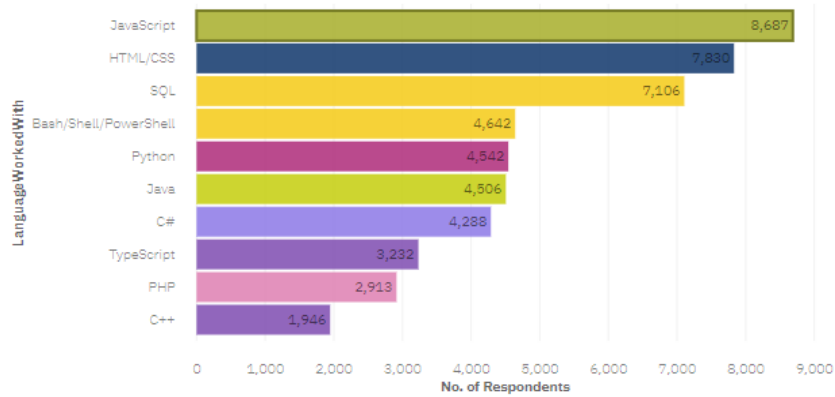- PostgreSQL and MongoDB establishment in the market.
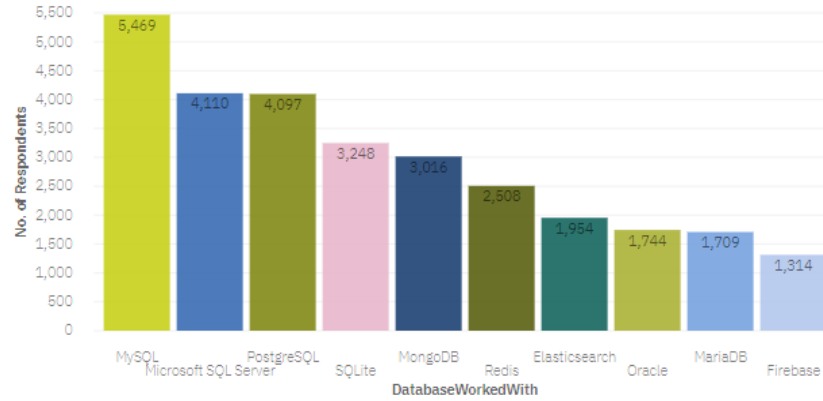
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DASHBOARD

https://eu-de.dataplatform.cloud.ibm.com/dashboards/2dfa018a-7d9b-4e03-a85d-4fb1baab8f3e/view/5f23e57c0f8e3fec40b2bde407ca29052f65225ee1bb8350d1d47b495e342797f03b4798c87d4f0bd8400331f1ee1750c0

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DASHBOARD TAB 1

Top 10 Languages Worked With

Language	No. 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

Top 10 Database Worked With

Database	No. of Respondents
MySQL	5,469
Microsoft SQL Server	4,110
PostgreSQL	4,097
SQLite	3,248
MongoDB	3,016
Redis	2,508
Elasticsearch	1,954
Oracle	1,744
MariaDB	1,709
Firebase	1,314

Platform Worked With

PlatformWorked...   0 — 5,811

PlatformWorkedWith
- (no value)
- Arduino
- Heroku
- Linux
- AWS
- Docker
- IBM Cloud or Watson
- MacOS
- Android
- Google Cloud Platform
- Kubernetes
- Microsoft Azure

Top 10 Web Frame Worked With

WebFrameWorke...   291 — 4,629

WebFrameWorkedWith
- ASP.NET
- Express
- React.js
- jQuery
- Angular/Angular.js
- Flask
- Ruby on Rails
- Django
- Laravel
- Spring
- Drupal
- Other(s)
- Vue.js

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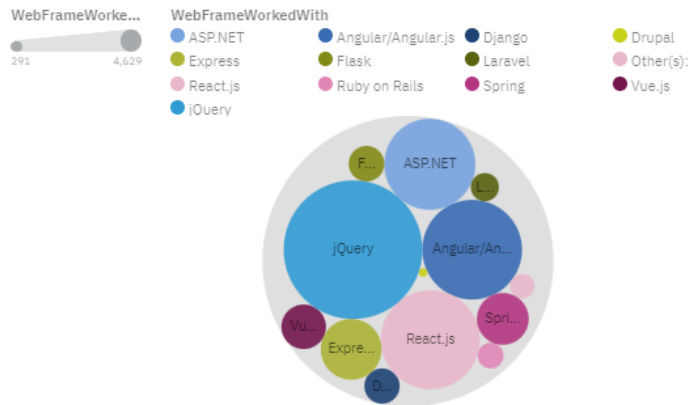
DASHBOARD TAB 2

