CURRENT AND EMERGING IT TRENDS AND SKILLS 2019-2020

Author:

Rajni Gulati

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OUTLINE

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EXECUTIVE SUMMARY

TECHNOLOGY USED IN 2019

In 2019 Respondents worked with the following technologies the most.

- Programming Languages - JavaScript, HTMS/CSS, SQL, Bash, Python
- Databases – SQLite, PosgreSQL, MySQL, MongoDB,, MS SQL Server
- Platforms – Linux followed by Windows
- Web Frameworks – jQuery

EXECUTIVE SUMMARY

FUTURE TRENDS FOR 2020

The majority of respondents would like to work with the following technologies in 2020.

- Programming Languages - TypeScript, JavaScript, HTML/CSS, SQL, Python
- Databases – Redis, PostgreSQL, MySQL, MongoDB, Elasticsearch
- Platforms – Linux and Docker
- Web Frameworks – React.js

EXECUTIVE SUMMARY

SURVEY DEMOGRAPHICS

- 93.5 % of respondents were men
- Majority of responses were from the US
- Majority of respondents were between the ages of 25-30
- Majority of respondents held a Bachelor's degree

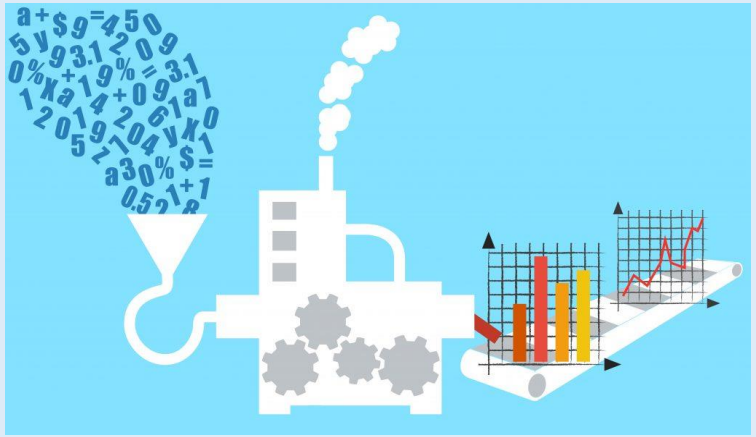
INTRODUCTION

In this presentation we will identify and discuss current and future trends on emerging skills and technologies for 2019 and 2020.

The following will be presented in this report for IBM:

- Top 10 Programming Languages
- Top 10 Databases
- Top 10 Platforms
- Top 10 Web Frameworks
- Demographics of the respondents

METHODOLOGY



RESEARCH METHOD

- Cluster Analysis has been used to analyze the data.

DATA SOURCES

- Stack Overflow Developer Survey Results 2019.

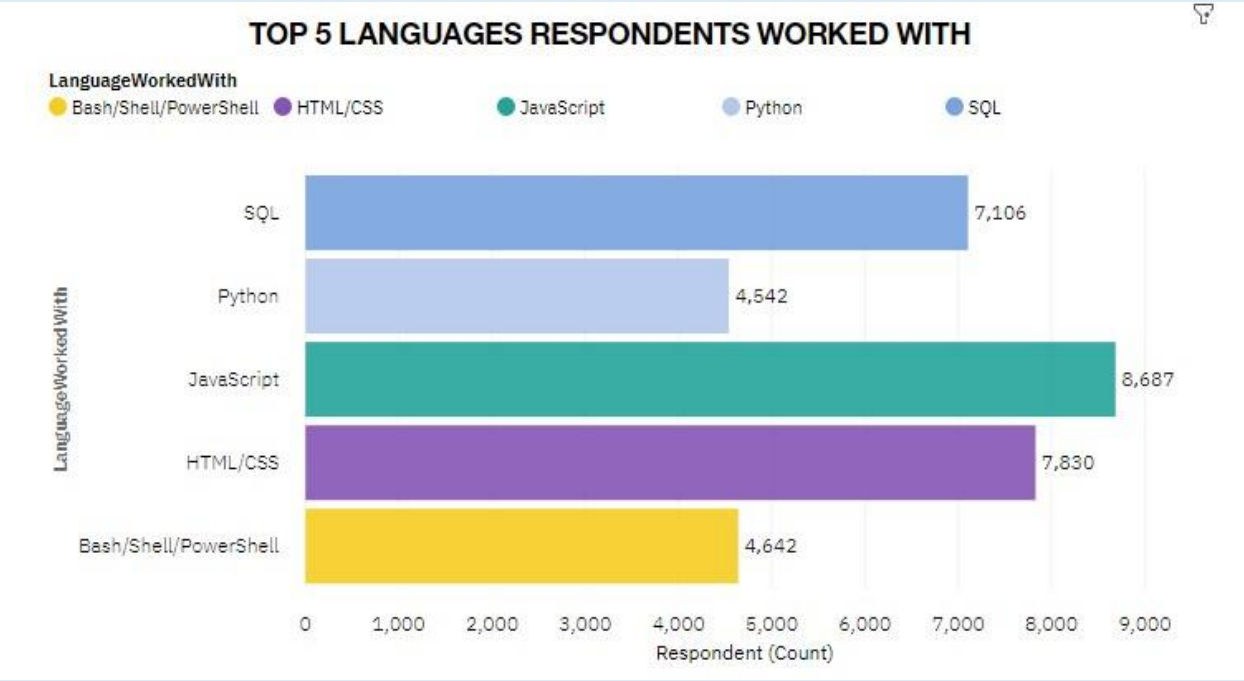
DATA COLLECTION PROCESS

- API's to extract the data from the web.
- The results were stored in .csv/excel files.
- Python and SQLite to clean, organize and analyze the data.
- IBM Cognos to visualize key findings.

