



STACK OVERFLOW DEVELOPER SURVEY

CATRINE AGNUS

APRIL 11, 2024

OUTLINE



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

EXECUTIVE SUMMARY



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

INTRODUCTION



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

METHODOLOGY



- Dashboards
- Data Wrangling
- Data Visualization
 - Highlight distribution of data, relationships, the composition and comparison of data
- Collect survey data and explore it's content
 - Web Scraping
 - APIs
 - Request Library
- Exploratory data analysis
 - Analyzing data distribution
 - Handling outliers
 - Correlations

SULTS

	Respondent...	LanguageWorkedWith	LanguageDesireNextYear	DatabaseWorkedWith	DatabaseDesireNextYear
1.	25142	R			
2.	25142	Python			
3.	25142	C	C		
4.	25142	Go	Python		
5.	25142	C++	C++		
6.	25142	HTML/CSS	R		
7.	25142	PHP			
8.	25142	Bash/Shell/PowerShell	Bash/Shell/PowerShell	PostgreSQL	PostgreSQL
9.	25141	C#	F#		Microsoft SQL Server
10.	25141	JavaScript			
11.	25141	TypeScript			
12.	25141	HTML/CSS			Redis
13.	25141	Java			
14.	25141	Python			
15.	25141	SQL			

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PROGRAMMING LANGUAGE TRENDS

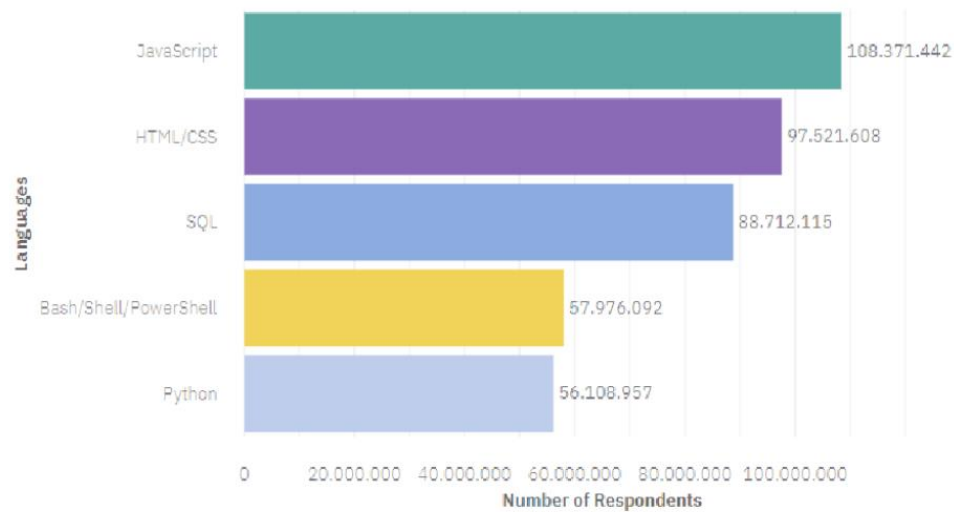
Current Year

Next Year

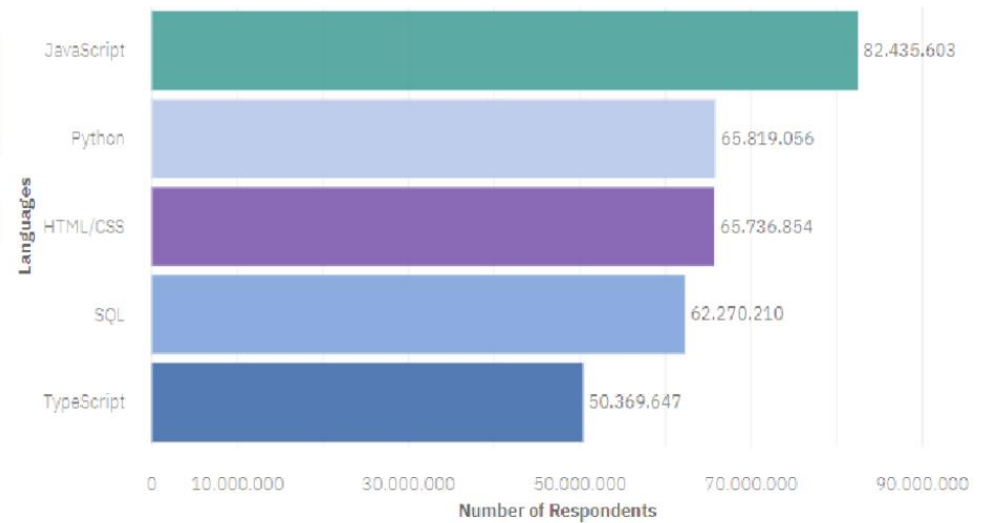
Current Year

Next Year

Top 5 Programming Language Experience



Top 5 Desired Language to Learn



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript, HTML/CCS, SQL are top 3 this year
- Python and Typescript becoming popular next year
- PowerShell edge out in next year

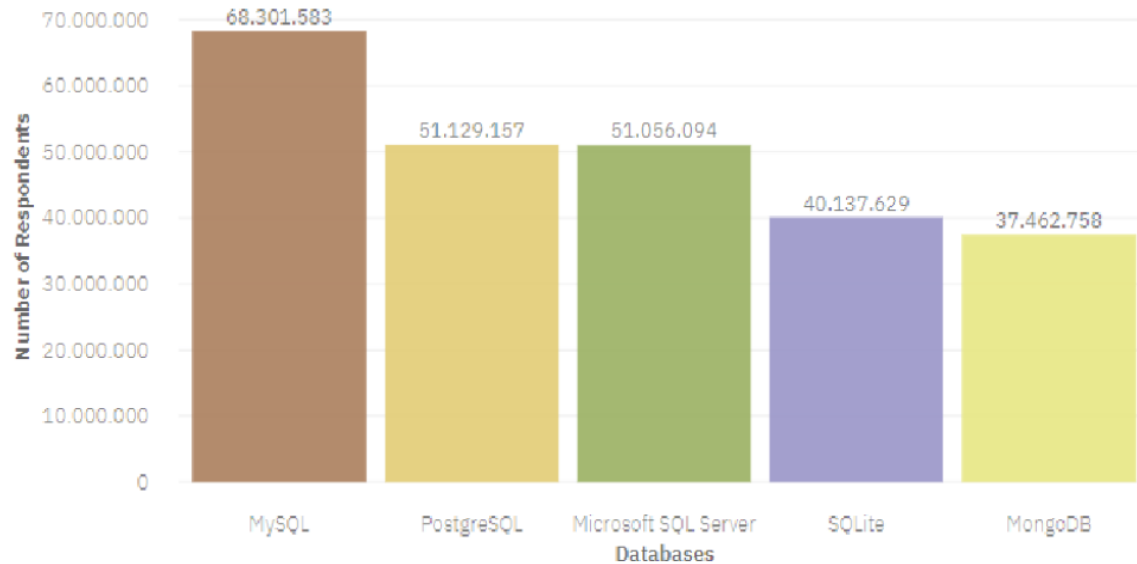
Implications

- Web development are still in high demand
- Big data technology in companies still require SQL
- With AI and ML in rising demand, Python is best choice