Top 10 Language Desire Next Year

Language	No. 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

Top 10 Database Desire Next Year

Database	No. of Respondents
PostgreSQL	4,328
MongoDB	3,649
Redis	3,331
MySQL	3,281
Elasticsearch	2,856
Microsoft SQL Server	2,706
SQLite	2,437
Firebase	1,650
MariaDB	1,385
DynamoDB	1,044
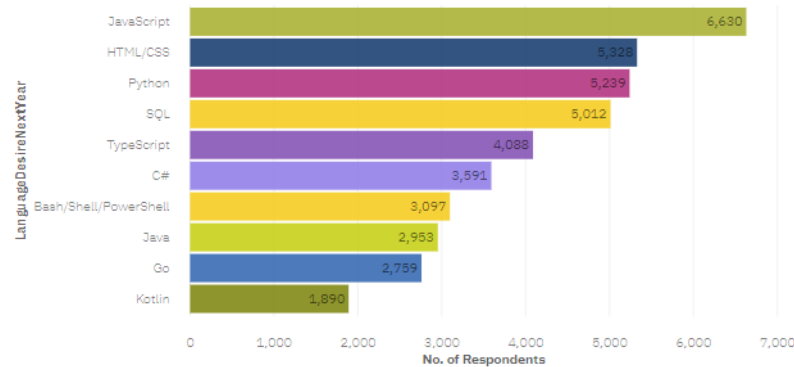
Platform Desire Next Year
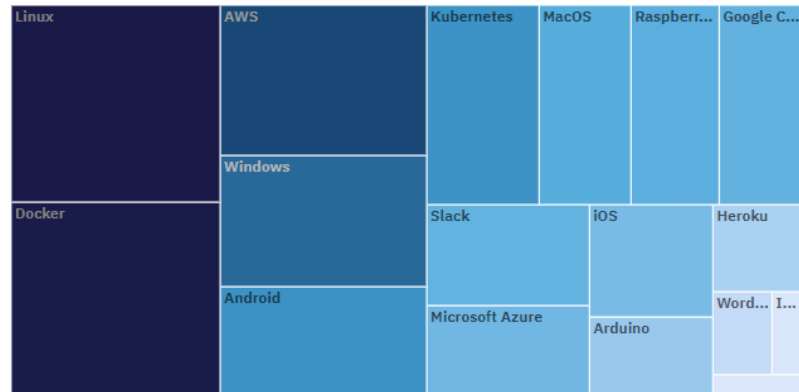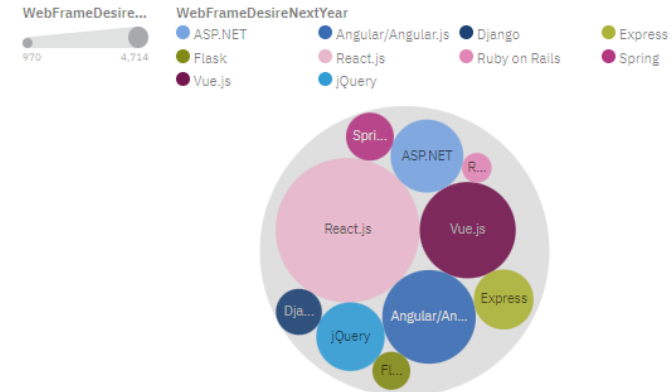
Linux, AWS, Kubernetes, MacOS, Raspberr..., Google C..., Windows, Docker, Slack, iOS, Heroku, Android, Microsoft Azure, Arduino, Word..., I...

Top 10 Web Frame Desire Next Year

WebFrameDesire... 970 — 4,714

WebFrameDesireNextYear: ASP.NET, Angular/Angular.js, Django, Express, Flask, React.js, Ruby on Rails, Spring, Vue.js, jQuery

Spri..., ASP.NET, R..., React.js, Vue.js, Dja..., jQuery, Angular/An..., Express, FL...

