



# Technology Trends And Emerging Skills

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11/Aug/2024

# OUTLINE

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

# EXECUTIVE SUMMARY

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- Trends in Programming languages and databases
  - The top 2 languages used today are also the 2 most sought after languages to learn
- Demographics Survey
  - There is a technological gap in countries
- Gender influence in technology
  - The data shows programming to be a male dominated field
- High number of people in Technology acquire Bachelor's or Master's degree

# INTRODUCTION

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- About :
  - Analyzing Trends in Technology
- Purpose:
  - What are the top programming languages in demand?
  - What are the top database skills in demand?
  - What are the popular IDEs?

# METHODOLOGY

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- Data Collection Sources
  - Survey conducted by StackOverflow in 2019.
- Data Cleaning
- Data Analysis and Visualizations using Python
  - Use of statistical functions returning correlation, mean, and unique value counts.
- Data Visualizations using IBM Dashboard
  - Graphical analysis through a dashboard in IBM cloud.

# RESULTS

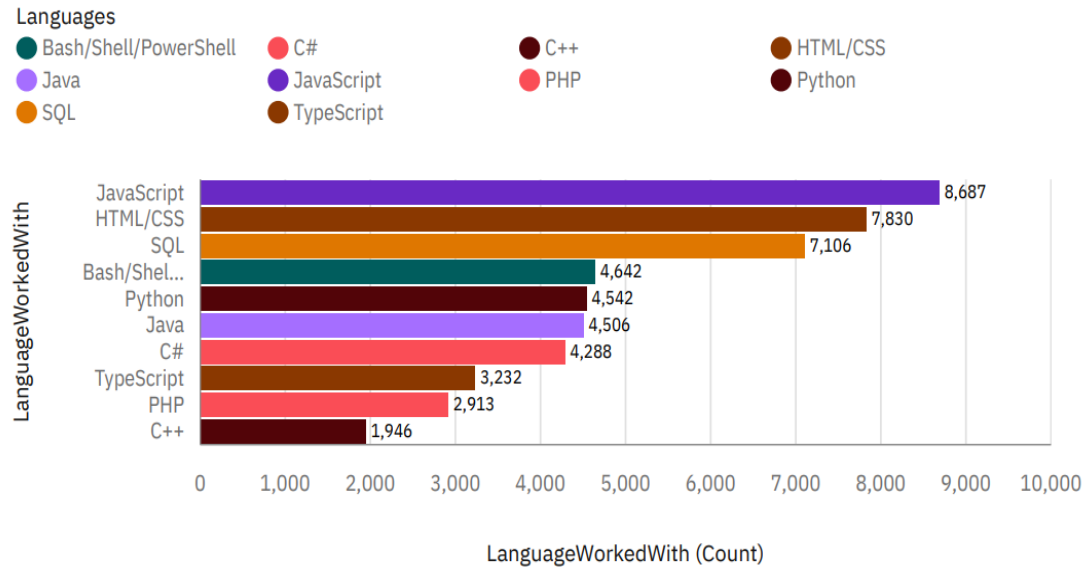
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In the following sections we will see graphical data from Survey Respondents based on their education, country, age and gender.

