



# Software Professionals Survey Analysis

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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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- Technology is changing rapidly and it is necessary to learn different tools and languages for survival in the job market. A tool that was used till this second might be replaced with another one, more powerful the next second itself.
- A subset of the dataset containing the responses of developers survey conducted by Stack Overflow was used to find insights on the current and future technology trends among all age groups and across the world.
- The current technology trends showed that
  - Java Script and MySQL are the most used Languages and Databases.
  - Linux and JQuery are the most commonly used Platforms and Web Frames.
- The future technology trends showed that
  - Java Script and Linux continued to be the most used Languages and Platforms
  - PostgreSQL and React.js emerged out as the preferred Database and Web Frame.
- The majority of the participants of the survey were Men under the age group of 24 to 32 mostly the residents of USA

# INTRODUCTION

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- An Exploratory Data Analysis was conducted on the Dataset to find out the technology trends.
- Different Question Such as
  - What are the currently trending Languages, Databases, Platforms and Web Frames.
  - What are Desired Languages, Databases, Platforms and Web Frames in the future.were answered in the analysis.
- This report is for everyone who is currently working or want to explore IT Field.
- Readers can get familiar with the current and future technology trends after reading this report.

# METHODOLOGY

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- The Dataset was readily available and consisted of 2 datasets which referred to Technology and Demographics Data with several responses.
- The Dataset was cleaned to get the required columns and checked for missing values using Python.
- Dashboards were created using IBM Cognos Analytics for effective representation.