DATABASE TRENDS

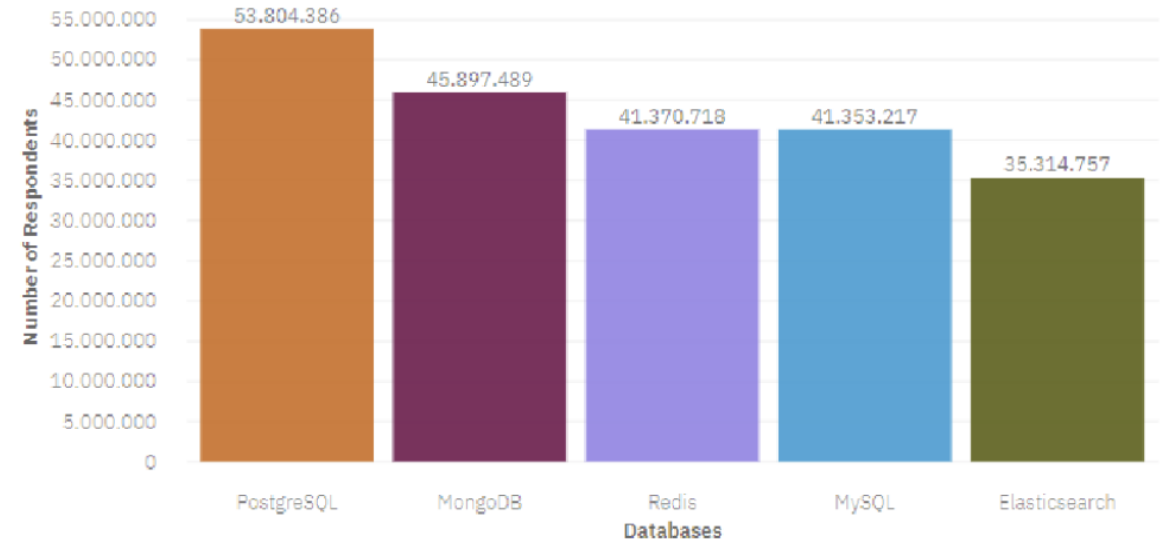
Current Year

Top 5 Databases Worked with



Next Year

Top 5 Desired Database to Learn



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

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

Implications

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

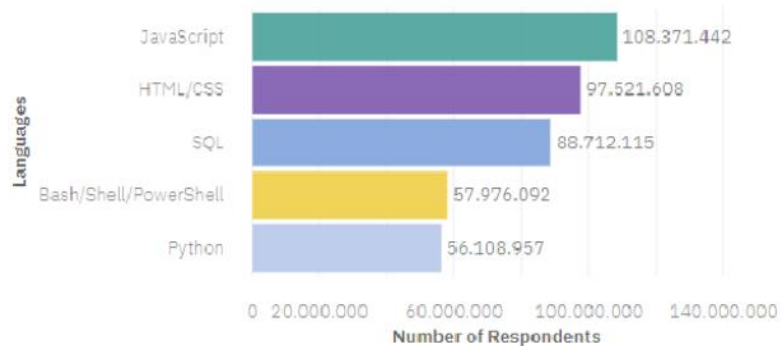
DASHBOARD



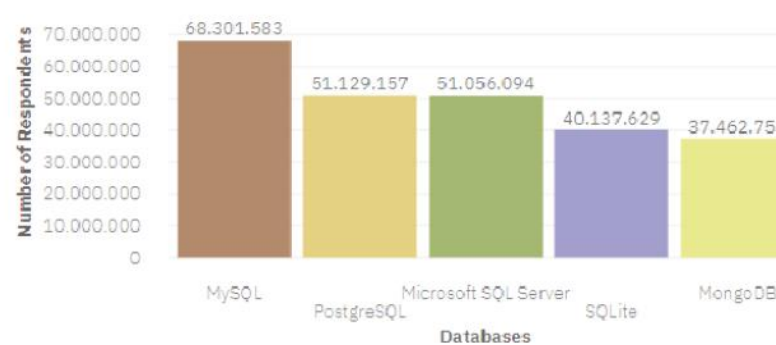
<The GitHub link of the Cognos dashboard goes here.>

