



# IBM Data Analyst Capstone Project

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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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- 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.
- Final conclusions of the carried out research.

# INTRODUCTION

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- 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

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- 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

# RESULTS

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# PROGRAMMING LANGUAGE TRENDS

Current Year

Top 5 Programming Language Experience



Next Year

Top 5 Desired Language to Learn



# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

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

## Implications

- Possible developers migration from JavaScript to TypeScript.



# DATABASE TRENDS

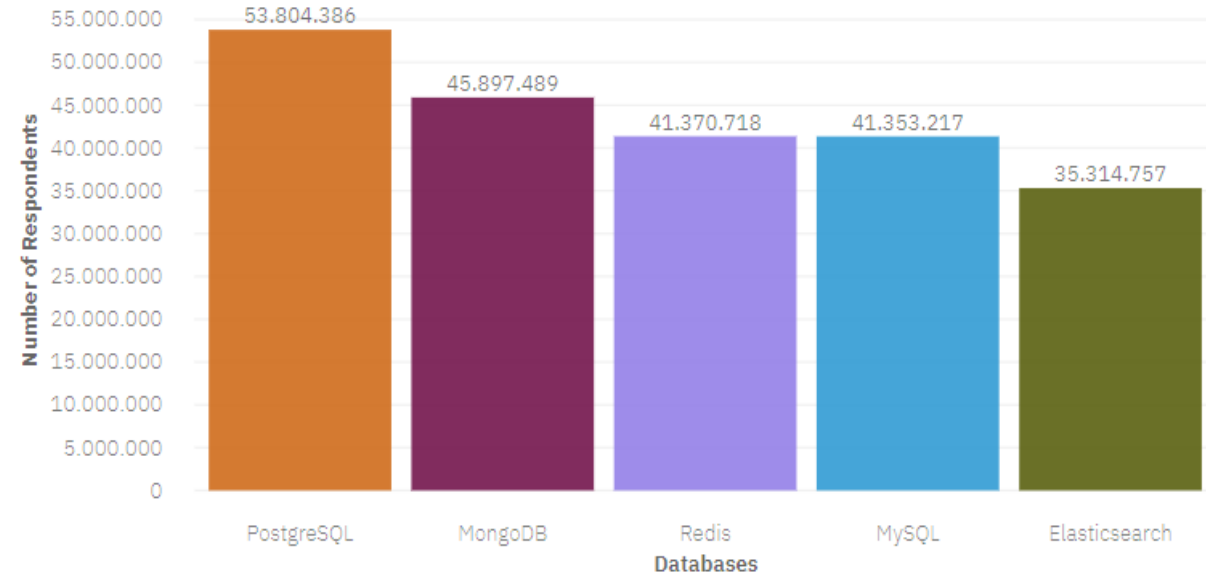
Current Year

Top 5 Databases Worked with



Next Year

Top 5 Desired Database to Learn



# DATABASE TRENDS - FINDINGS & IMPLICATIONS

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## 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.

# DASHBOARD

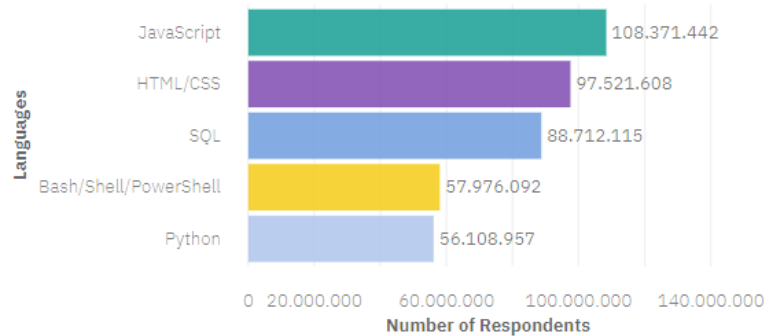
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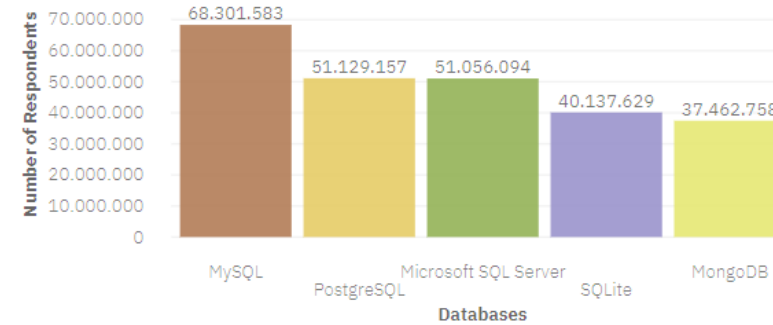
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# CURRENT TECHNOLOGY USAGE