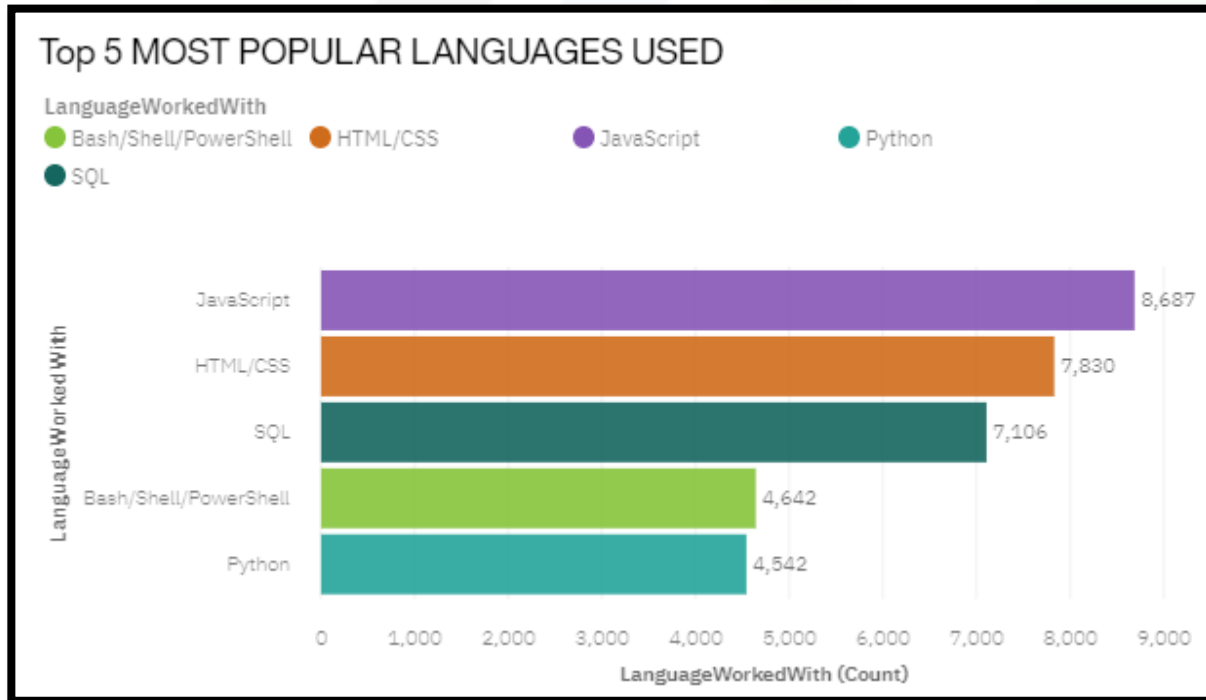
# RESULTS

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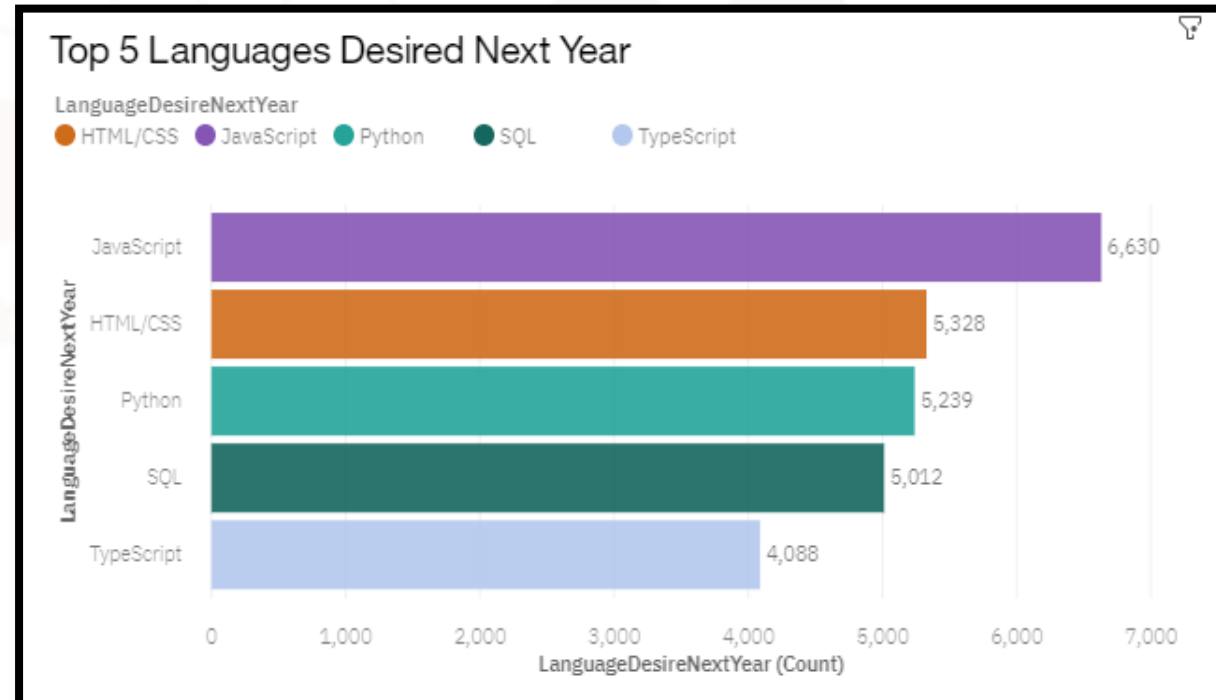
- As the dataset was readily available it didn't require much time for collecting using API's or Web Scraping.
- The two datasets were analyzed separately. The first one was arranged on the basis of the languages, databases, platforms and web frames that the professionals currently used followed by the languages, databases, platforms and web frames they desire to use in the future. Various charts were developed to analyze each of them individually.
- The second one consisted of the Demographic data and was arranged on the basis of Age, Gender, Country and Education Level. These topics were analyzed separately through the use of various charts.

# PROGRAMMING LANGUAGE TRENDS

## Current Year



## Next Year



# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- Java Script followed by HTML/CSS continue to be the most popular languages.
- Python currently less used has raised up while SQL has dipped.
- Power Shell was replaced by Type Script.

