



# Developer community report

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# OUTLINE

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- Methodology
- Results
- Visualization – Charts
- Dashboard
- Discussion
  - Findings & Implications
- Conclusion
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# EXECUTIVE SUMMARY

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- Analysis of a survey conducted on stackoverflow users for the year 2023
- Top current technologies and future trends
  - programming languages: JavaScript, HTML/CSS, Python, SQL
  - databases: PostgreSQL, MongoDB, MySQL, Redis
  - platforms: Linux, Windows, Docker, AWS
  - web frameworks: React.js, JQuery,
- Users demographics:
  - Majority of participants are men
  - Most sought after degree is bachelor's

# INTRODUCTION

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The purpose of this analysis is to find the current and future popular technology trends among users who have participated in the stackoverflow survey which is one of the most popular online forums for developer community. In this report we will see what the most popular programming languages, databases management systems, platforms and web development frameworks are and what is the technology stacks that are mostly sought after among the community for the next year. We will also see some demographic data such as the gender distribution, location of the participants and age. These data can be used by companies for future hires or online learning platforms which are planning to prepare online materials and courses before hand.

# METHODOLOGY

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There are two separate datasets used for the purpose of this analysis. One holds the information about technologies and the other has the demographic data. These datasets are for the year 2023. The software platform used to analyze the data and create visualizations is IBM Cognos Analytics. We will see several charts and graphs that show the necessary information and insights.

# RESULTS

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## Key takeaways that we can get from data are

- JavaScript is the most popular programming language among developers and will remain the most popular one for the next year. We see that Python has gained more popularity for the next year possibly due to emerging AI and machine learning technologies.
- SQL based databases are still the most popular choice for the majority of the community, however MySQL will give its place to PostgreSQL for the next year as the most popular RDBMS. Also rise of the popularity for No-SQL and document databases is eye-catching since MongoDB and Redis are the second and third databases that developers are mostly interested in for the next year.
- Among different operating systems, Linux is the preferred choice for both current year and next year among developers. Also among the top 3 cloud providers, AWS is the future trend. Developers are also planning to familiarize themselves with Docker, Kubernetes and Android for the next year.

# RESULTS

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- Although jQuery is the current trend for web development we see popularity of React.js has skyrocketed and the majority of the developers are planning to choose React for frontend development and based on the data for the next year we can say that jQuery is going to be a legacy technology. Also for the backend development we see ASP.net is dominating however the second place belongs to Express.js which is a JavaScript framework for backend development. This data can explain why JavaScript is the most popular language and the reason is that one language could be used for both frontend and backend development. Moreover it can also be used for developing mobile apps and desktop apps. Wise choice!
- Last but not least we see that the majority of the developer community are men. Also the participants are from different locations through the entire world. It is also worth noting that most of them are between 22 to 34 years old.

# PROGRAMMING LANGUAGE TRENDS

Current Year

Next Year

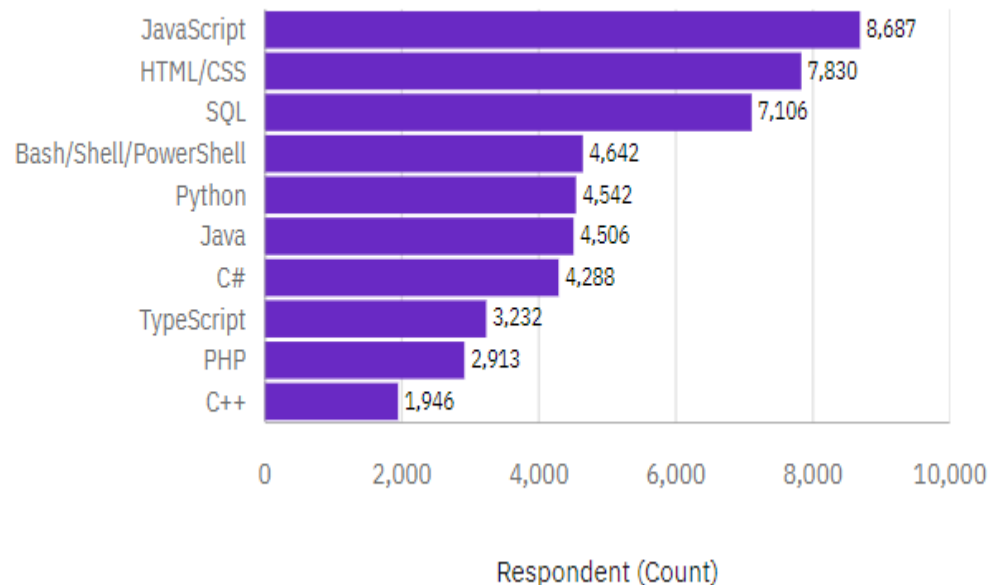
Top 10 languages respondents worked with