Top 5 Programming Language Experience



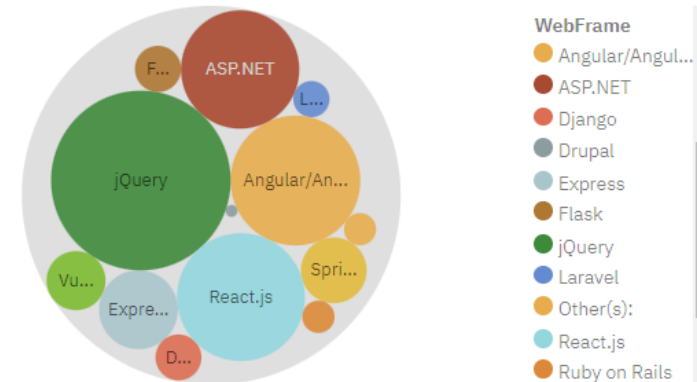
Top 5 Databases Worked with



Platforms Interacted

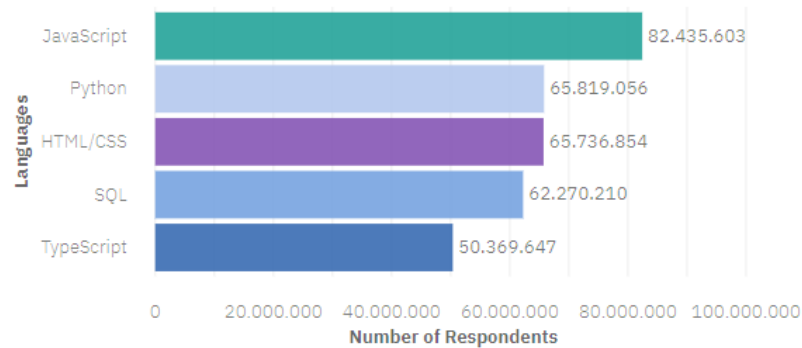


Top 10 WebFrames Used

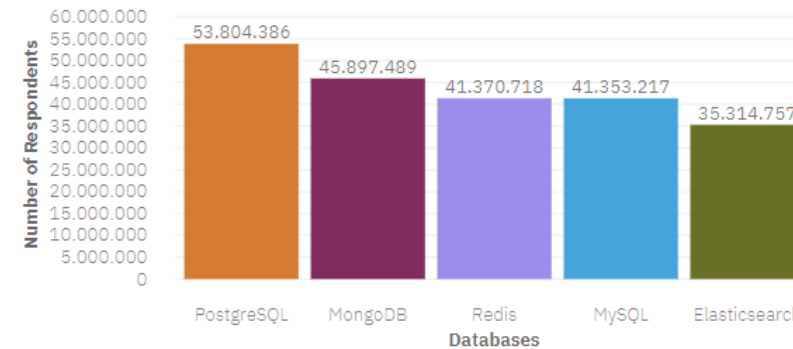


# FUTURE TECHNOLOGY TREND

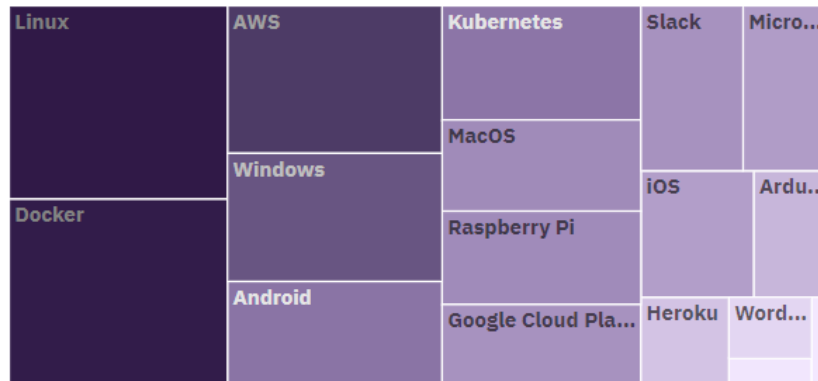
Top 5 Desired Language to Learn



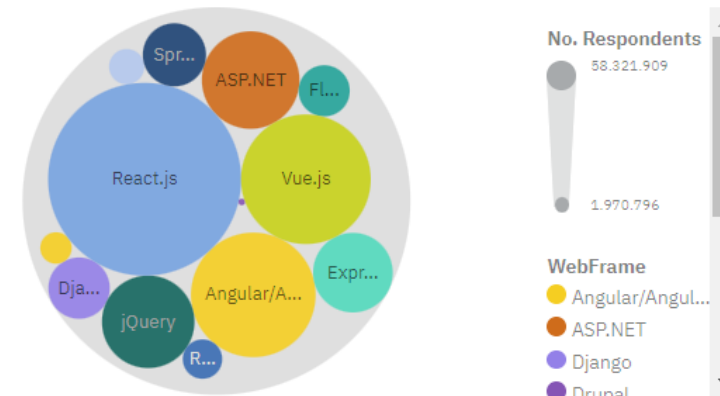
Top 5 Desired Database to Learn



Platform Next Year