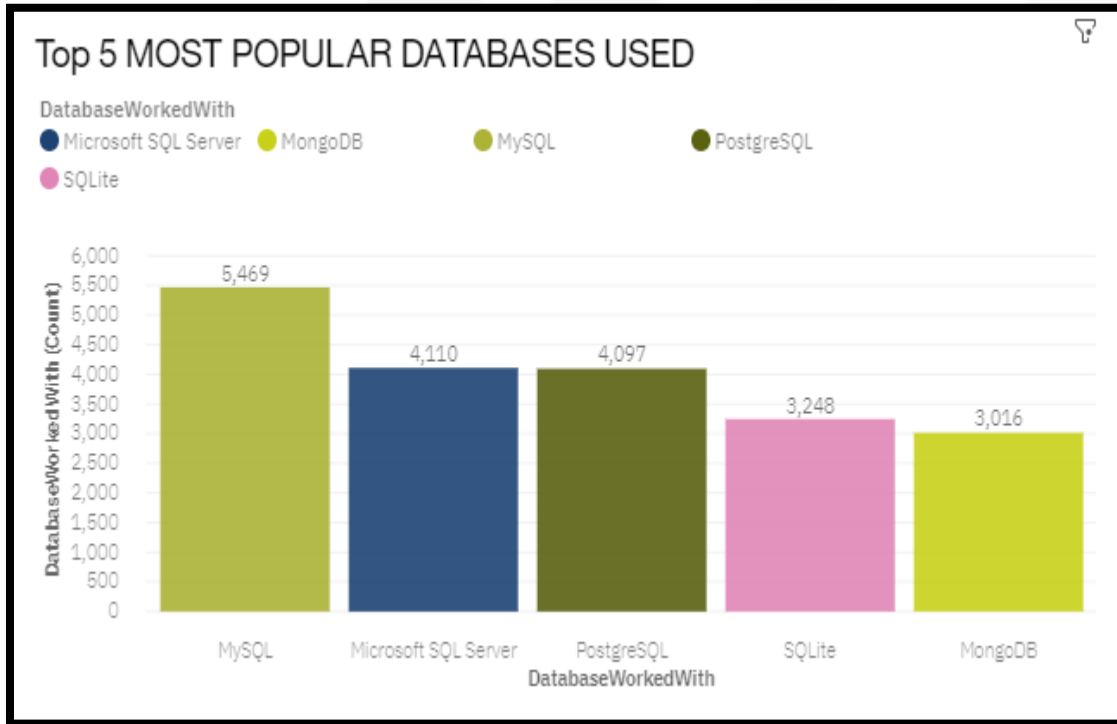
## Implications

- The market is expected to see a further rise in Java Script and HTML/CSS Engineers.
- Python is gaining more users predicting the start of a Python era in all areas of development.

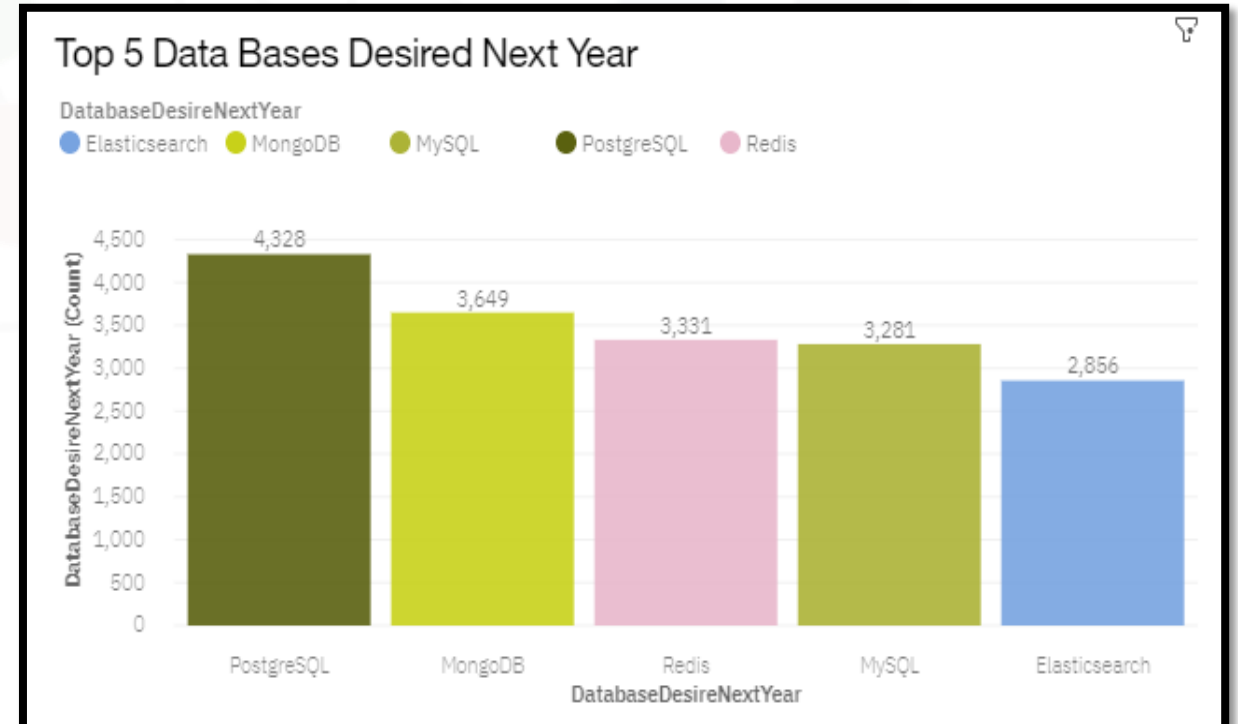


# DATABASE TRENDS

## Current Year



## Next Year



# DATABASE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- MySQL and Microsoft SQL Server currently dominating others are soon going to be replaced by PostgreSQL and Mongo DB.
- SQL Lite has lost it's place and is making way for Redis and Elasticsearch.

## Implications

- MySQL is reaching a saturation level that people are trying to switch towards other options.
- When majority developers switch databases we may expect a huge shift in the entire IT Sector from MySQL to PostgreSQL and MongoDB making them the essential skills for fresher's.