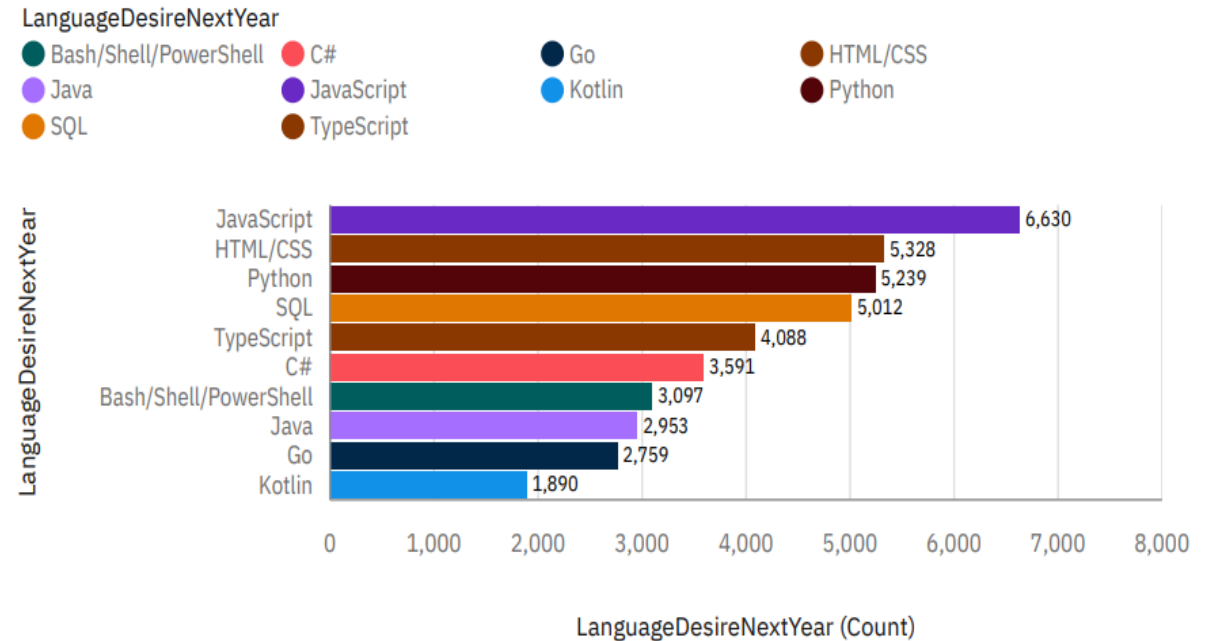
# PROGRAMMING LANGUAGE TRENDS

## Current Year

### Top 10 Languages Worked With



### Top 10 Language Desire Next Year



# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- The top 2 programming languages are JavaScript and HTML/CSS
- Python and Typescript are also becoming popular
- PHP is not anymore desired skill in programmers

## Implications

- SQL is still in high demand
- Python becoming more popular with ML and AI

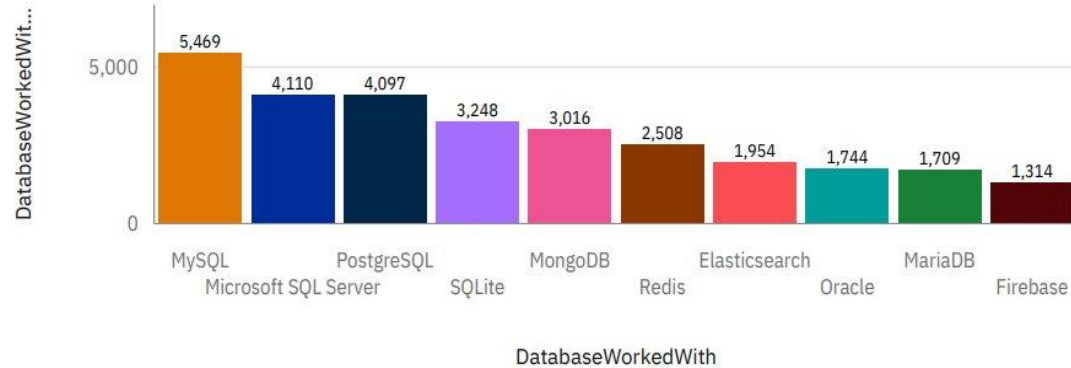


# DATABASE TRENDS

## Current Year

Top 10 Databases Worked With

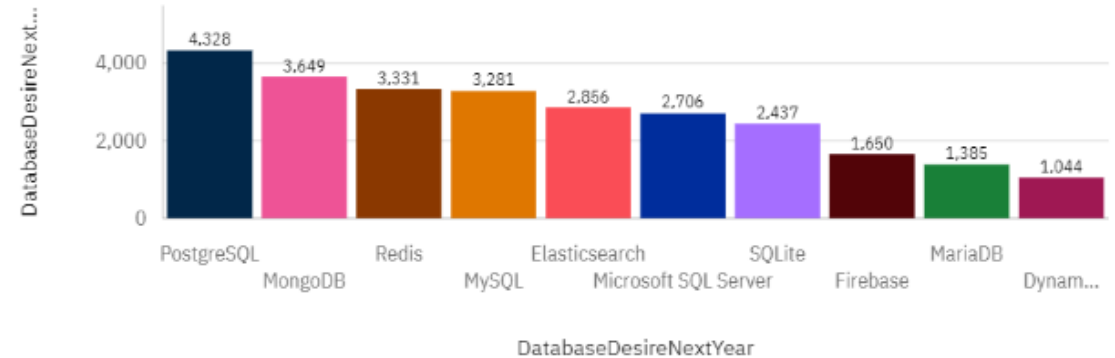
DatabaseWorkedWith



## Next Year

Top 10 Database Desire Next Year

DatabaseDesireNextYear



# DATABASE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- MySQL and MS SQL Server are top 2 databases
- Next in demand is – PostgreSQL and MongoDB
- Oracle not favorite preferred in future