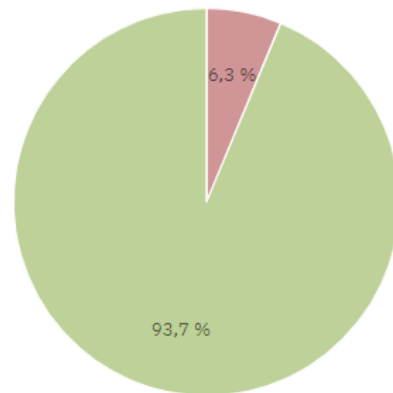


Top 10 WebFrame Next Year

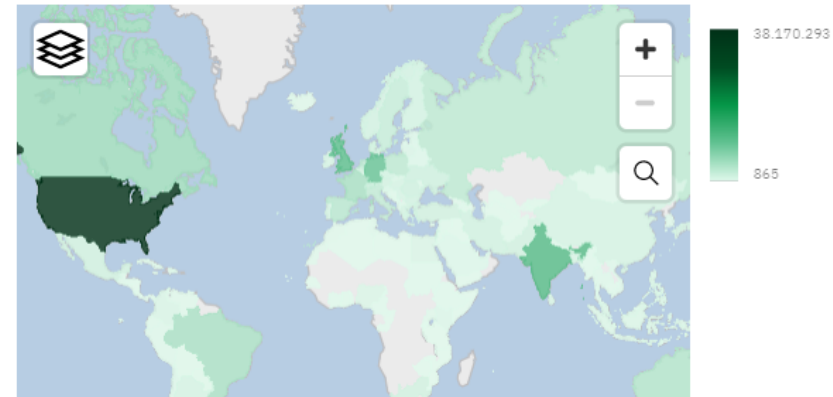


# DEMOGRAPHICS

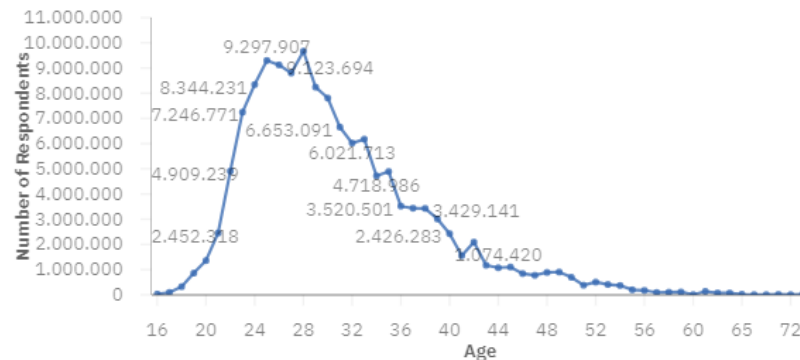
Respondent by Gender



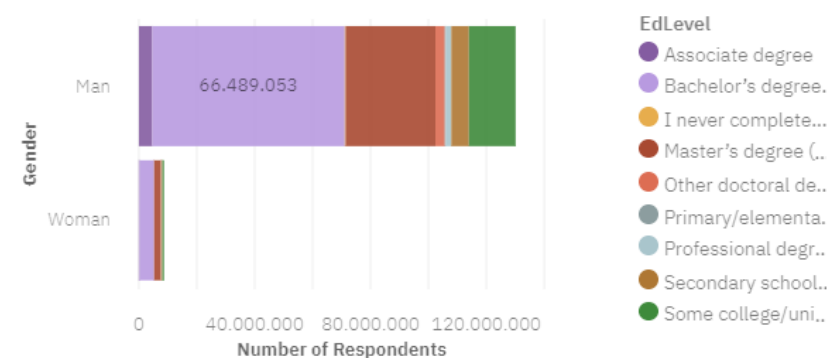
Respondent Locations



Respondent by Age



Formal Education Level / Gender



# DISCUSSION

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# OVERALL FINDINGS & IMPLICATIONS