# DASHBOARD

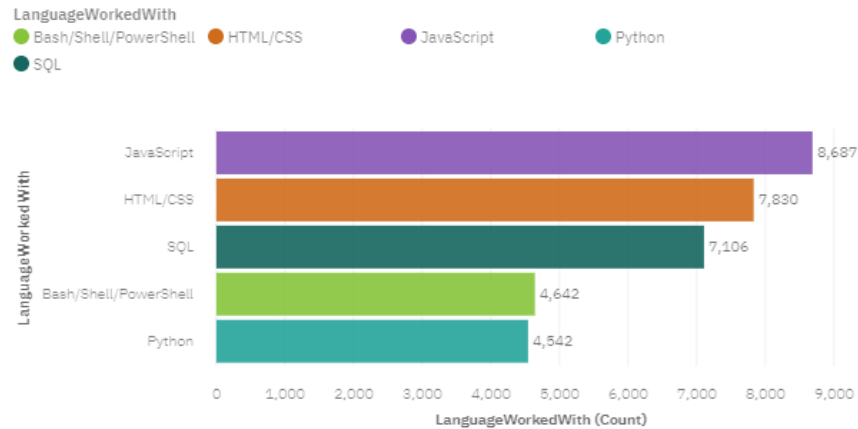
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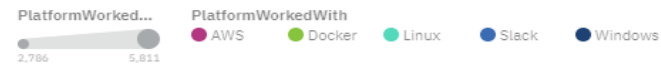
The Link to the Dashboard can be found here [Here](#)