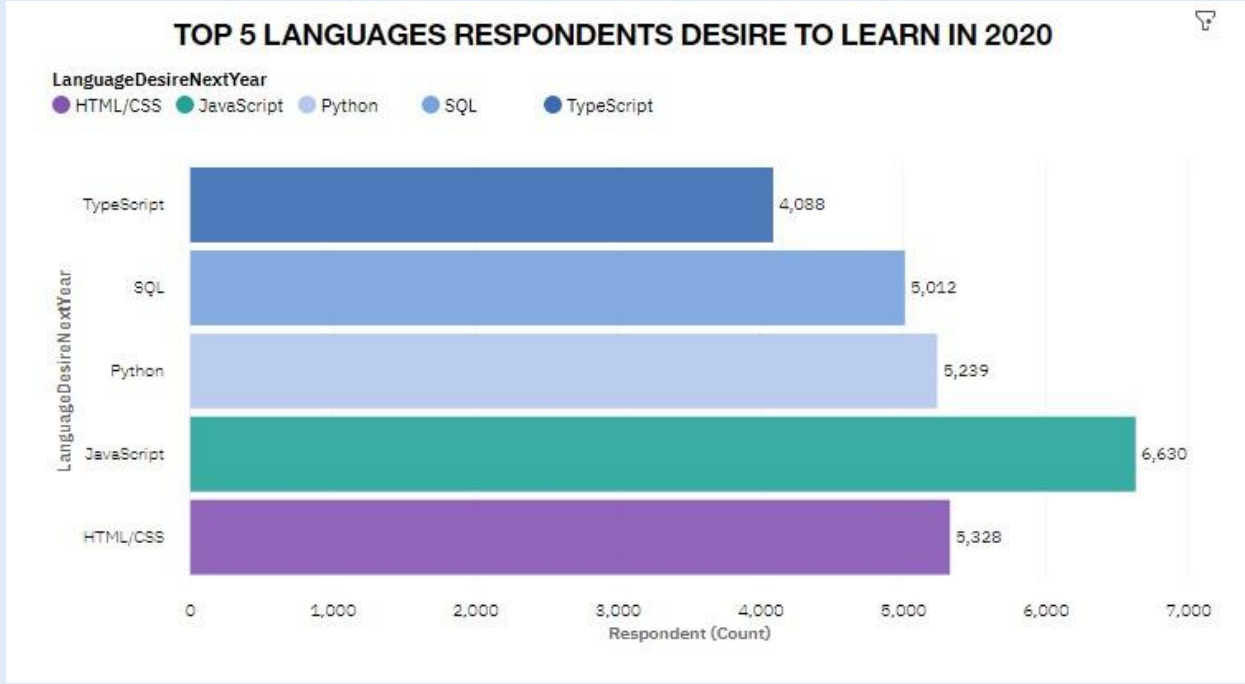
RESULTS

PROGRAMMING LANGUAGE TRENDS

2019 – IN USE



2020 - WISH LIST



PROGRAMMING LANGUAGE TRENDS FINDINGS & IMPLICATIONS

FINDINGS

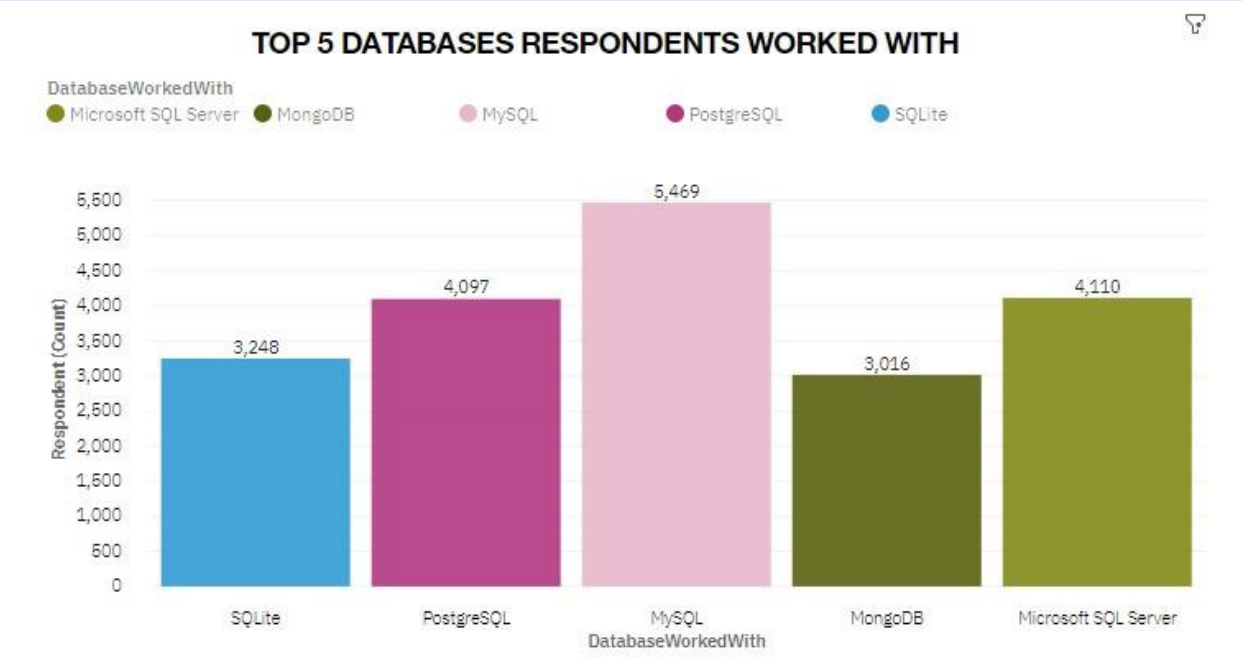
- JavaScript, HTML/CSS, SQL, Python and Bash were the 5 most commonly used languages in 2019.
- TypeScript, JavaScript, HTML /CSS, SQL, Python were the top 5 on the wish list for 2020.

IMPLICATIONS

- JavaScript is here to stay as it can be used for both front and back-end development.
- Python is gaining tremendous interest.
- Python has even surpassed SQL and is close behind HTML/CSS!

DATABASE TRENDS

2019 – IN USE



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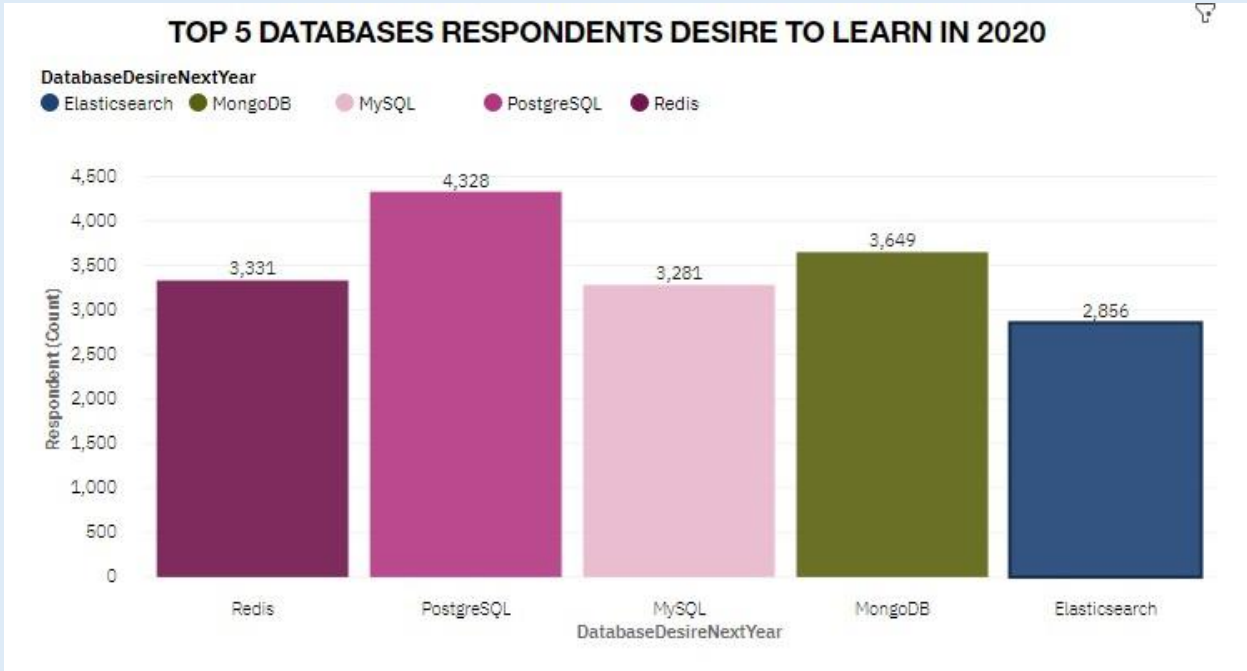