## Implications

- Open Source Databases are preferred in companies

# DASHBOARD

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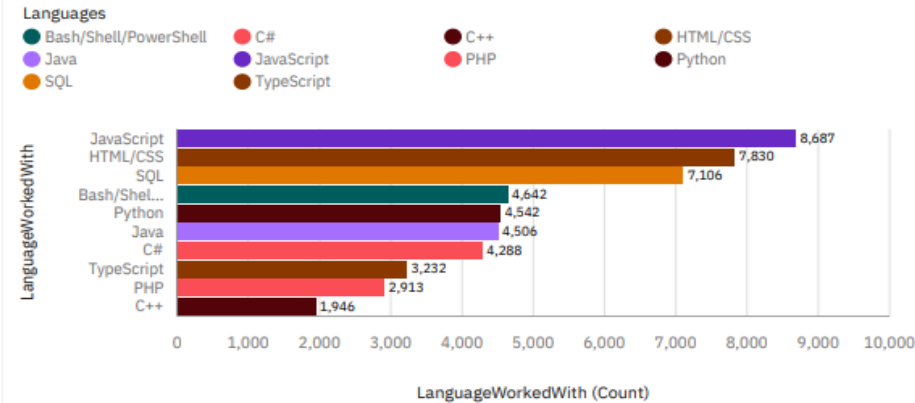