# DASHBOARD TAB 1

Top 5 MOST POPULAR LANGUAGES USED

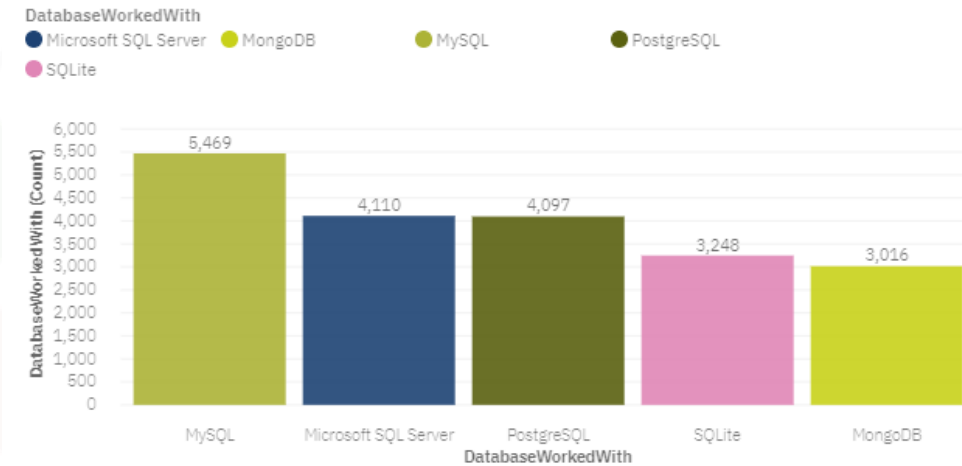


PLATFORMS WORKEDWITH

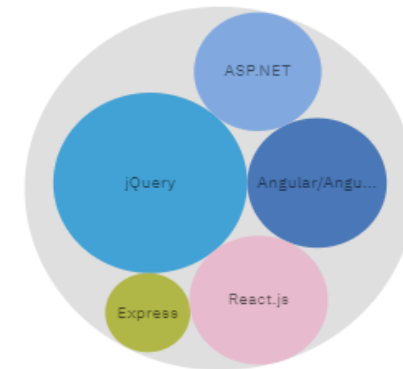


Linux  
Docker  
Windows  
AWS

Top 5 MOST POPULAR DATABASES USED

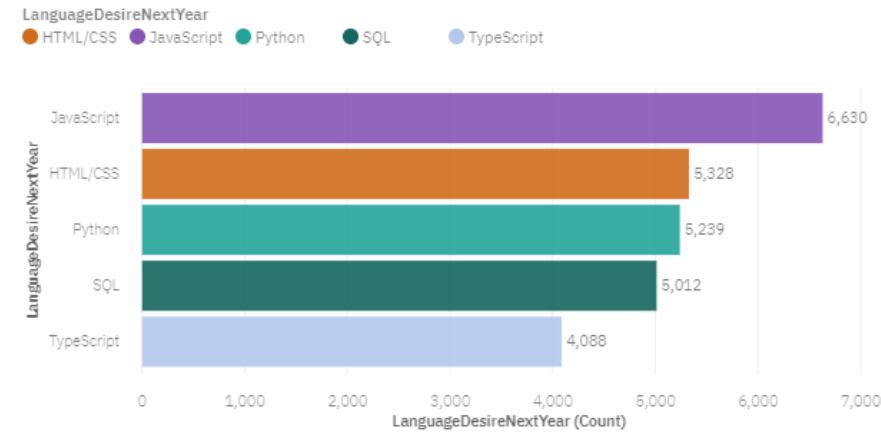


TOP 5 WEBFRAMES WORKEDWITH

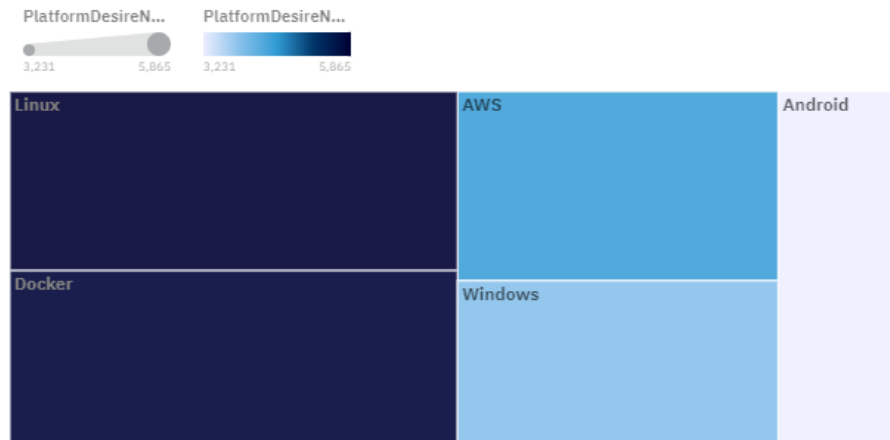


# DASHBOARD TAB 2

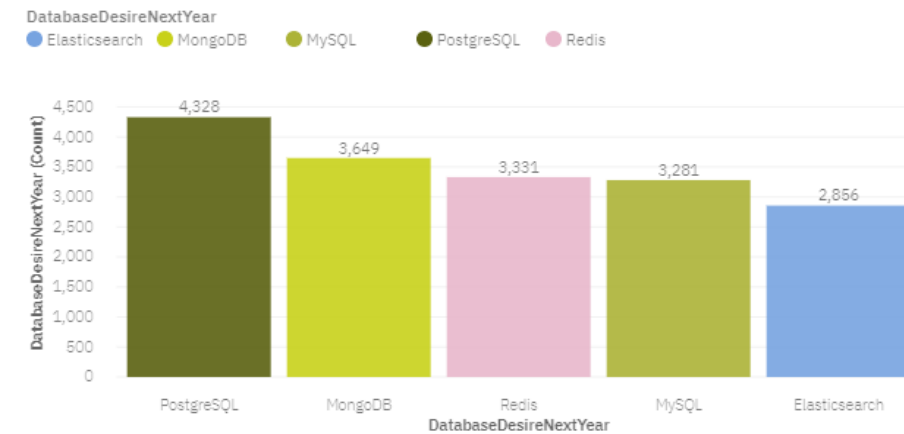
## Top 5 Languages Desired Next Year



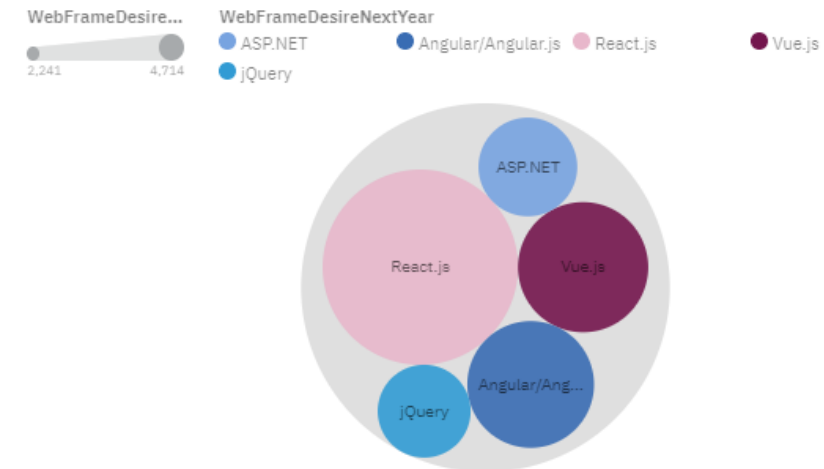
## Platforms Desired Next Year



## Top 5 Data Bases Desired Next Year



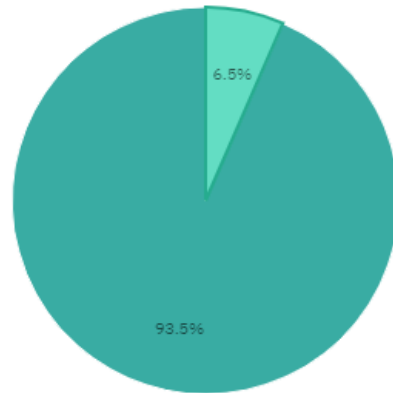
## Top 5 WebFrame Desired Next Year



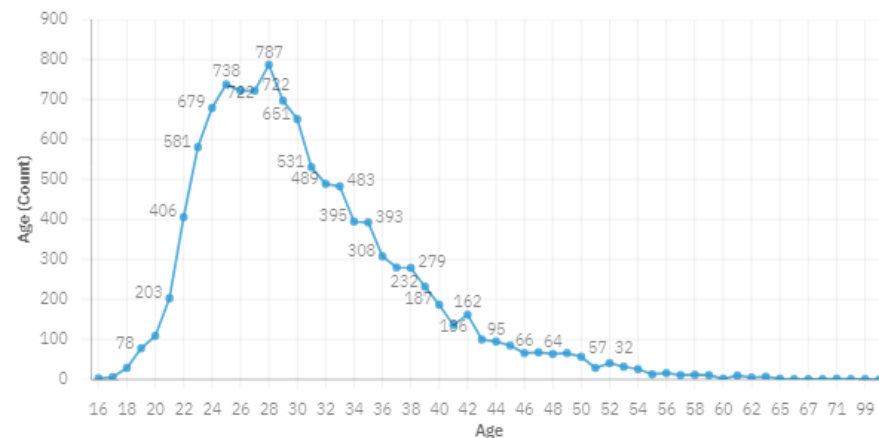