DATABASE TRENDS
FINDINGS & IMPLICATIONS

FINDINGS

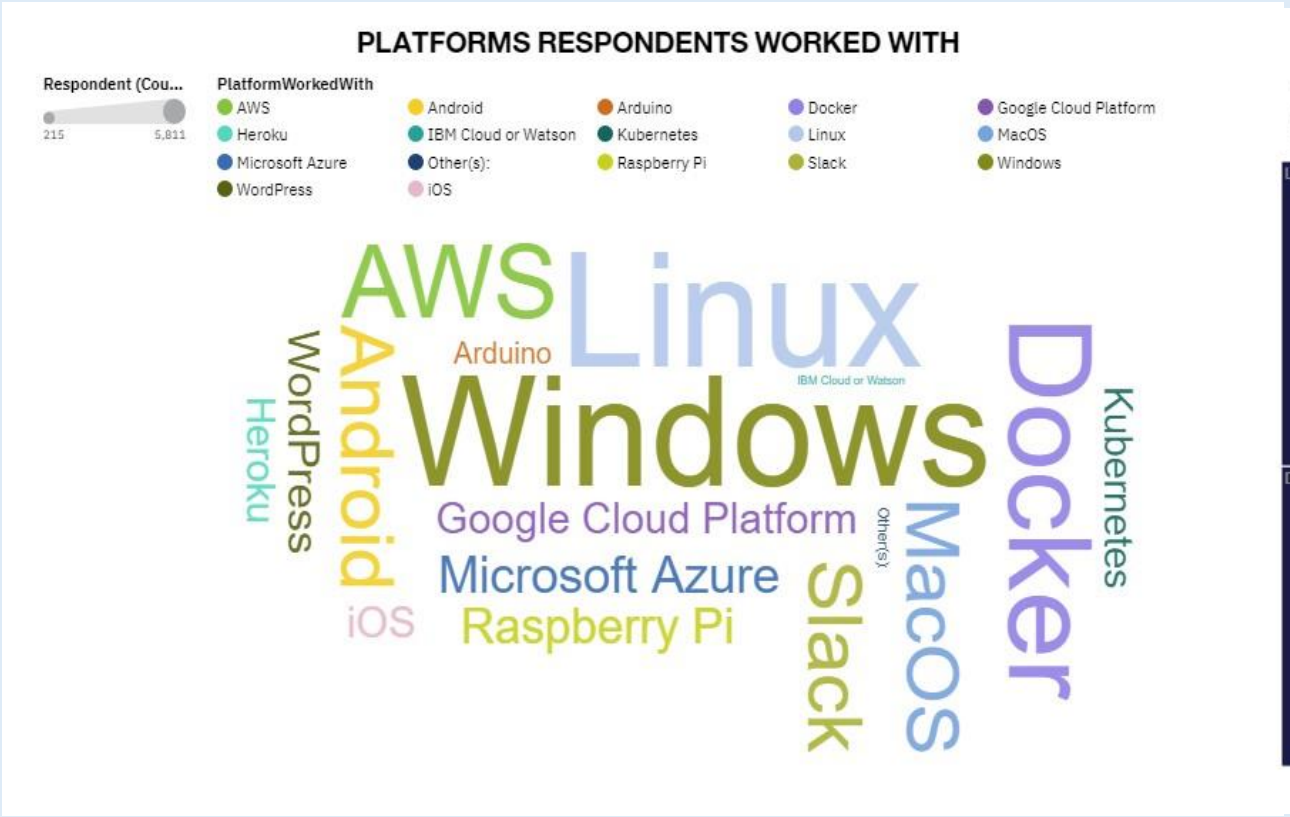
- Top 5 databases for 2019 were SQLite, PosgreSQL, MySQL, MongoDB and MS SQL Server.
- Redis, PostgreSQL, MySQL, MongoDB, and Elasticsearch were at the top of the wish list for 2020.

IMPLICATIONS

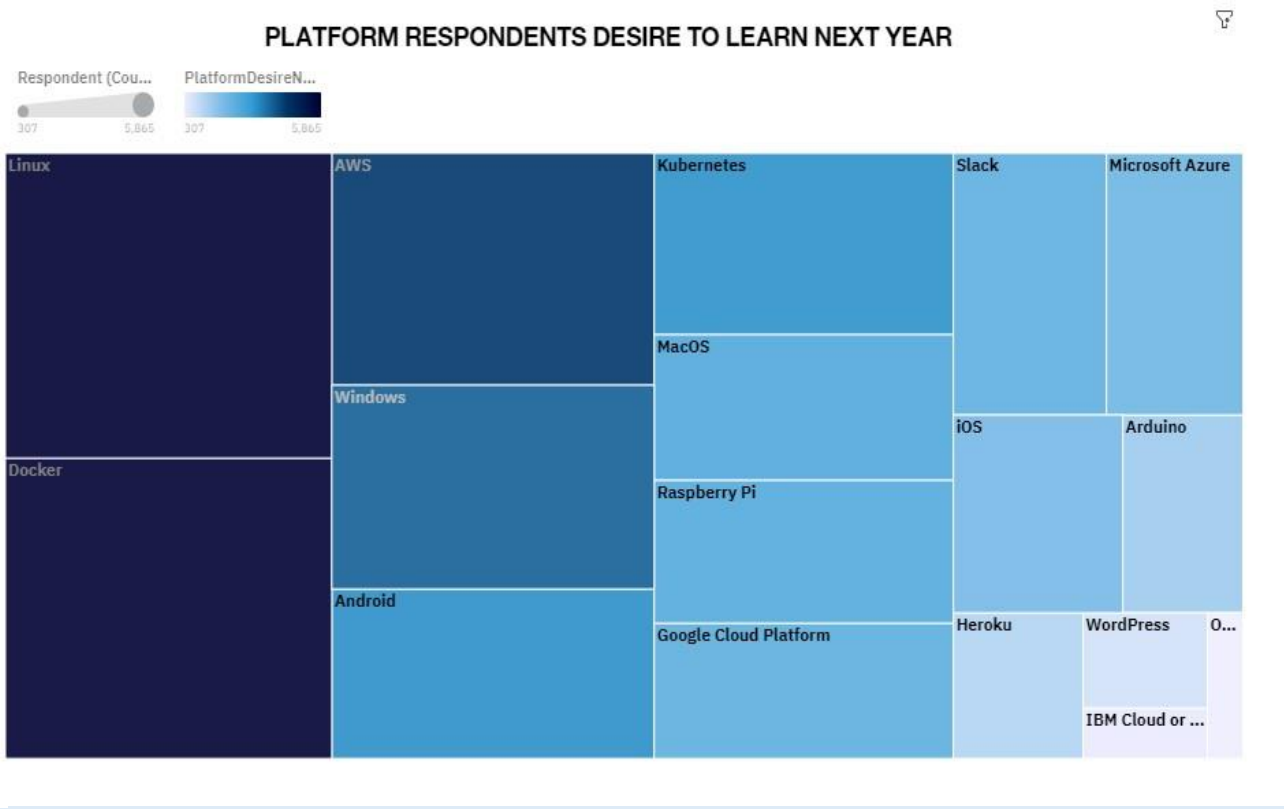
- MySQL remains the most popular database.
- More people are paying attention to PostgreSQL as it identifies itself as “the most advanced open-source relational database in the world”.

