Final Capstone Project

Sharminee Subramaniyam

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IBM Developer

SKILLS NETWORK

OUTLINE

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- Methodology
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- Discussion
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- Conclusion
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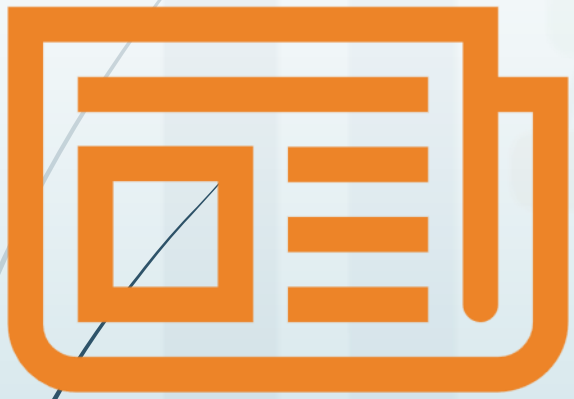
EXECUTIVE SUMMARY

- Javascript and HTML/CSS are the most popular languages currently and in the future. This shows that web programming remains in high demand
- Python is increasing in popularity and in demand
- While SQL remains popular, there is a shift in the types of SQL databases in demand
  - PostgreSQL and MongoDB have overtaken MySQL and Microsoft SQL Server in popularity
  - There is an increase in popularity for Non Relational Databases
  - There is an increased interest in Elasticsearch
- Docker and Linux are the most popular platforms for the future
- React.js is the most popular web frame for the future
- There is a large disparity in gender and age in the tech industry

INTRODUCTION

- The technology industry requires many skills and languages and it can be confusing to job seekers on what skills are needed
- We will analyze and provide charts and visualizations to show our findings on technology trends
- We will provide information on :
  - Current technologies
  - Future technologies
- We will provide information on:
  - The Most Popular Languages Currently and in the Future
  - The Most Popular Databases Currently and in the Future

METHODOLOGY

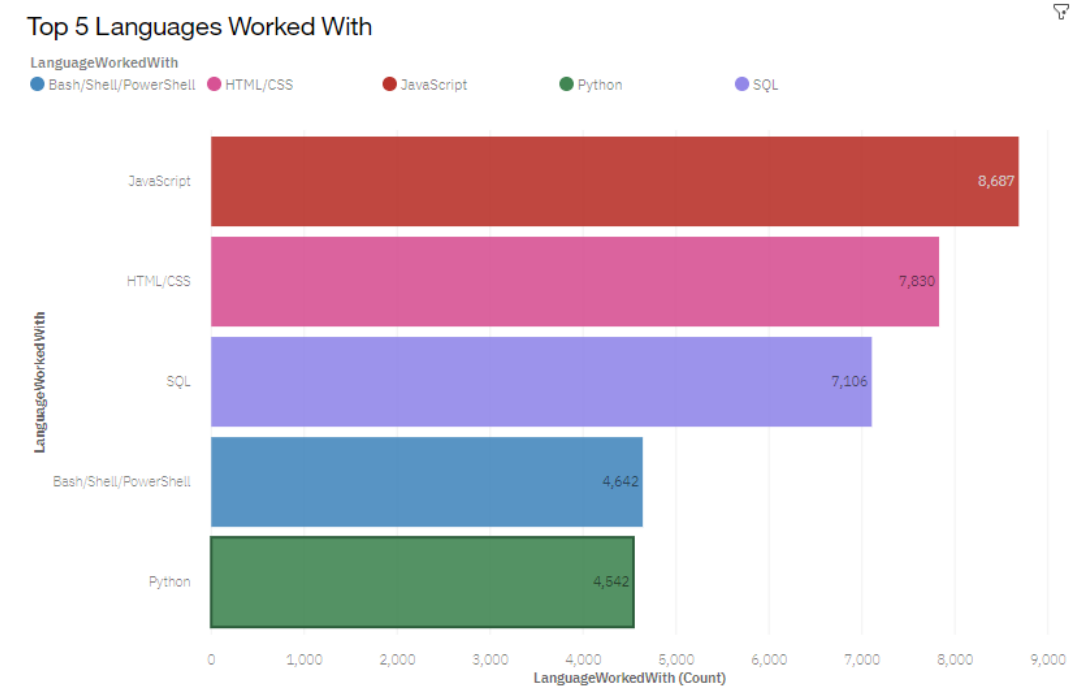


- Data Collection
  - Data from GitHub Jobs API
  - Data from 2019 StackOverflow Survey
- Data Cleaning and Preparation
- Exploratory Data Analysis
- Visualizing Data and Creating Dashboards on IBM Cognos
  - Creating Charts on current and future popular languages
  - Creating Charts on current and future popular databases