# DASHBOARD TAB 3

## CLASSIFICATION BY GENDER

Gender  
● Woman ● Man

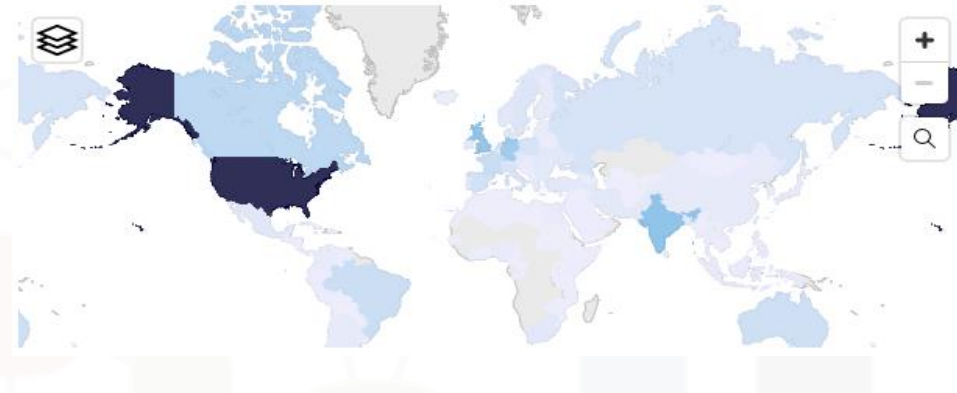


## CLASSIFICATION BY AGE



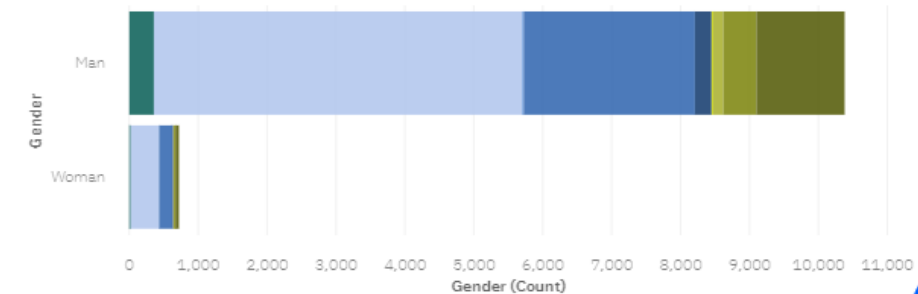
## CLASSIFICATION BY COUNTRY

Country (Count)  
1 3,127



## Count by Gender, classified by Formal Education Level

EdLevel  
● Associate degree ● Bachelor's degree (BA, BS, B.E... ● I never completed any formal ...  
● Master's degree (MA, MS, M.E... ● Other doctoral degree (Ph.D, E... ● Primary/elementary school  
● Professional degree (JD, MD, e... ● Secondary school (e.g. Americ... ● Some college/university study ...