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DASHBOARD TAB 3
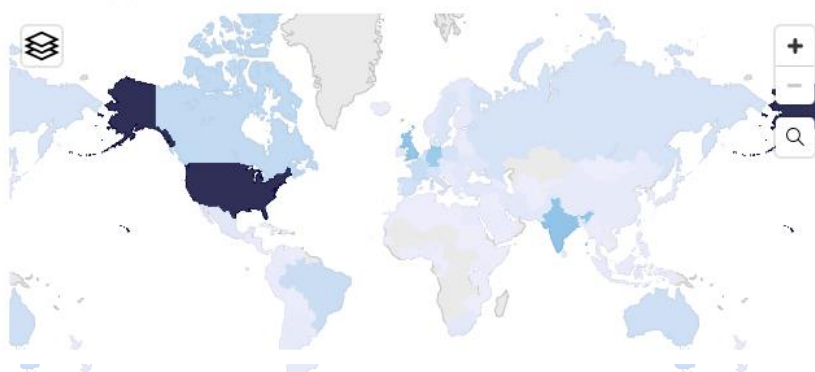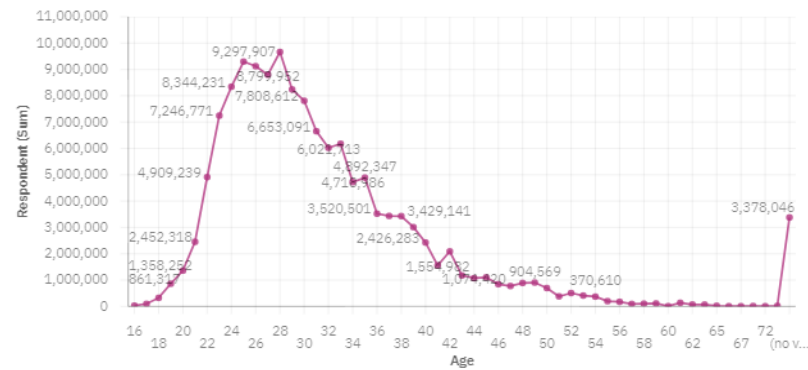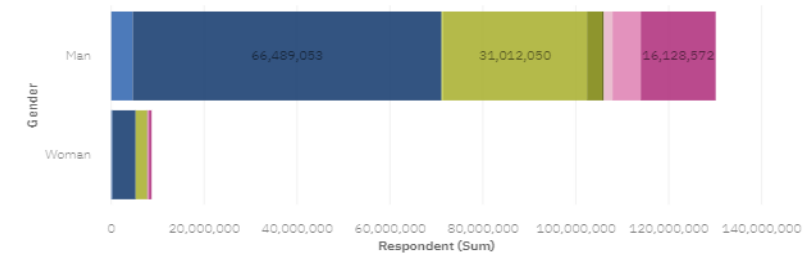
DISCUSSION

OVERALL FINDINGS & IMPLICATIONS

Findings

- JavaScript widely used and TypeScript getting popular.

- Over 90% young male developers.

- Developers mostly located in developed countries.
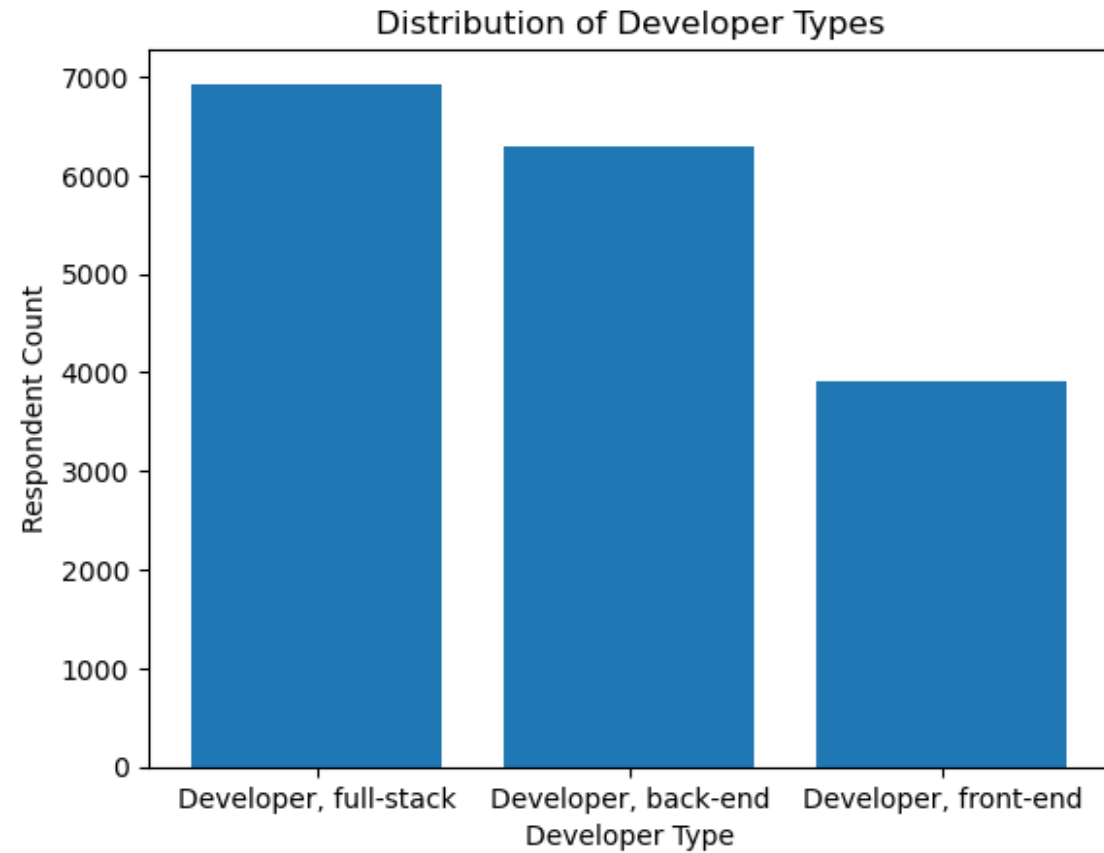
Implications