PLATFORM TRENDS

2019 – IN USE



2020 – WISH LIST



PLATFORM TRENDS
FINDINGS & IMPLICATIONS

FINDINGS

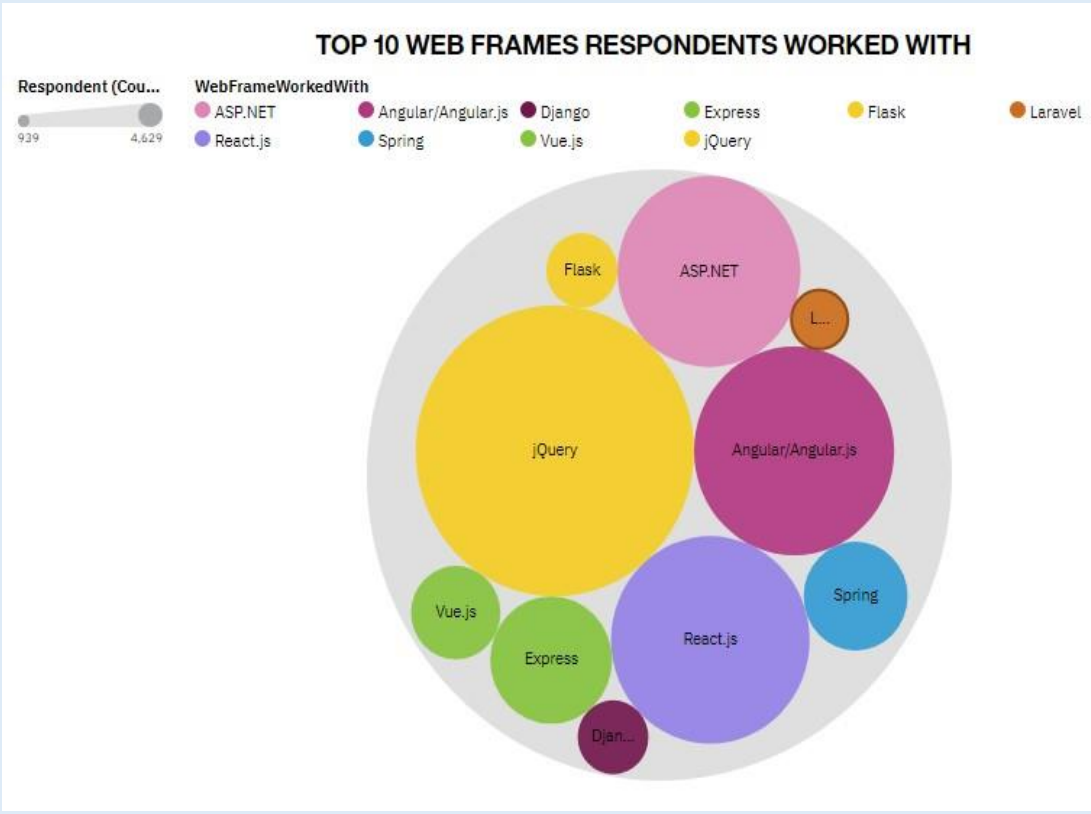
- Windows and Linux were the top 2 platforms most used in 2019
- Linux and Docker were the top 2 on the wish list for 2020

IMPLICATIONS

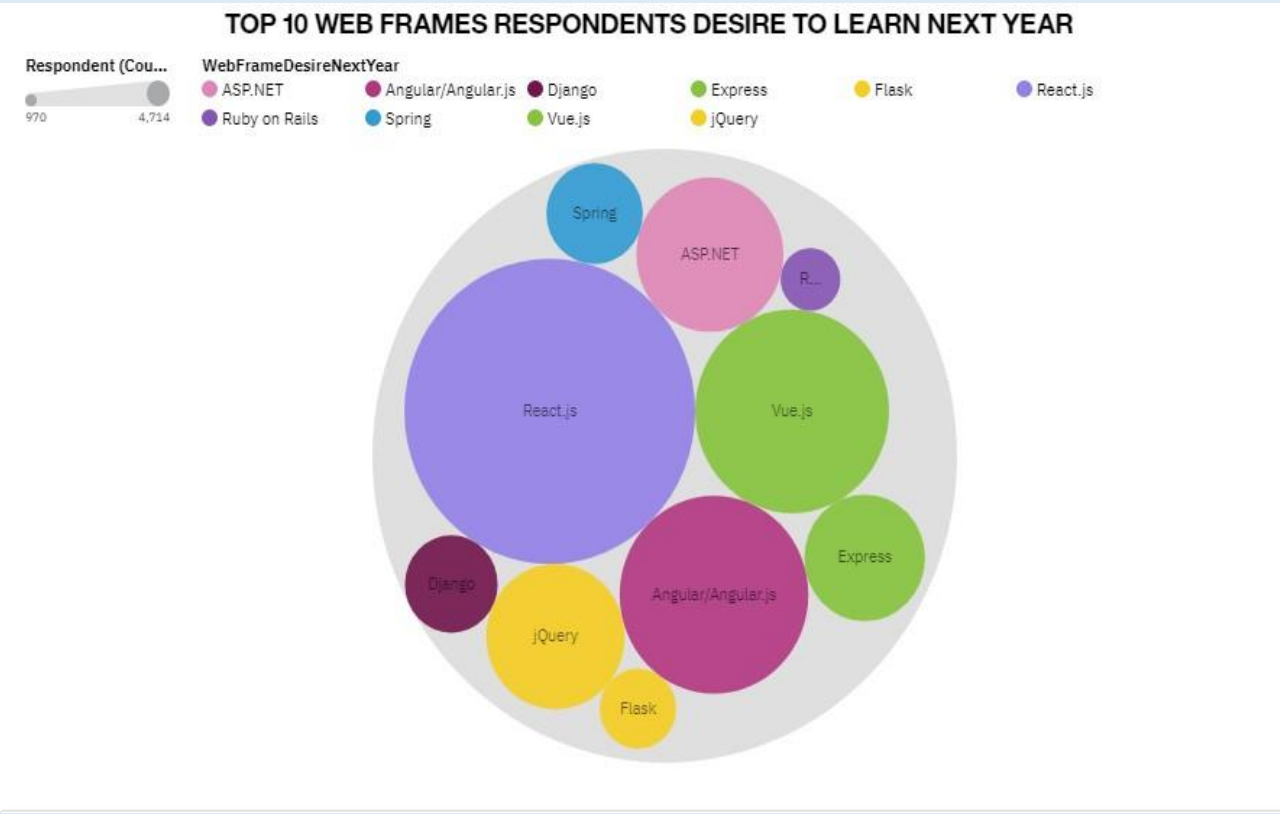
- Windows was not far behind Linux in 2019 indicating in could surpass Linux beyond 2019.