Current Technology Usage

Top 5 Programming Language Experience



Top 5 Databases Worked with



Platforms Interacted

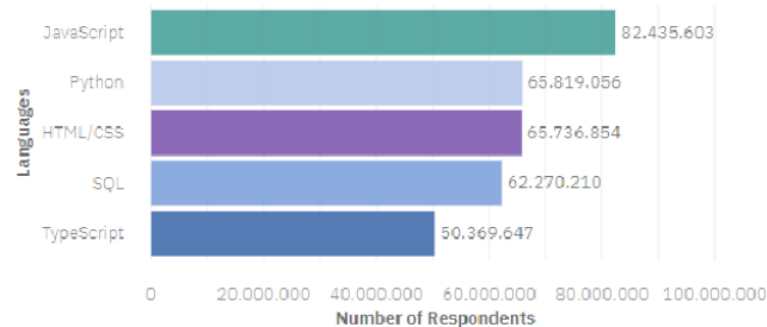


Top 10 WebFrames Used

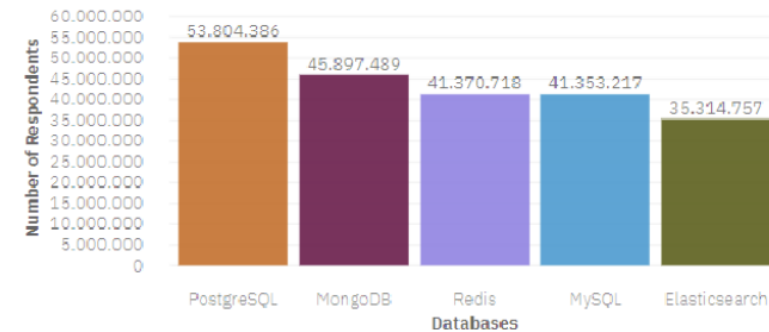


Future Technology Trend

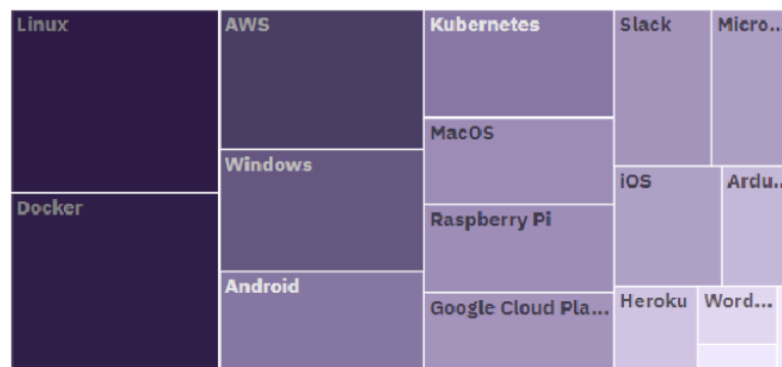
Top 5 Desired Language to Learn