# DISCUSSION

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- Will there be an excessive supply of Java Script and HTML/CSS Engineers ?
- Is this the start of a Python Era ? Then what will be the state of other Languages ?
- Are PostgreSQL and MongoDB the essential skills to get into a data role?
- Can MySQL survive amidst others ?

# OVERALL FINDINGS & IMPLICATIONS

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## Findings

- Men with a Bachelors Degree in the age group of 24-32 from USA were the highest responders.
- The most preferred language was Java Script.

## Implications

- We must encourage women to take up tech jobs.
- Seeing the responses for HTML/CSS and Java Script new course contents or tools can be developed in the Web Development Field.



# CONCLUSION

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- We wanted to analyze the present and future technology trends.
- Java Script and HTML/CSS continue to rule as the most popular languages.
- MySQL currently ruling the database technology might be replaced with PostgreSQL.
- There might be an over supply of Web Development Engineers as the number of people desiring it is very high in the present as well as in the future.

# APPENDIX

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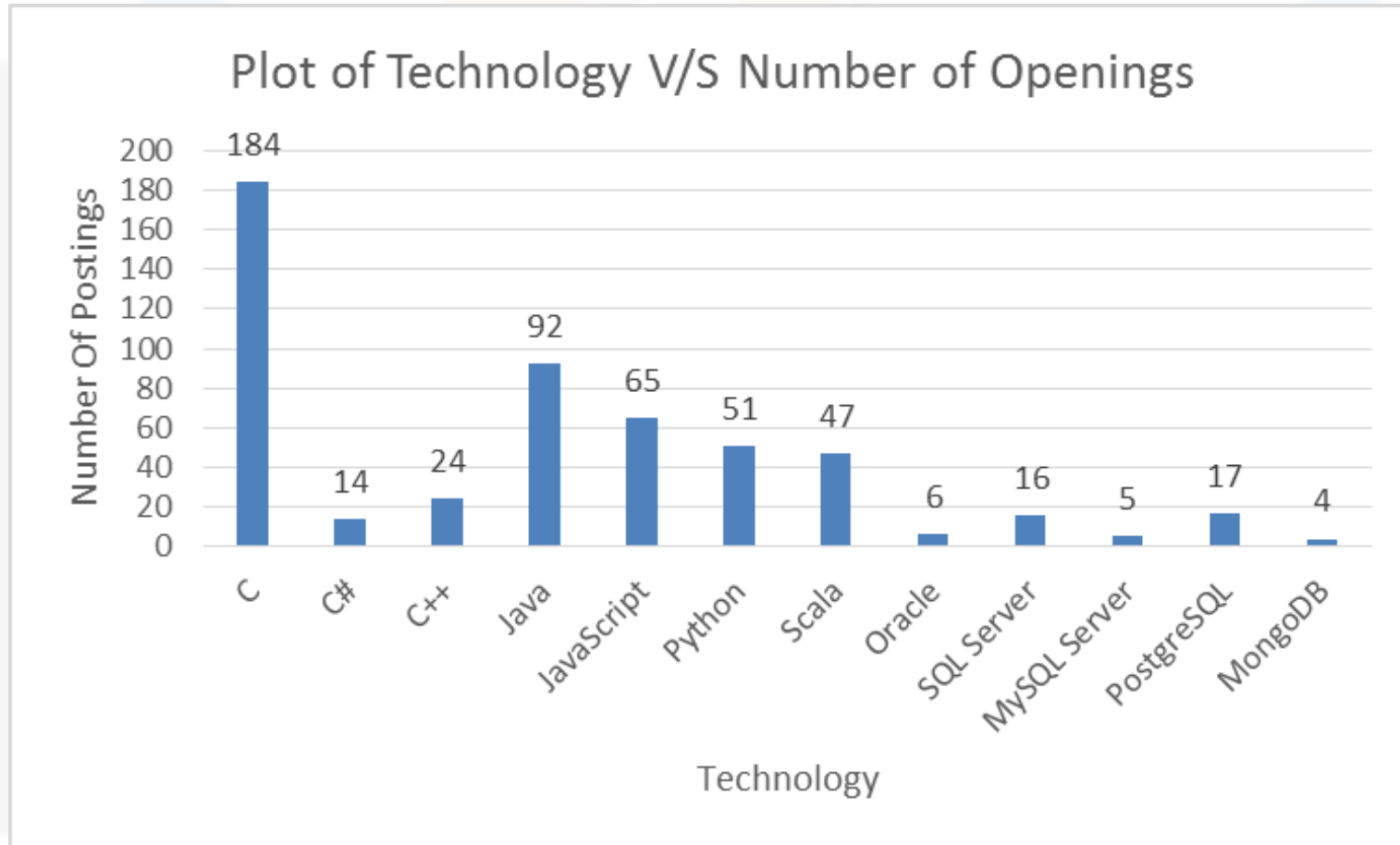
## Resources Used

- Software Professionals Survey Responses hosted by Stack Overflow.
- Jupyter Notebook to analyze the data and IBM Cognos Analytics to visualize it.