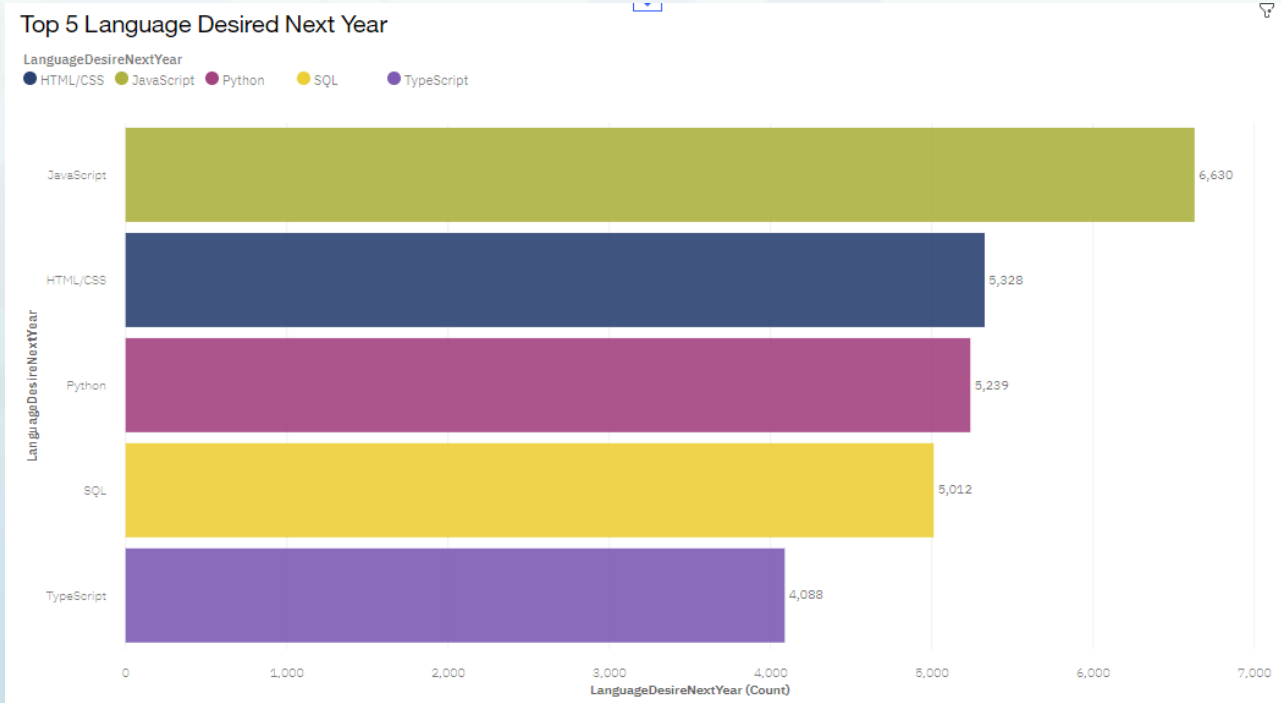
RESULTS

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



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PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