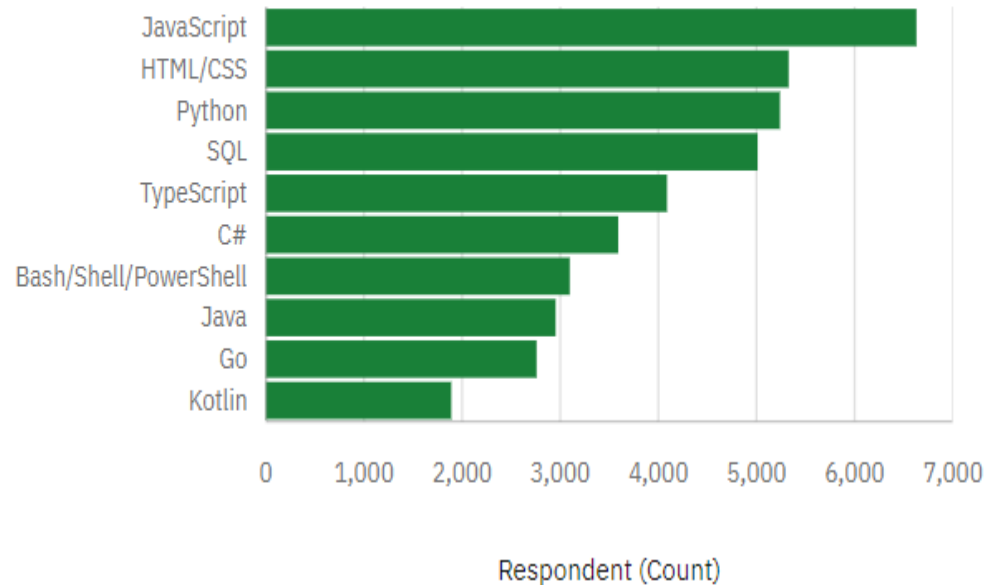
Top 10 languages desired for next year



Language Worked With



Language Desired Next Year





# PROGRAMMING LANGUAGE TRENDS – FINDINGS & IMPLICATIONS

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## Findings

- JavaScript
- HTML, CSS
- Python

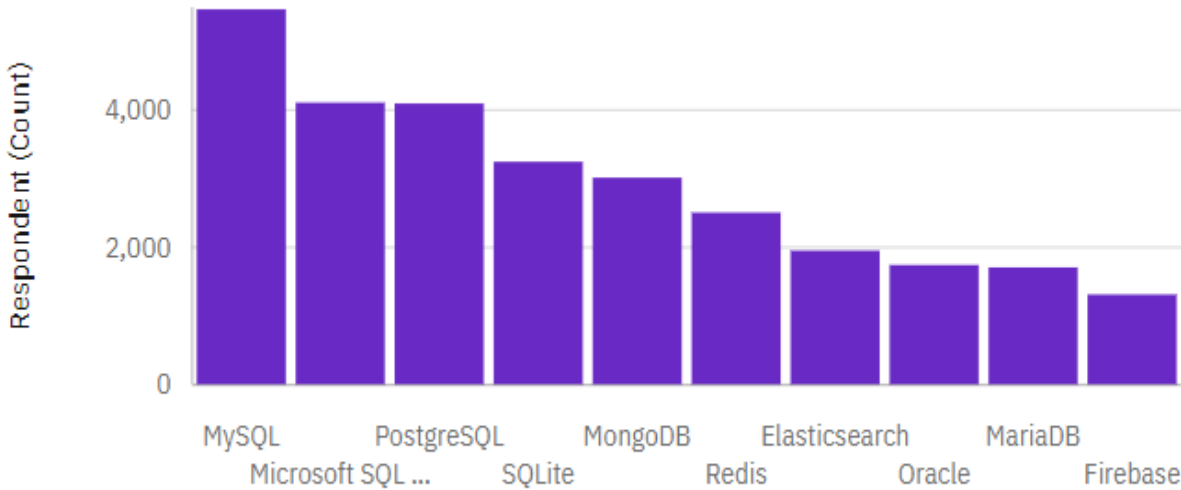
## Implications

- Web app development
- Web development
- AI, data science, machine learning

# DATABASE TRENDS

## Current Year

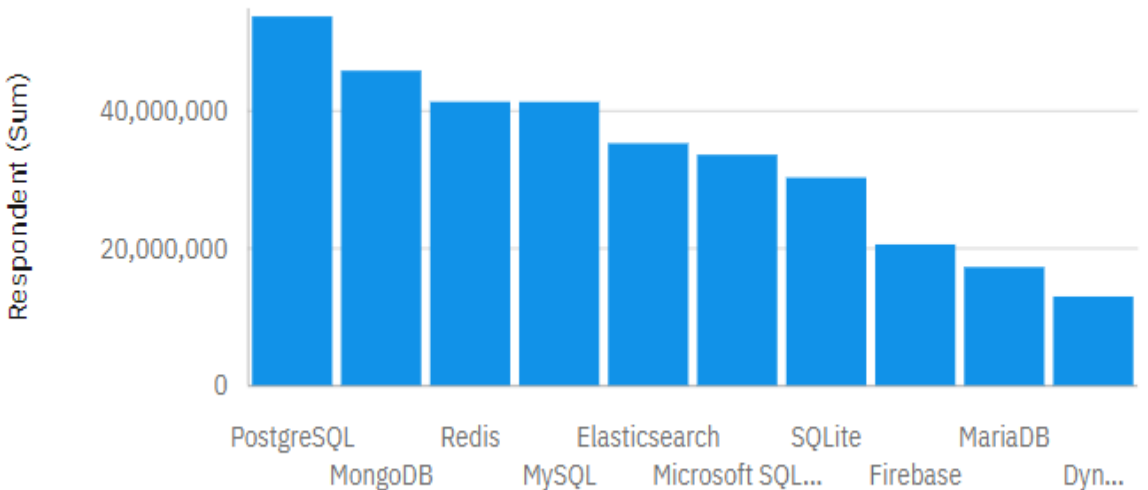
Top 10 Databases respondents worked with



DatabaseWorkedWith

## Next Year

Top 10 Databases desired for next year



DatabaseDesireNextYear

# DATABASE TRENDS – FINDINGS & IMPLICATIONS

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## Findings

- PostgreSQL
- MongoDB
- Redis
- MySQL

## Implications

Rise in popularity of NoSQL and unstructured data.

# DASHBOARD

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link for the dashboard:

<https://github.com/kamran7495/Capstone-dashboard>

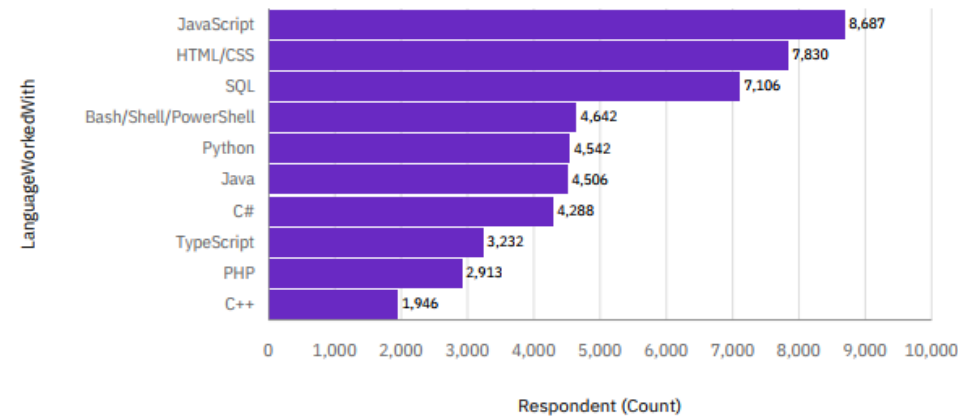
# Current trends

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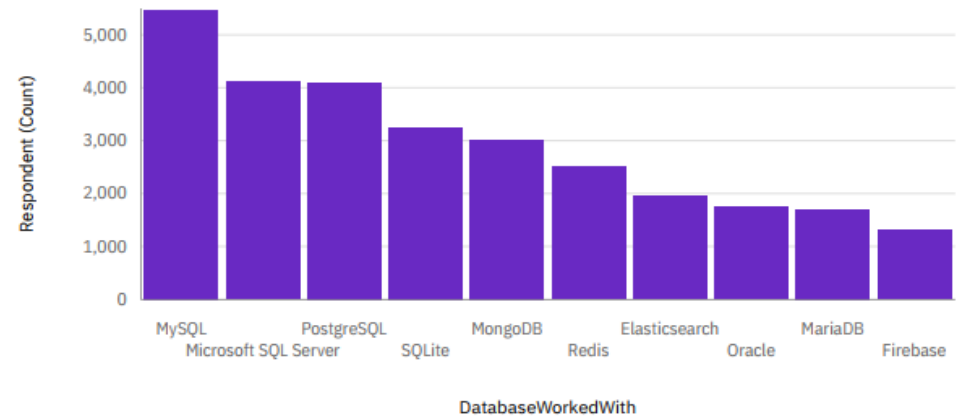
Capstone Dashboard

## Current Technology Usage

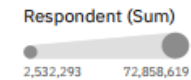
Top 10 languages respondents worked with



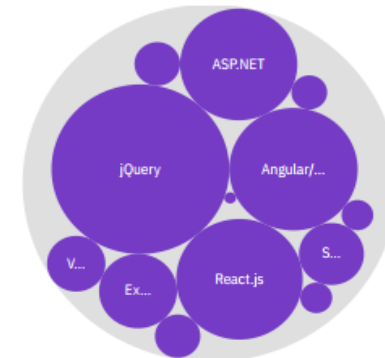
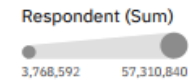
Top 10 Databases respondents worked with