WEB FRAMEWORKS TRENDS

2019 – IN USE



2020 – WISH LIST



WEB FRAMEWORKS FINDINGS & IMPLICATIONS

FINDINGS

- jQuery was the top web frame in 2019.
- React.js was at the top of the web frame wish list for 2020.

IMPLICATIONS

- React.js and jQuery Web Frames continue to be most commonly used by developers.

DASHBOARD

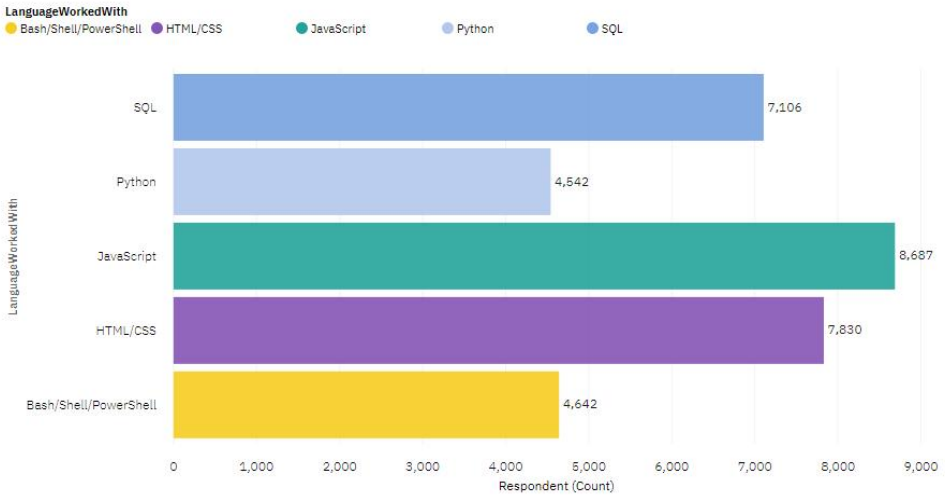
[Link to Dashboard]