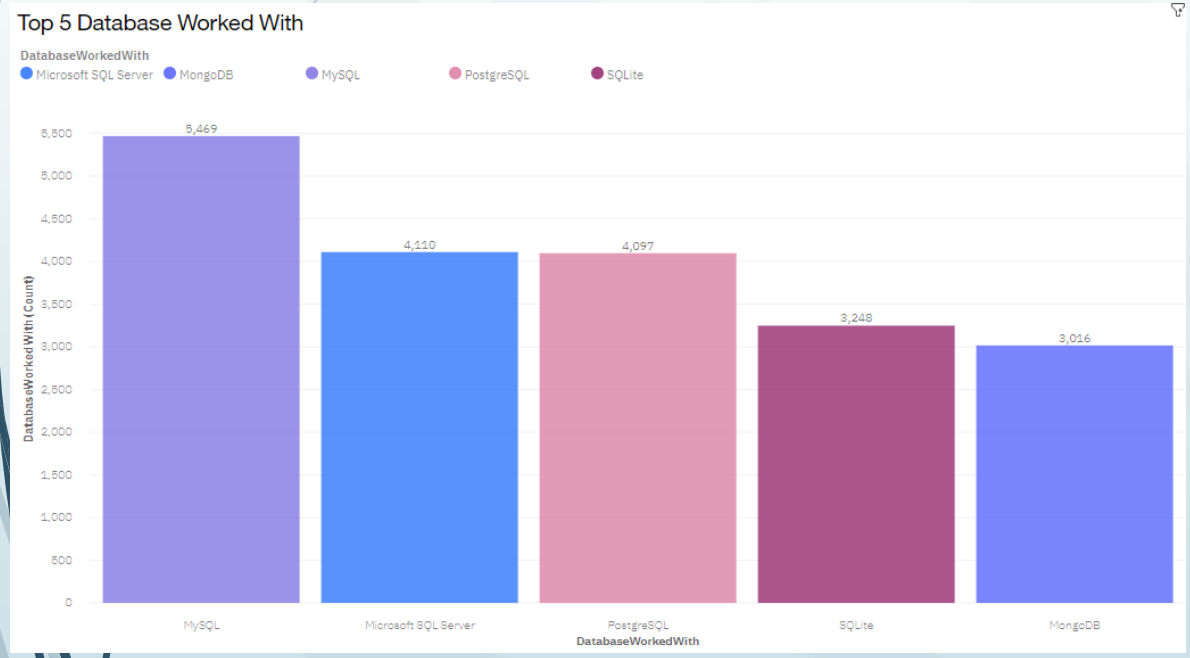
- Javascript and HTML/CSS are the most popular languages currently and for the future
- Python and Typescript are becoming more popular as more people are looking to learn these in the future
- SQL is still in the top 5 most popular languages currently and for the future
- Powershell is not as popular anymore and is no longer in the top 5

Implications

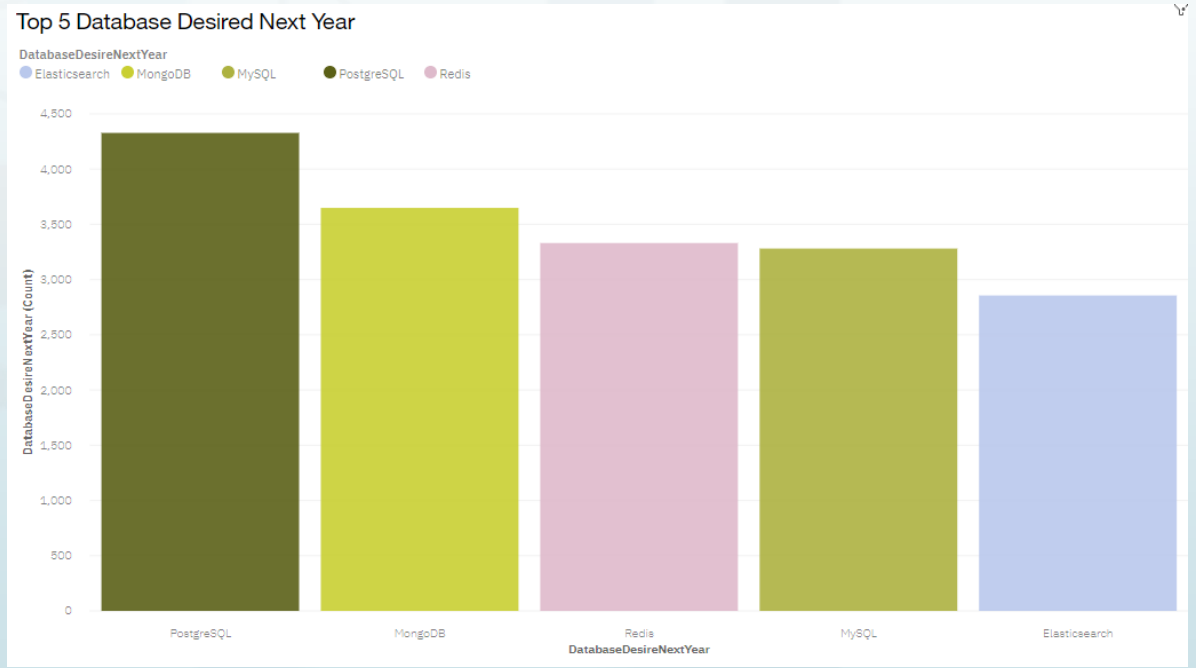
- Javascript and HTML/CSS are still very popular and therefore web programming remains in high demand
- Python is becoming more popular probably due to the increased interest in Data Science and Analysis
- SQL still remains popular and in demand
- Popularity in Powershell has waned and is not as in demand any longer