<https://github.com/smita-smita/Capstone/blob/main/FinalDashboard.pdf>

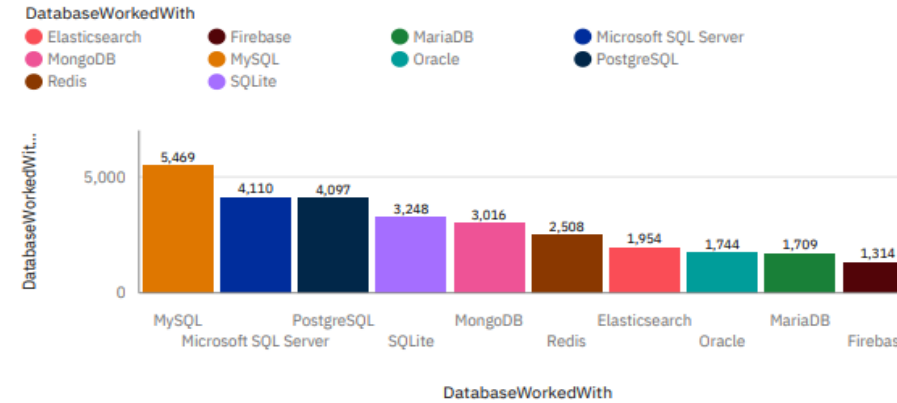
# DASHBOARD TAB 1

## Current Technology Usage

### Top 10 Languages Worked With



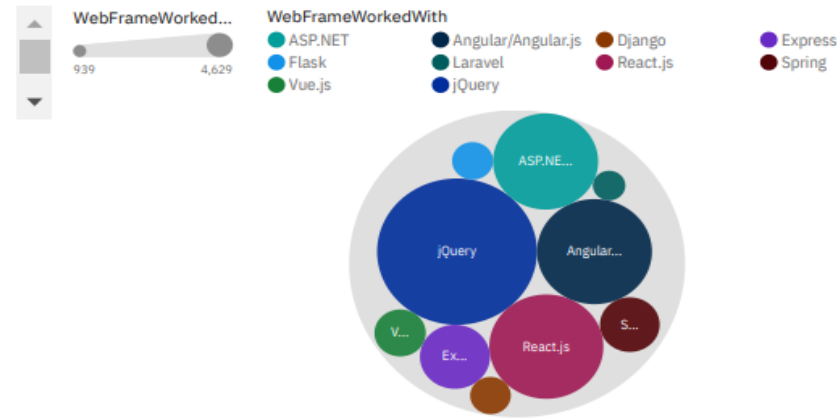
### Top 10 Databases Worked With



### Platform Worked With



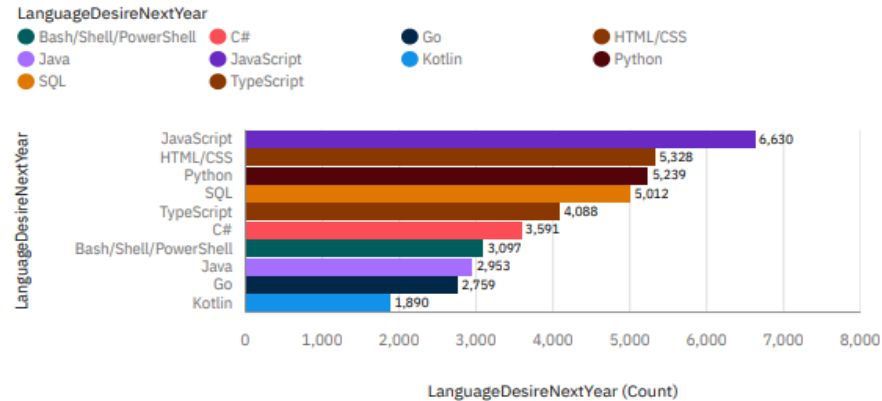
### Top 10 WebFrames Worked With



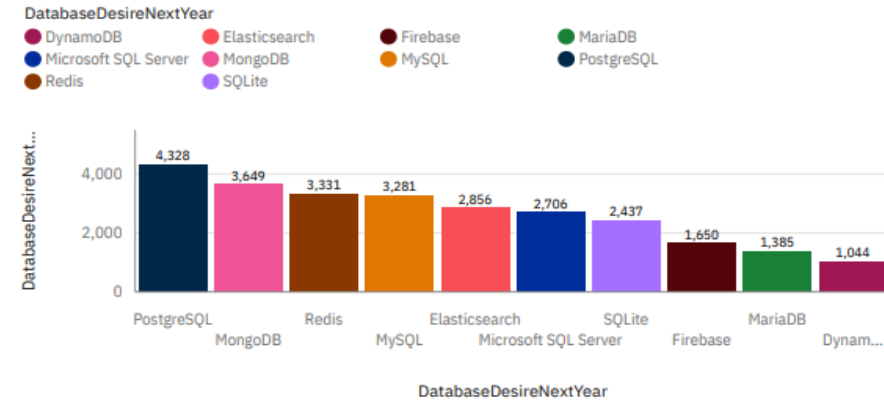
# DASHBOARD TAB 2

## Future Technology Trend

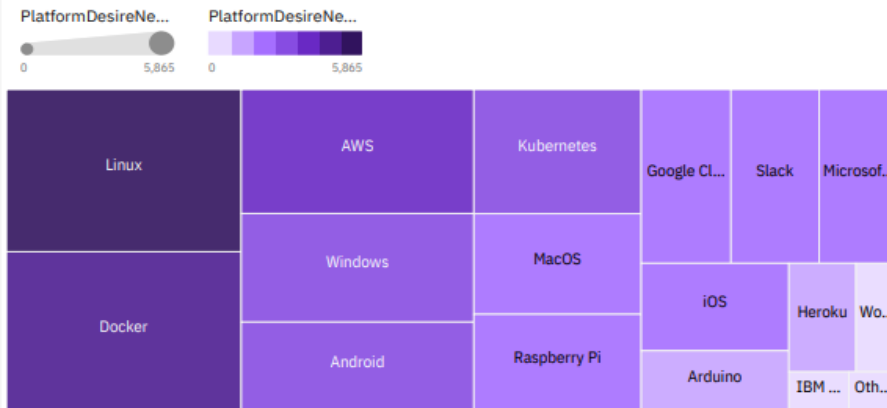
### Top 10 Language Desire Next Year



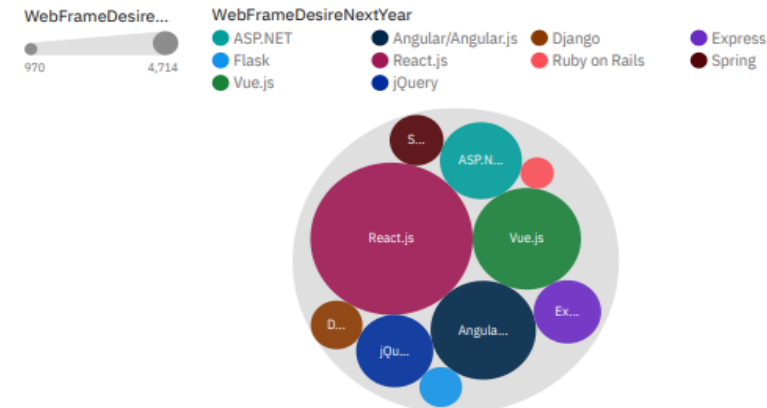
### Top 10 Database Desire Next Year



### Platform Desire Next Year



### Top 10 Web Frame Desire Next Year

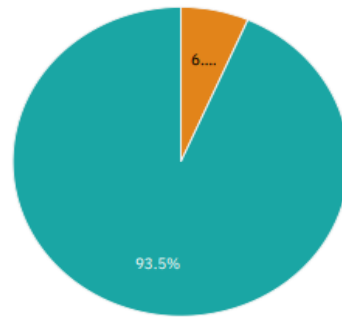