TECHNOLOGY USAGE IN 2019

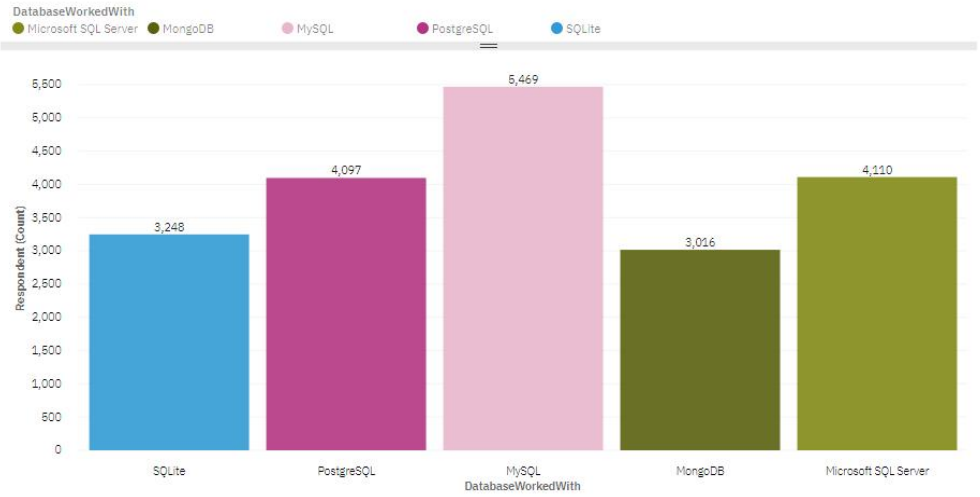
Filters

Current Technology Usage | Future Technology Trend | Demographics

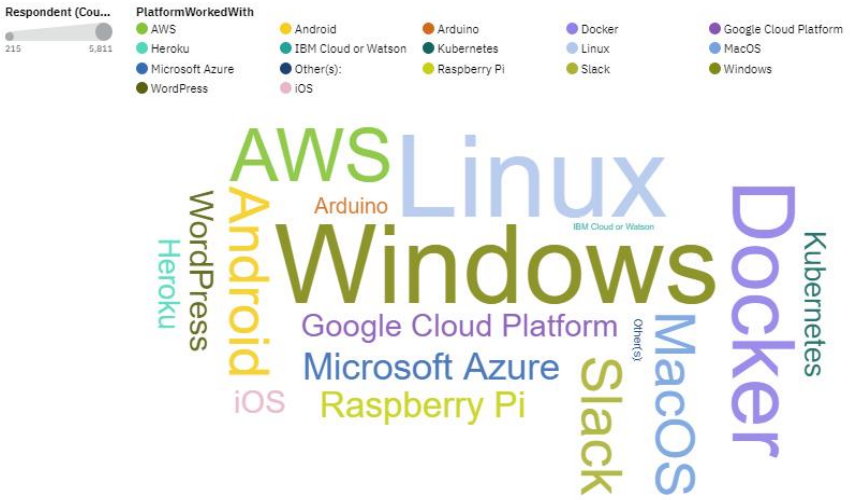
TOP 5 LANGUAGES RESPONDENTS WORKED WITH



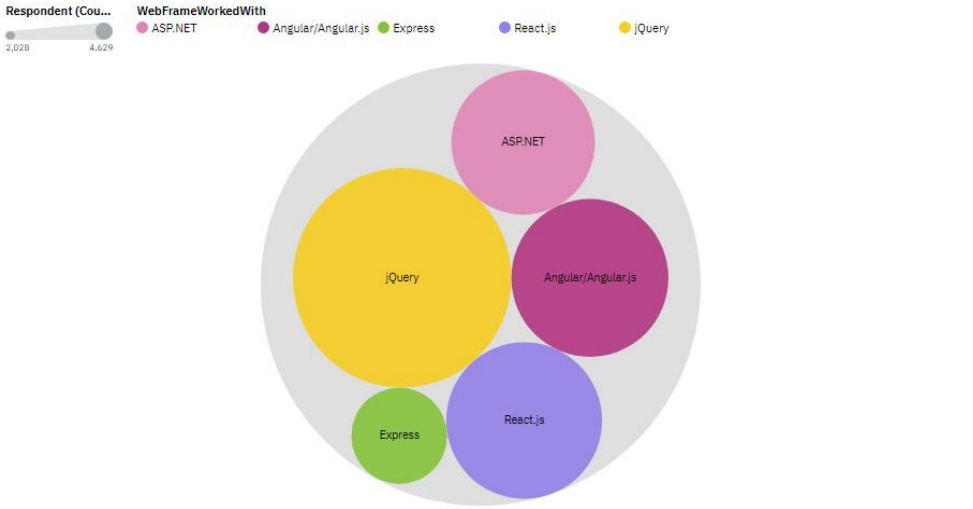
TOP 5 DATABASES RESPONDENTS WORKED WITH



PLATFORMS RESPONDENTS WORKED WITH



TOP 5 WEB FRAMEWORKS RESPONDENTS WORKED WITH



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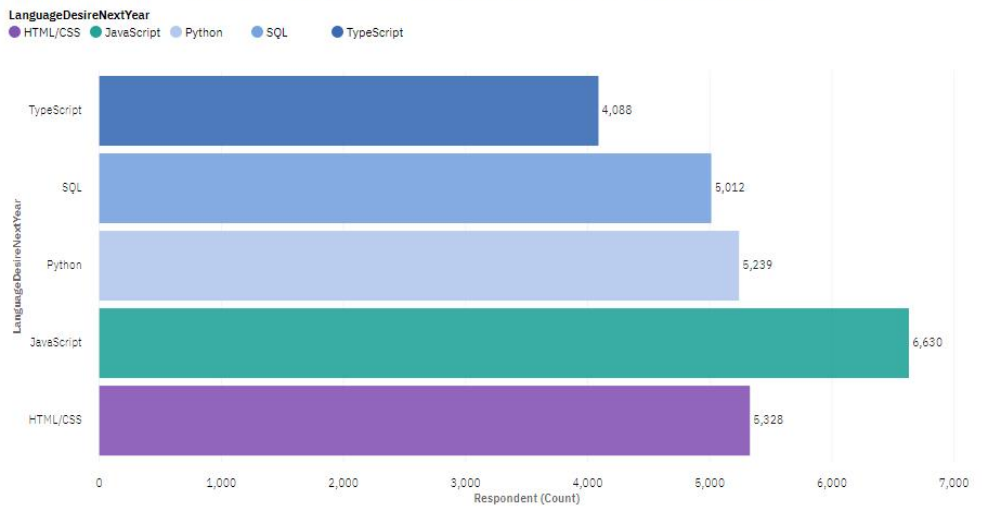
TECHNOLOGY TRENDS FOR 2020

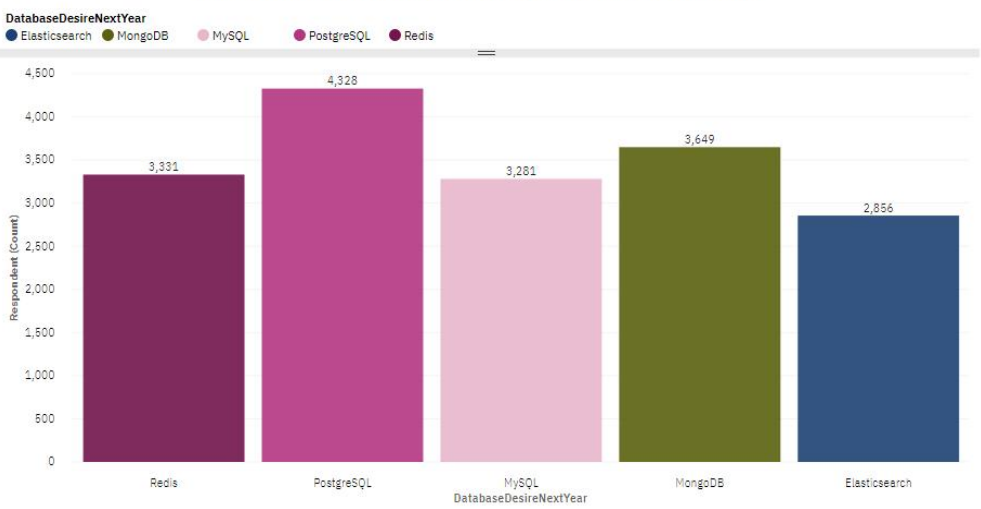
Filters

Current Technology Usage | Future Technology Trend | Demographics

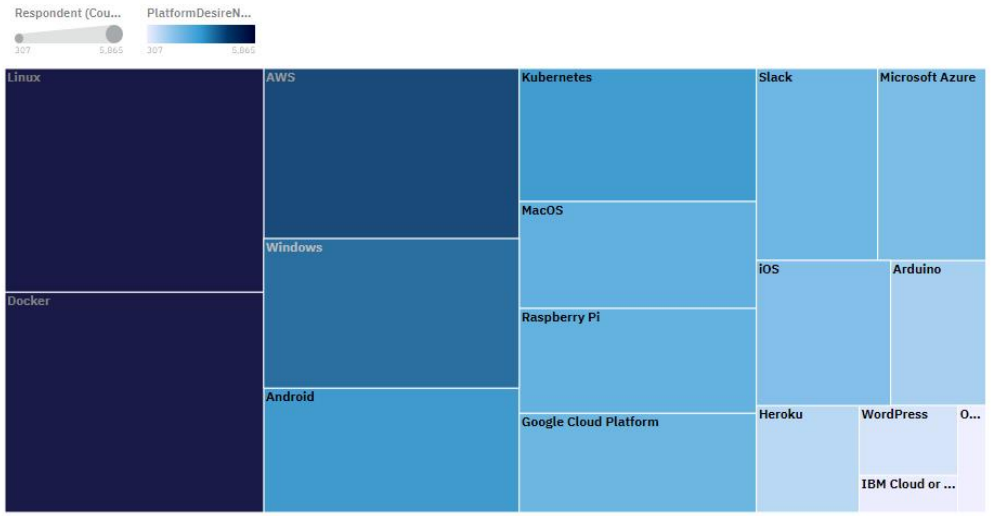
TOP 5 LANGUAGES RESPONDENTS DESIRE TO LEARN IN 2020



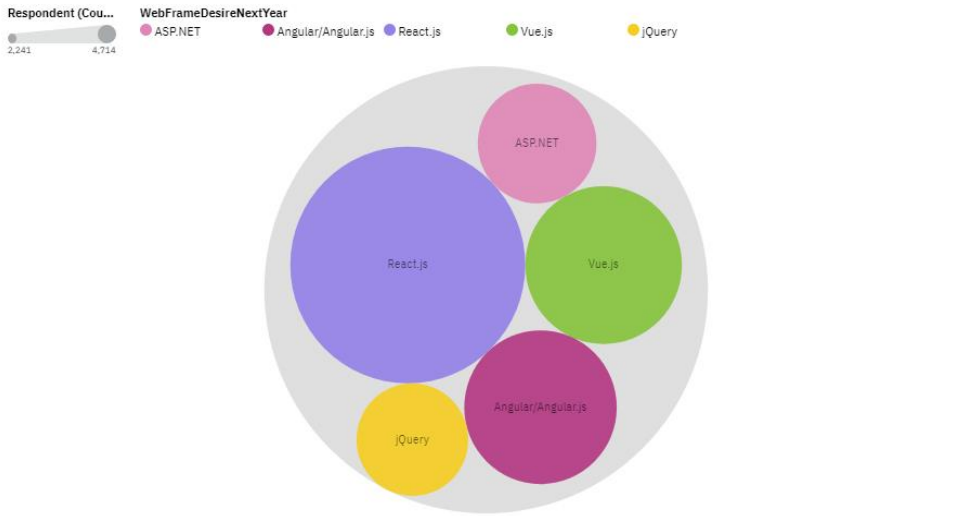
TOP 5 DATABASES RESPONDENTS DESIRE TO LEARN IN 2020