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## 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

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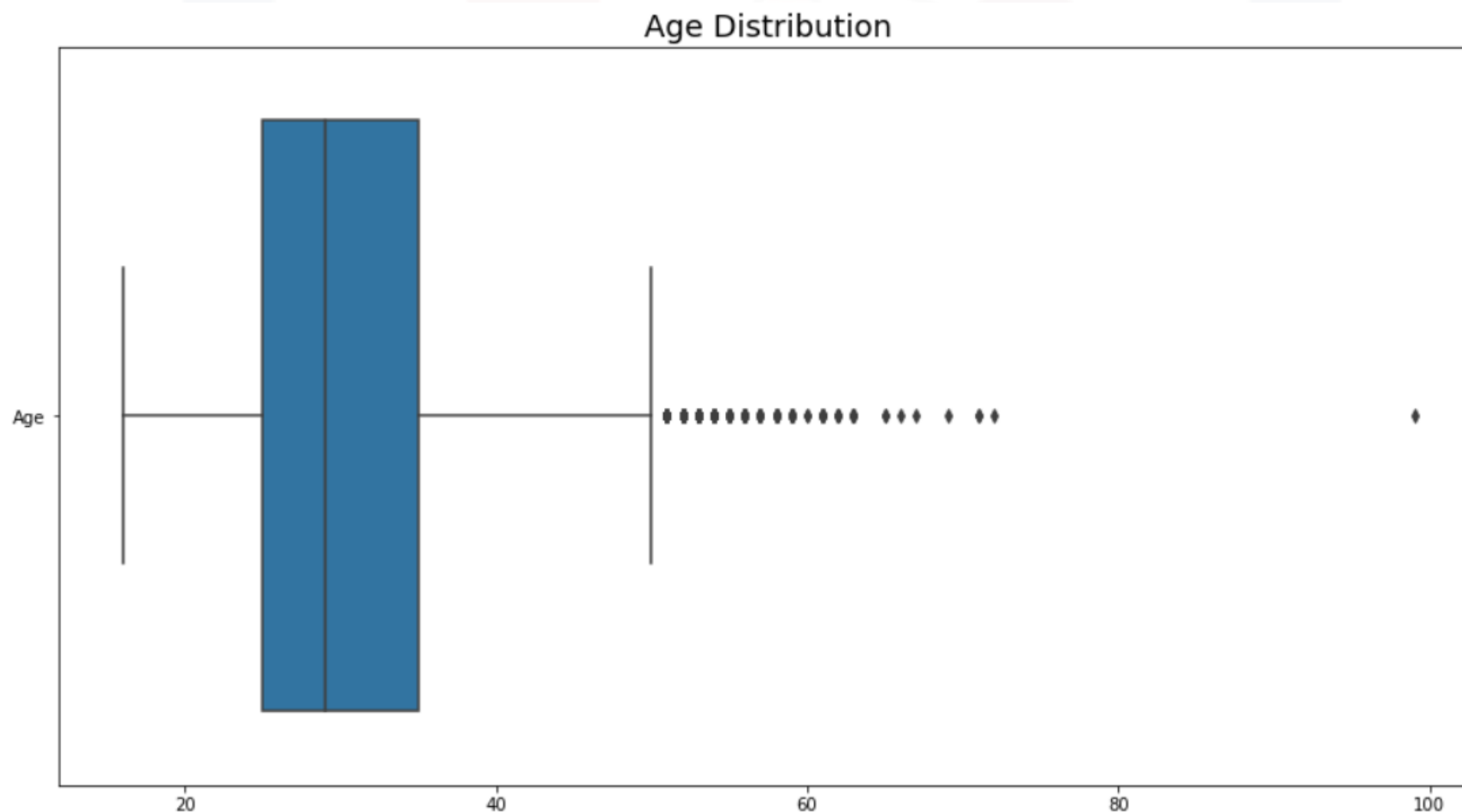
- Developers are people with very marked characteristics.
- A good idea of popularity trends of different tools, platforms and languages can be obtained.
- There is a job to be done to spread accessibility of this labor market to countries in development.