- JavaScript and TypeScript web frames gaining followers.

- Global polarization of developers location and gender.

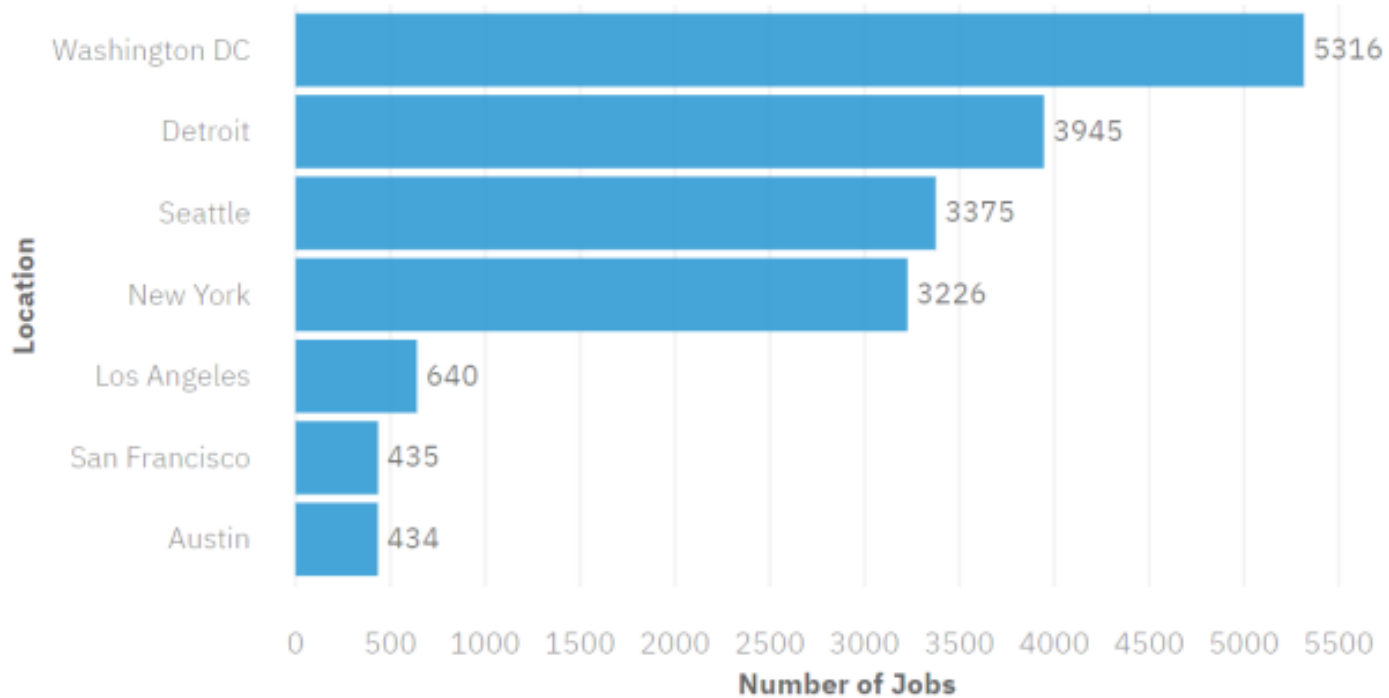- Young developers without postgrad studies on its majority.

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

Distribution of Developer Types

JOB POSTINGS

POPULAR LANGUAGES