DATABASE TRENDS

Current Year



Next Year



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DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- PostgreSQL is becoming the most popular database
- SQL databases are currently popular, mainly MySQL
- MongoDB and Radia are becoming more popular
- There increasing popularity in Elasticsearch

Implications

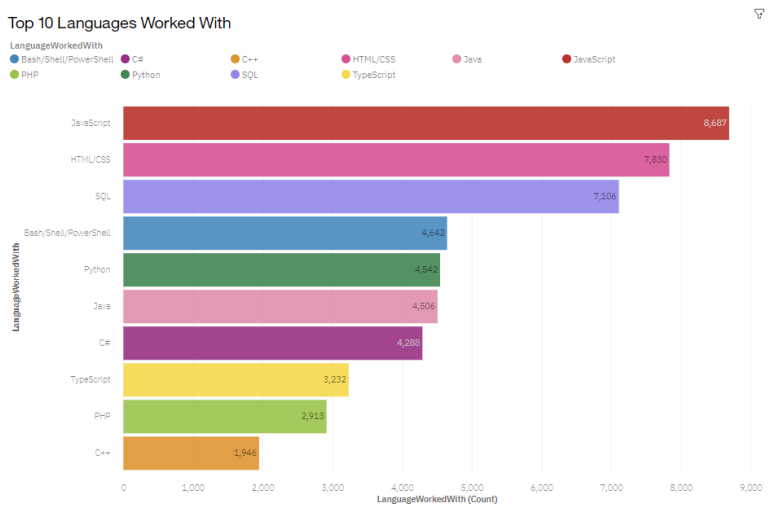
- People looking to join the technology industry should learn PostgreSQL and MongoDB due to their increasing popularity
- Non-Relational Databases are becoming more popular
- Open Source databases like MySQL are still popular

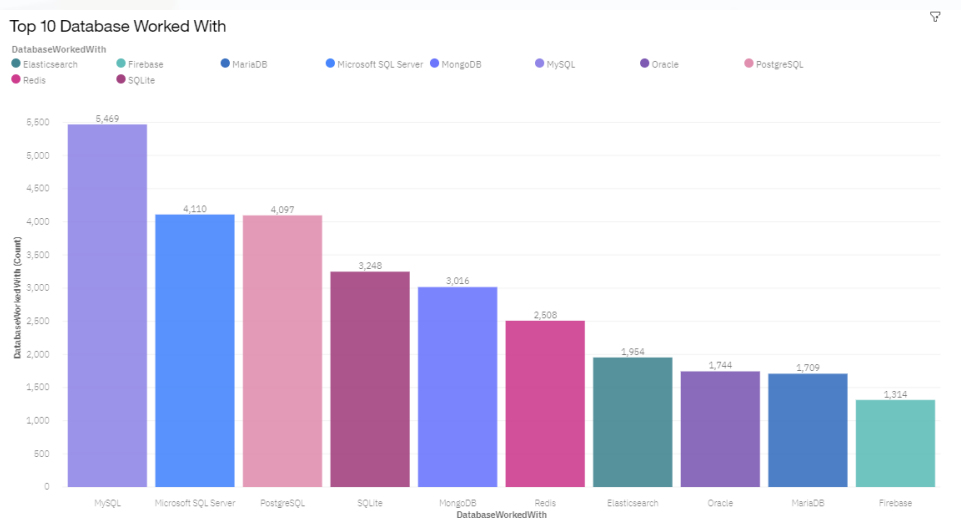
DASHBOARD

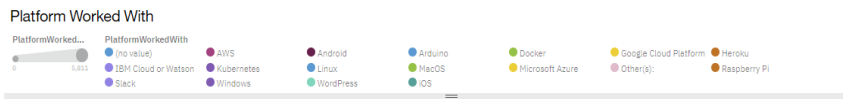
Link for IBM Cognos Dashboard

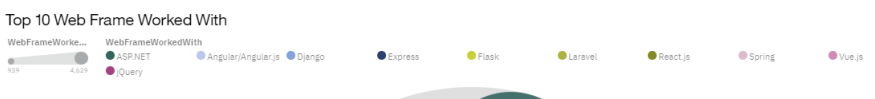
https://jp-tok.dataplatform.cloud.ibm.com/dashboards/5bd0ac48-a2d8-4cd3-9b93-8a95baa4d6d1/view/4e36ea2904890ee36cf7b1e407cc25507c302008e6bb815788857b495b357797a8684592c8264308d8400132fbeb130ac1