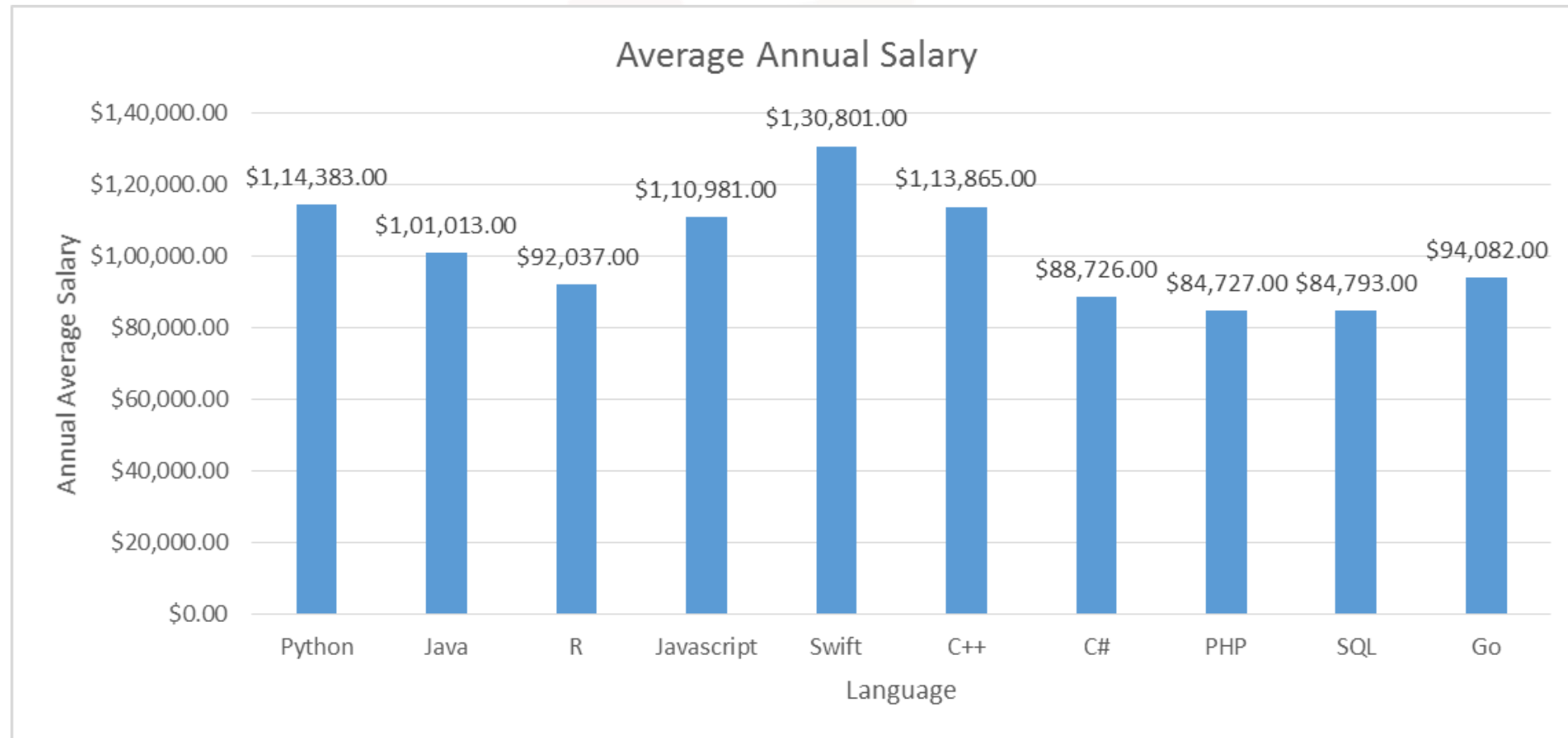
## Acknowledgement

I would like to thank Coursera and IBM Skills Network team for providing me an opportunity to showcase my skills.

# GITHUB JOB POSTINGS



# POPULAR LANGUAGES



# Thank you