## Most frequent used platforms



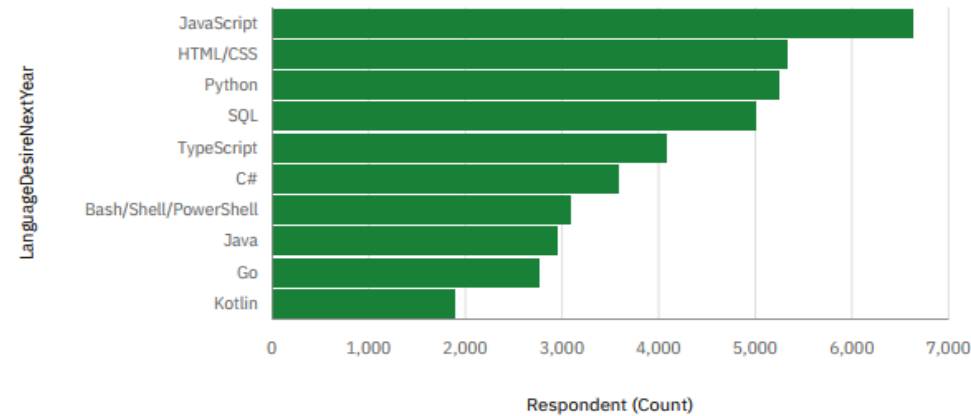
## WebFrameWorkedWith, Respondent



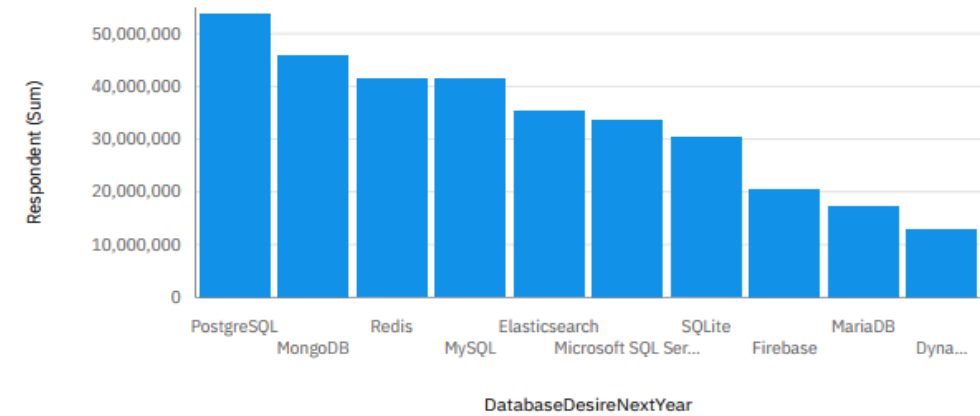
# Next year trends

## Future Technology Trend

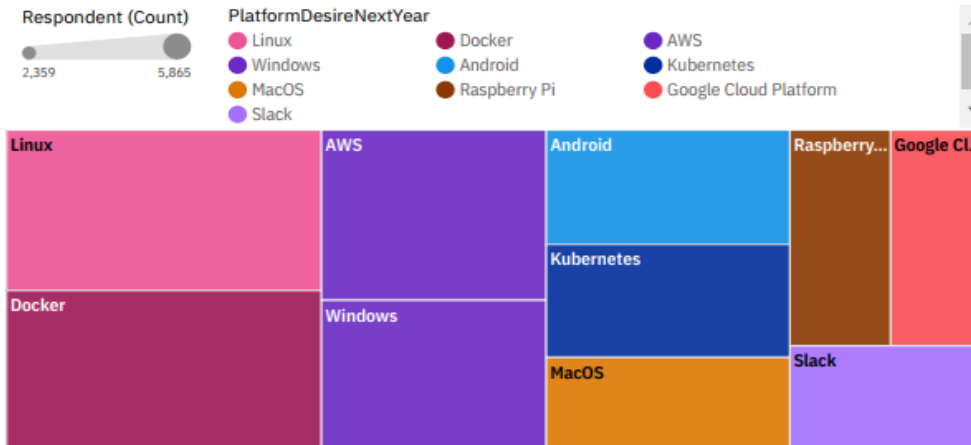
Top 10 languages desired for next year



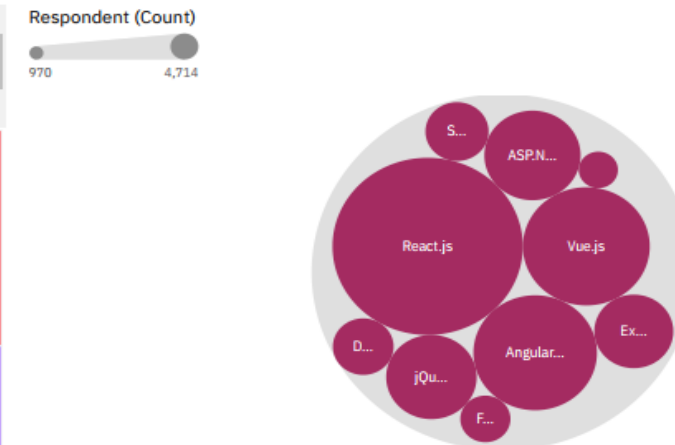
Top 10 Databases desired for next year



Top 10 platforms desired for next year



Top 10 web frameworks desired next year



# Demographics

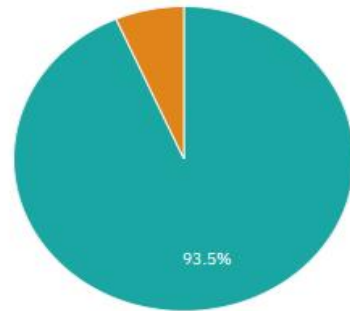
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## Demographics