# APPENDIX

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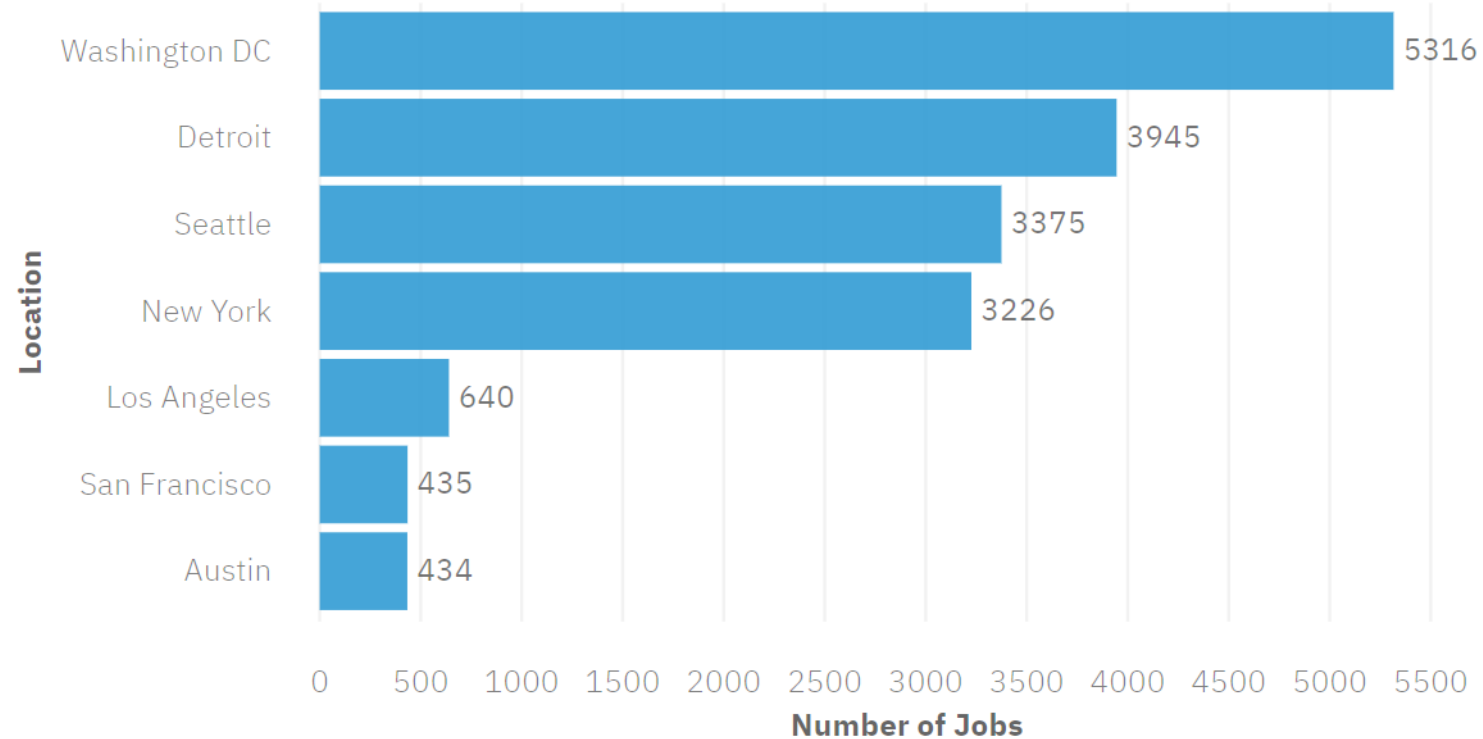


# AGE DISTRIBUTION BOXPLOT



# JOB POSTINGS

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# POPULAR LANGUAGES