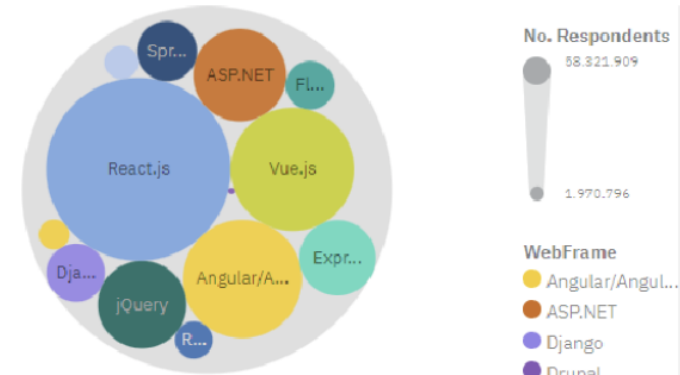
Top 5 Desired Database to Learn



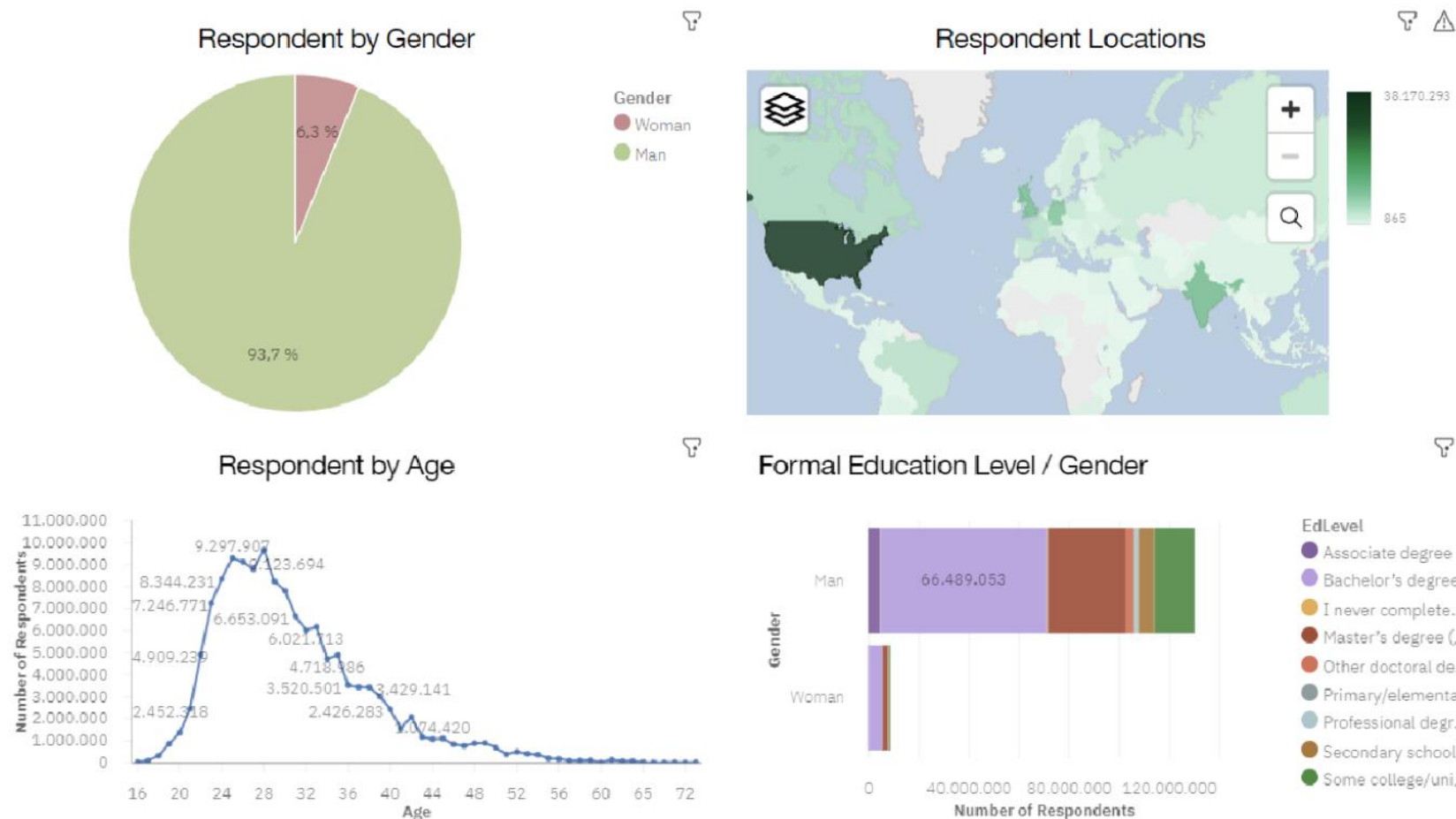
Platform Next Year



Top 10 WebFrame Next Year



Demographics



DISCUSSION



- Technology Trends now and future
- Training and Reskilling workers
- Females participation in technology field
- Bridge divide of technology gaps in developing countries