# DASHBOARD TAB 3

## Demographics

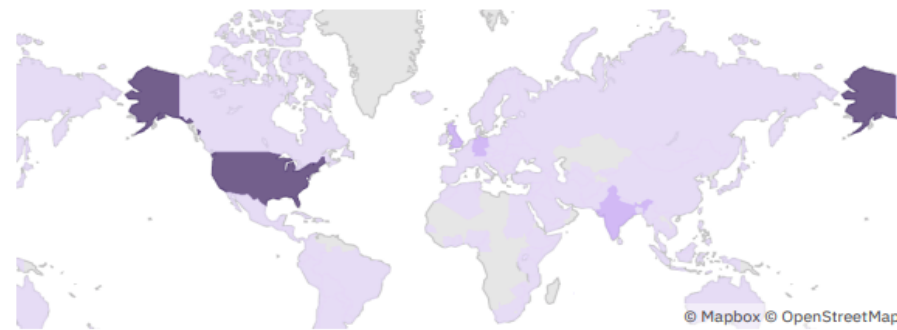
### Respondent classified by Gender

Gender  
Woman Man

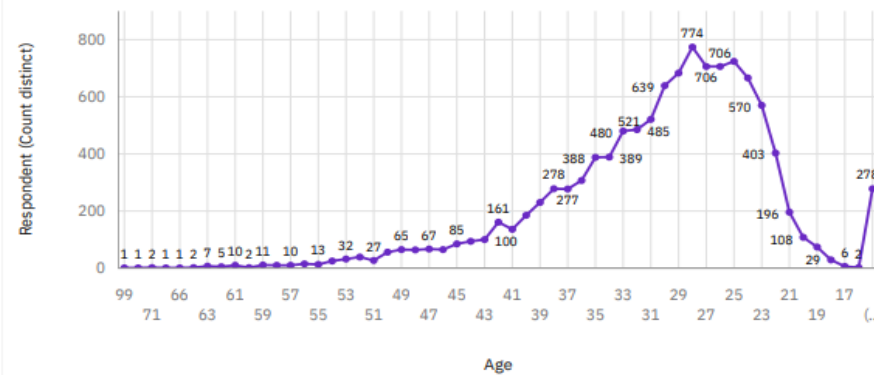


### Respondent Count for Country regions

Respondent (Count)  
1 3,058

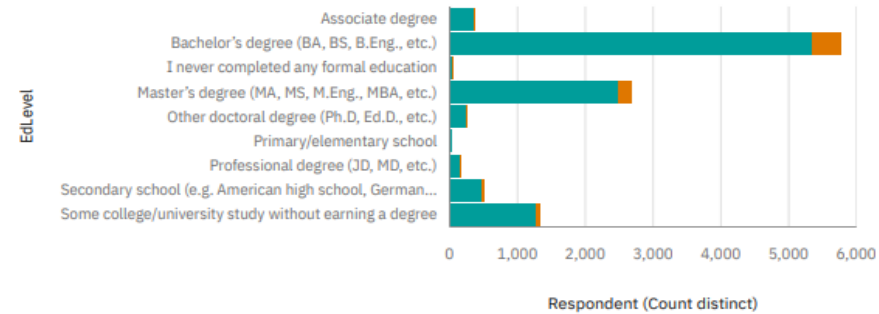


### Respondent by Age



### Respondent by Education Level and classified by Gender

Gender  
Man Woman



# DISCUSSION

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- Impact of Stack Overflow data sources(U.S. dominant data) on global audience. U.S.
- What reasons are there for so few female programmers?
- what can we do to get more women programming?