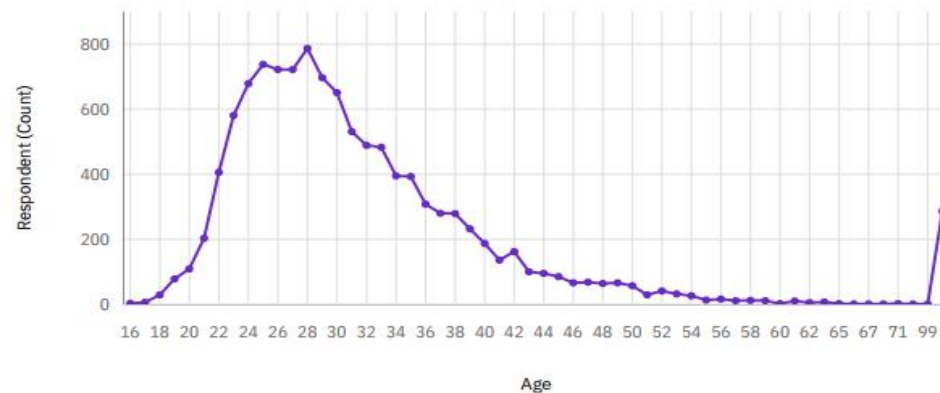
### Men and Women

Gender

Man Woman

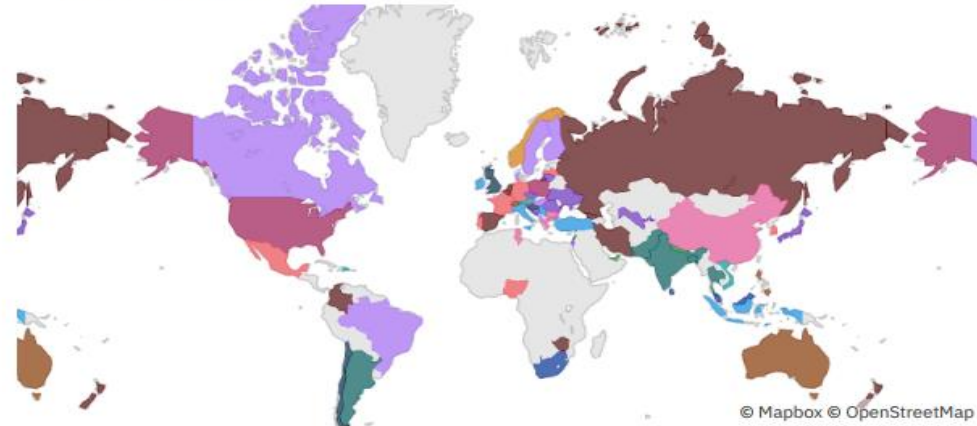


### Respondent by Age

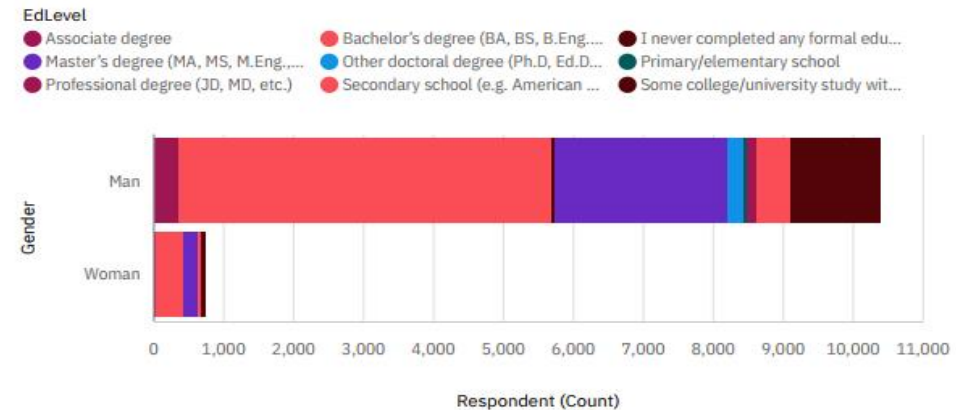


## Capstone Dashboard

### Respondent for Country regions



### Respondent by Gender segregated by Education Level



# DISCUSSION

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Web development seems to be the most sought after path for programmers. Also with the popularity of Python and SQL, data science, data analytics, and AI are gaining more popularity among the community. Therefore having quality content and training is crucial to prepare the future workforce to meet the industry requirements in these two areas. In addition, Devops and cloud technologies such as Docker and AWS are the other popular trend which can help businesses reduce their cost by migrating their infrastructure from on-premises to the cloud.