OVERALL FINDINGS & IMPLICATIONS

Findings

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

Implications

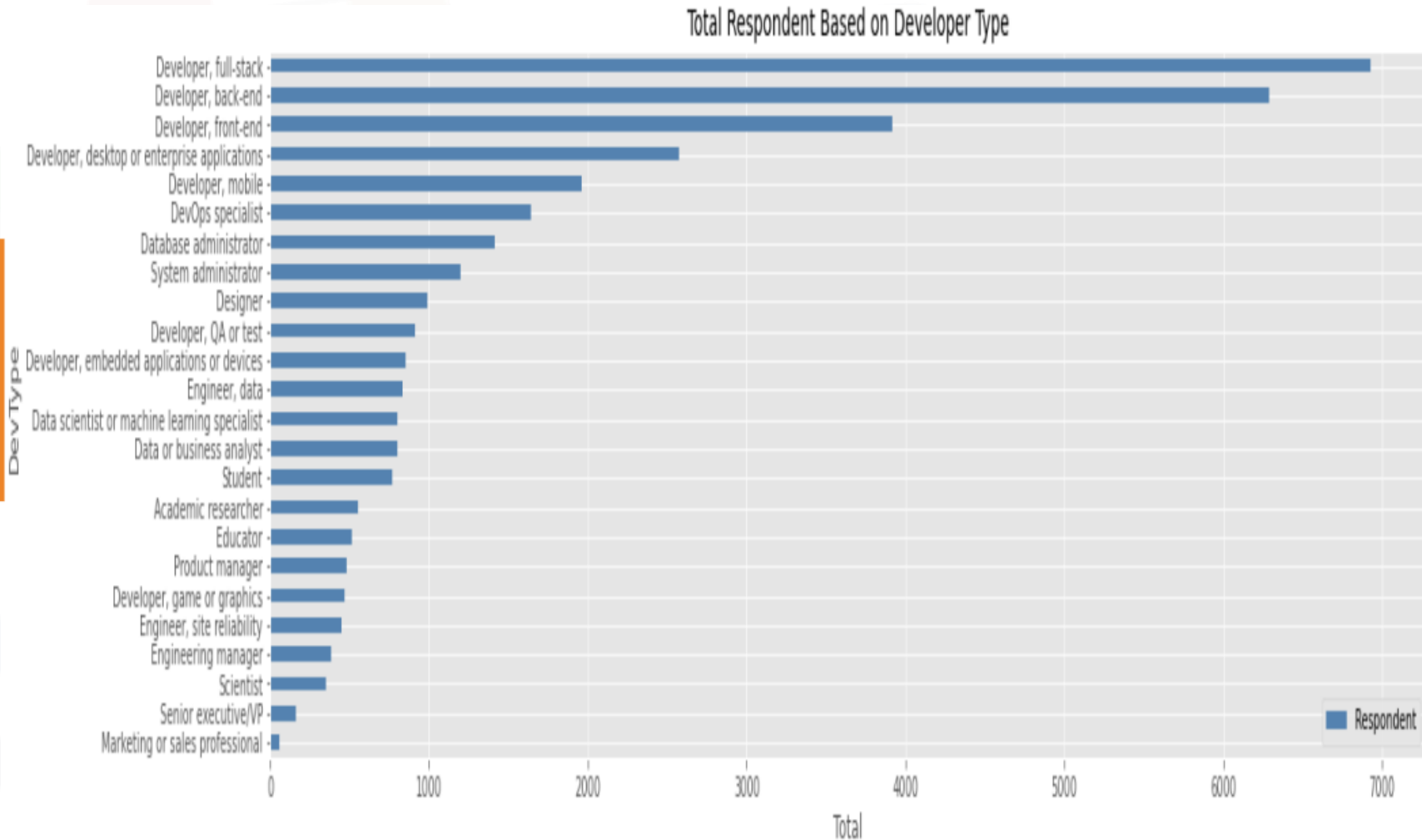
- JavaScript and TypeScript web frames gaining followers
- Global polarization of developers location and gender
- Young developers without postgrad studies on its majority