PLATFORM RESPONDENTS DESIRE TO LEARN IN 2020



TOP 5 WEB FRAMES RESPONDENTS DESIRE TO LEARN IN 2020



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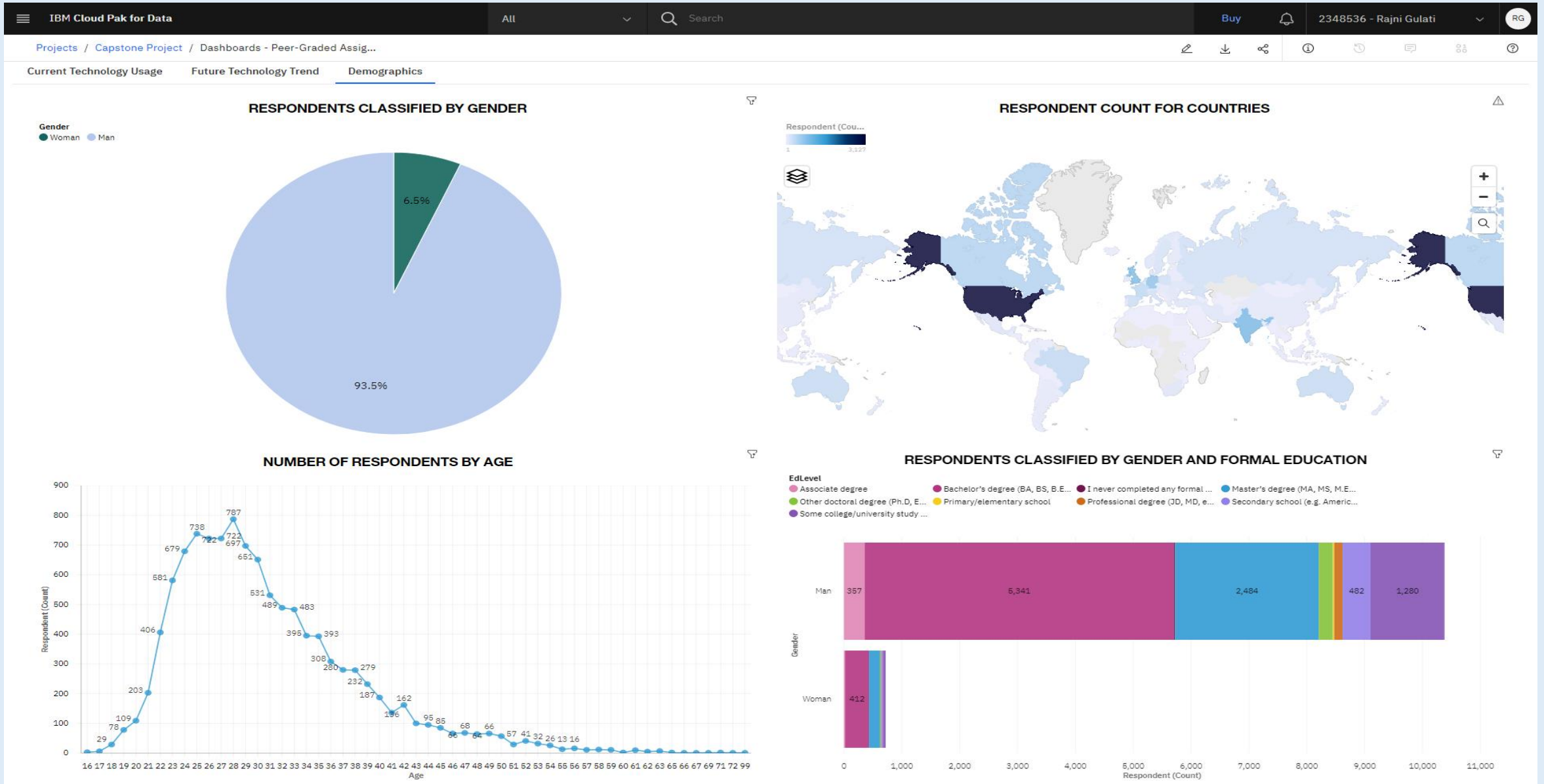
DEMOGRAPHICS



DISCUSSION

So what are the trends on emerging skills?

OVERALL FINDINGS & IMPLICATIONS

FINDINGS

- JavaScript was the top language of interest.
- Python is gaining popularity.
- MySQL Database was most widely used.
- PostgreSQL is gaining interest as it is an open-source database.

IMPLICATIONS

- JavaScript skills continue to be in demand.
- More companies continue to adopt Python for back-end development and analysis.
- Although PostgreSQL is gaining interest, MySQL remains the most widely used database.

CONCLUSION

- JavaScript and MySQL remain as the top programming language and database.
- Python continues to gain a huge fanbase.
- However, more people are paying attention to PostgreSQL database as it claims itself to be “the most advanced open-source relational database in the world”.
- Majority of responses were from men from the US between the ages of 25-30.
- Majority of respondents held a Bachelor's degree.

FINAL THOUGHTS & IDEAS

- It would be great to see more companies collaborate with each other by giving developers the opportunity to work in another firm to develop additional skill set/experience while still employed with them. This would be akin to a 'student-exchange program' without jeopardizing confidentiality.