# CONCLUSION

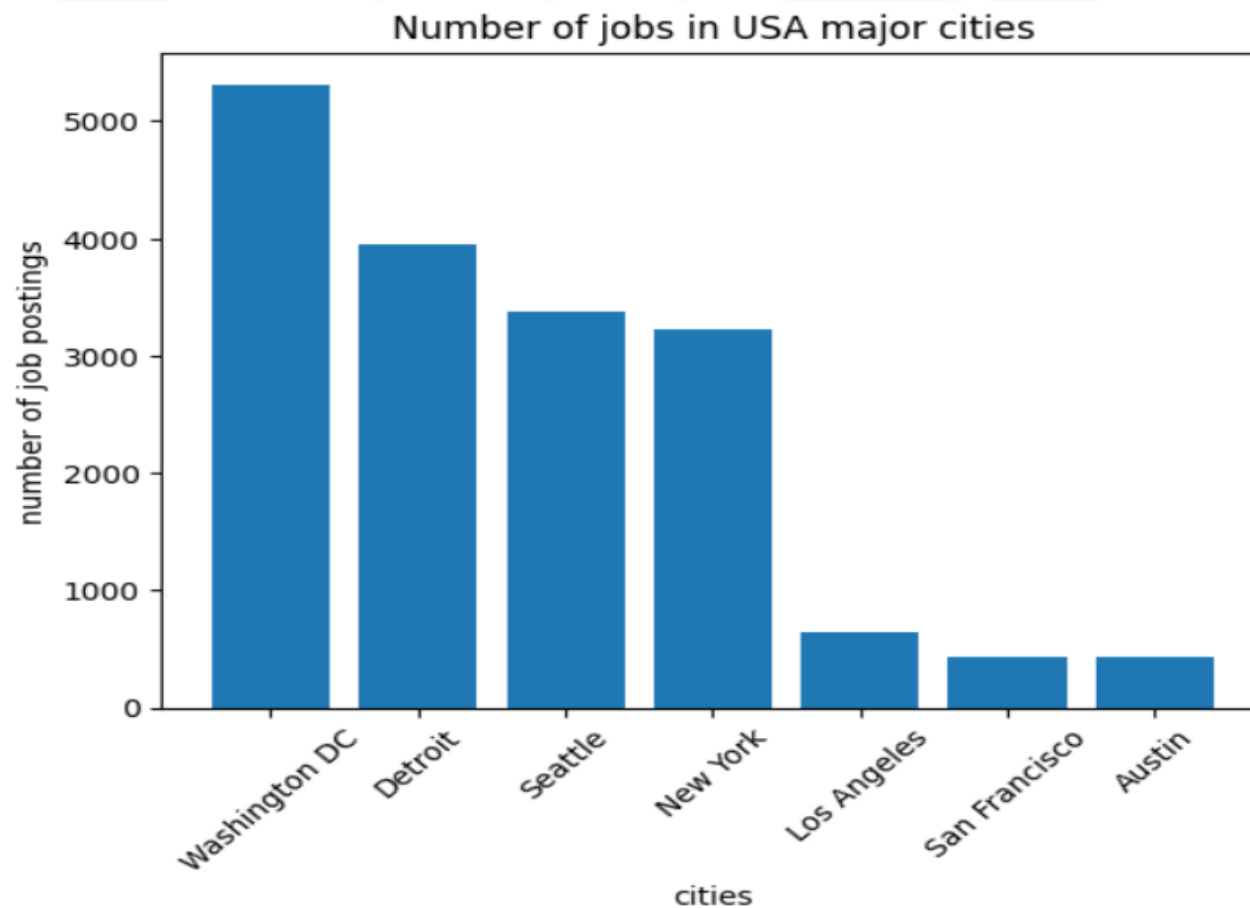
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While the majority of the community is men, it is important not to overlook women who are qualified and capable of doing the work therefore there should be equal opportunity and necessary standards for hiring processes and evaluating candidates.



# JOB POSTINGS

We can see the number of job postings in USA major cities.



# Average salary for popular languages

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