CONCLUSION

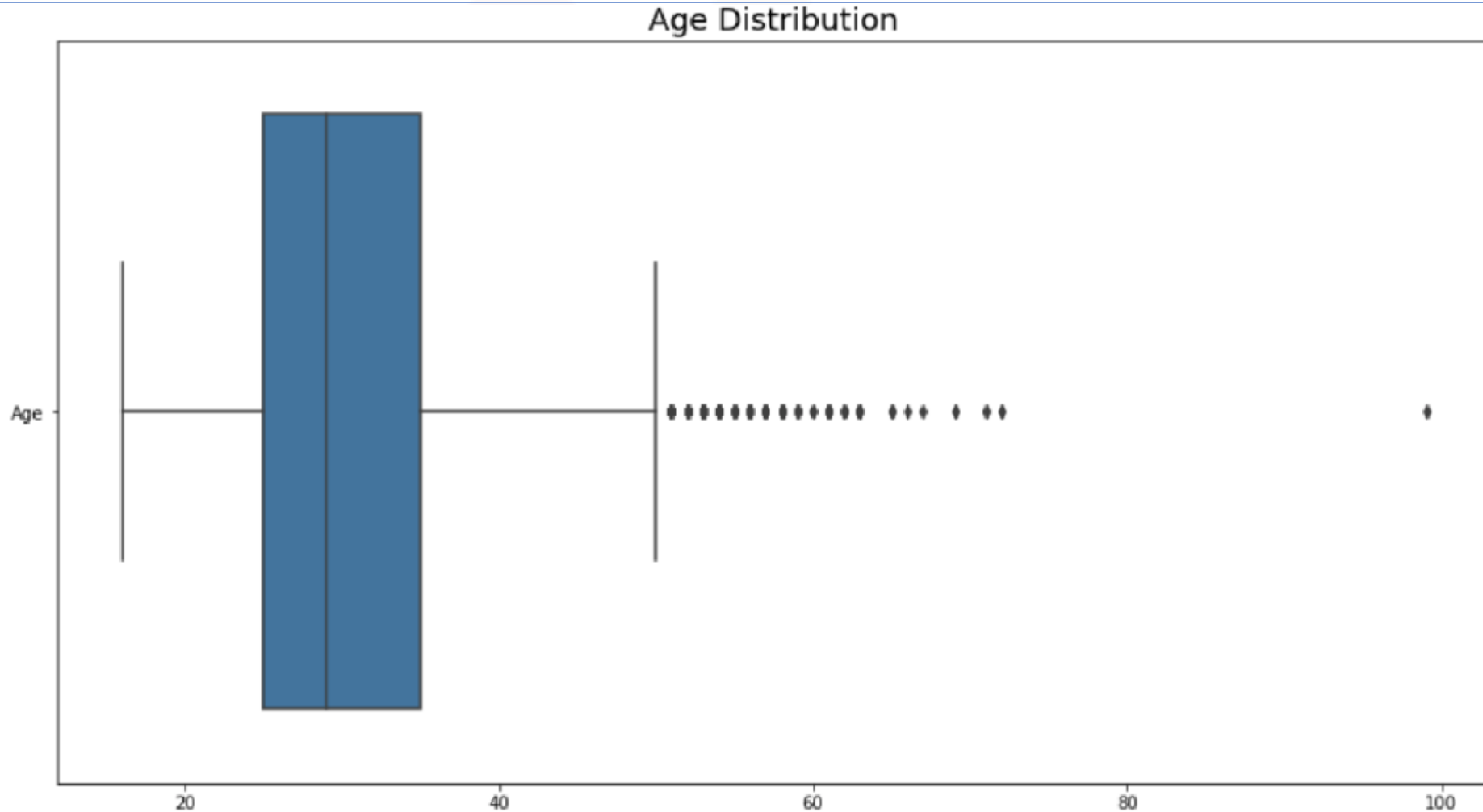


- Technology trends for current and next year
- Demographics overview
- In future, incorporate machine learning to predict trends and salaries
- Programming languages, Database, and platform overview

APPENDIX



Age Distribution Boxplot



POPULAR LANGUAGES