# OVERALL FINDINGS & IMPLICATIONS

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## Findings

- Over 90% of programmers are male, with respondents having an average age of 30 overall.
- JavaScript and HTML/CSS are the most popular languages learned and desired to learn.
- PostgreSQL is the most popular Database Language to learn

## Implications

- Need to spread out technology to lagging countries
- Need to encourage women in technology by providing more facilities
- Python and SQL safe languages to learn with growing needs of AI and ML



# CONCLUSION

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- Need of gender diversity in Technology world.
- Women should be encouraged and educated to learn programming languages
- JavaScript and HTML/CSS are very popular programming languages and will be into the future.
- There is shifting preferences from MySQL to Postgre SQL for database usage.
- Spread technology to lagging countries

# APPENDIX



Work Challenge and Total Number of Working Hours/Week



WorkChallenge

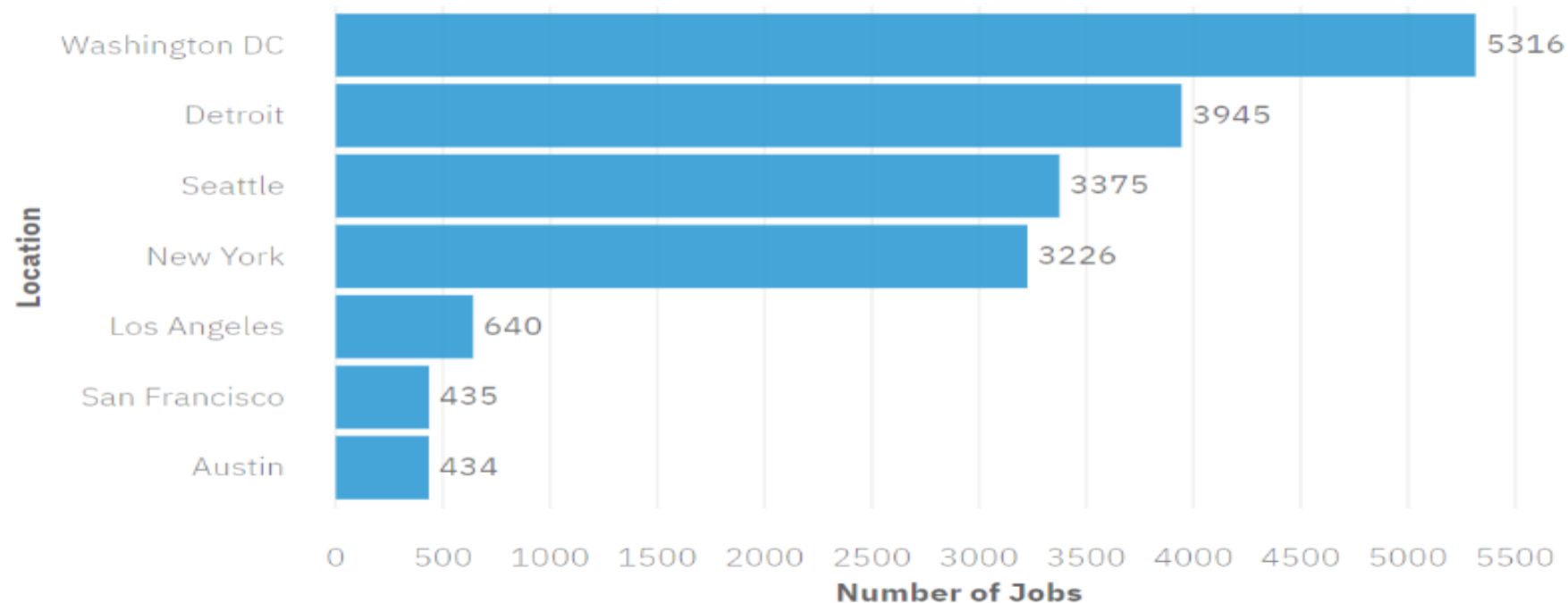
- Being tasked with non-development work
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- Distracting work environment; Lack of support from management
- Distracting work environment; Meetings
- Distracting work environment; Meetings
- Distracting work environment; Meetings
- Distracting work environment; Meetings
- Distracting work environment; Meetings
- Not enough people for the workload



Work Challenge faced by employees

# JOB POSTINGS

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# POPULAR LANGUAGES