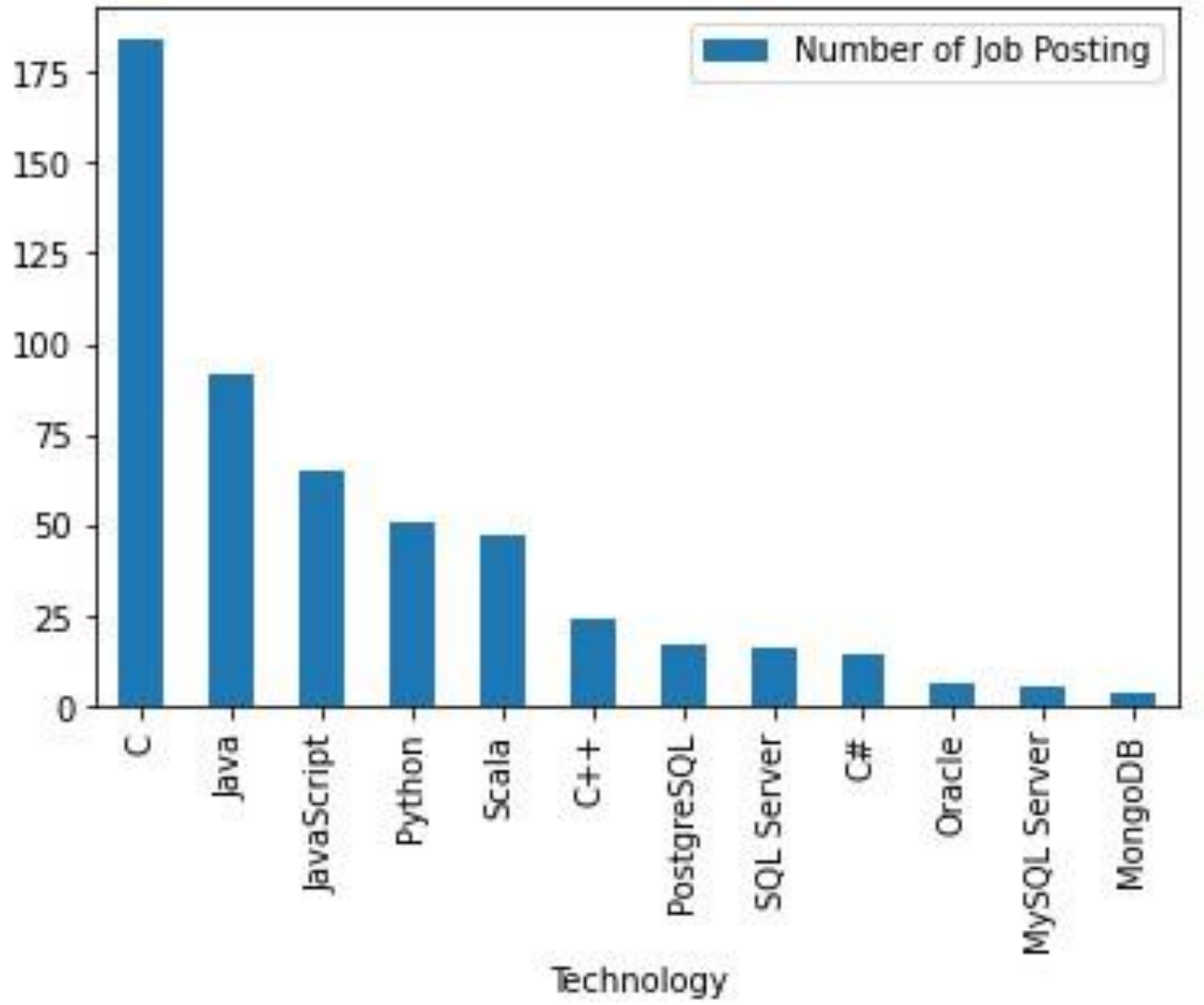
- JavaScript is here to stay for the foreseeable future as it is used for both back-end and front-end development. It is worth to invest in learning this language.

APPENDIX

Charts in the following slides were created using jobs data from the following sources:

- **GITHUB Job posting**
- **Popular Languages - Web Scraping Link**

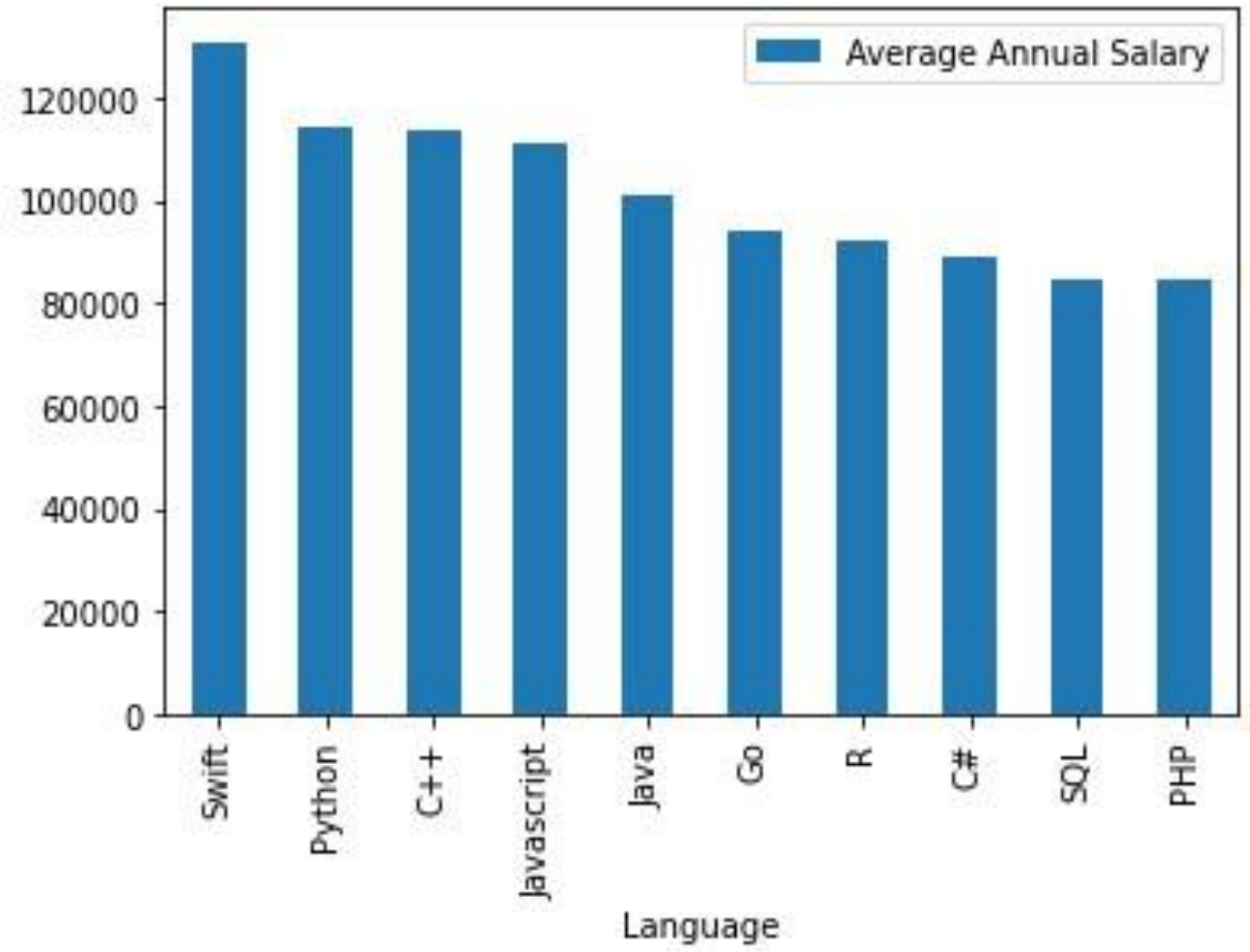
GITHUB JOB POSTINGS



The following programming languages had the most jobs available based on github-job-postings.xlsx.

- **C**
- **Java**
- **JavaScript**
- **Python**
- **Scala**
- **C++**
- **Oracle**
- **MySQL Server**
- **MongoDB**

POPULAR LANGUAGES



Based on the job postings in the file "popular-languages.csv" the following 10 languages command the highest salaries.

- Swift
- Python
- C++
- JavaScript
- Java
- Go
- R
- C#
- SQL
- PHP

Link to Data Source