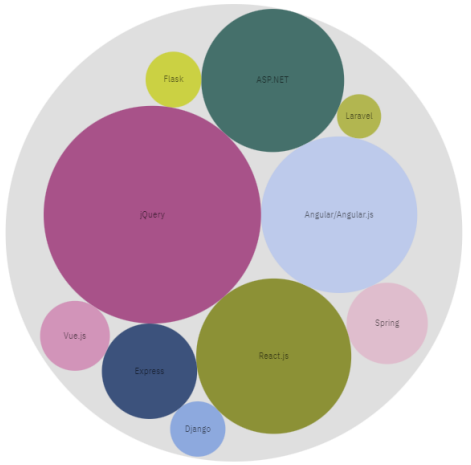
Dashboard A: Current Trends











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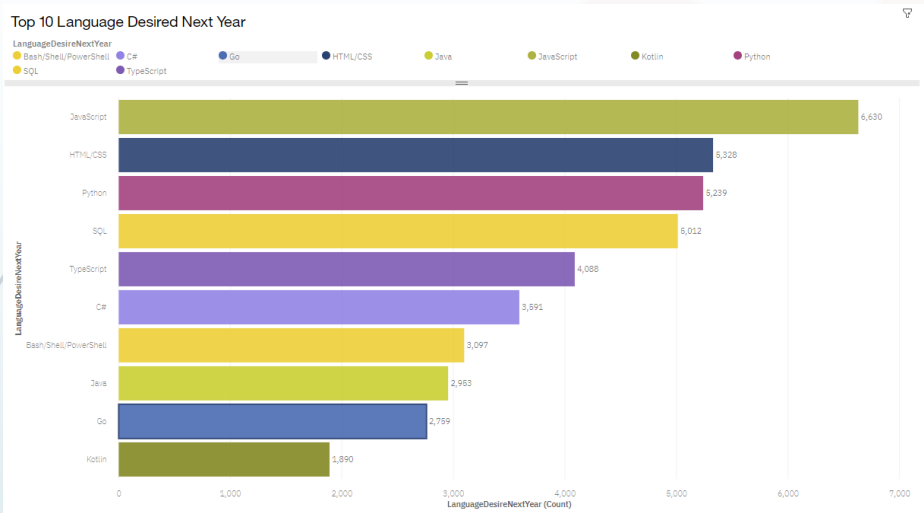
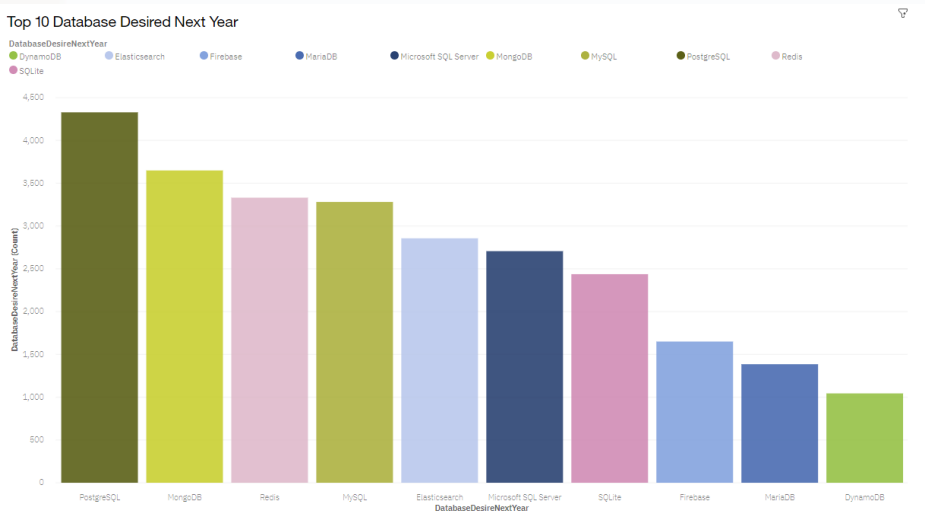
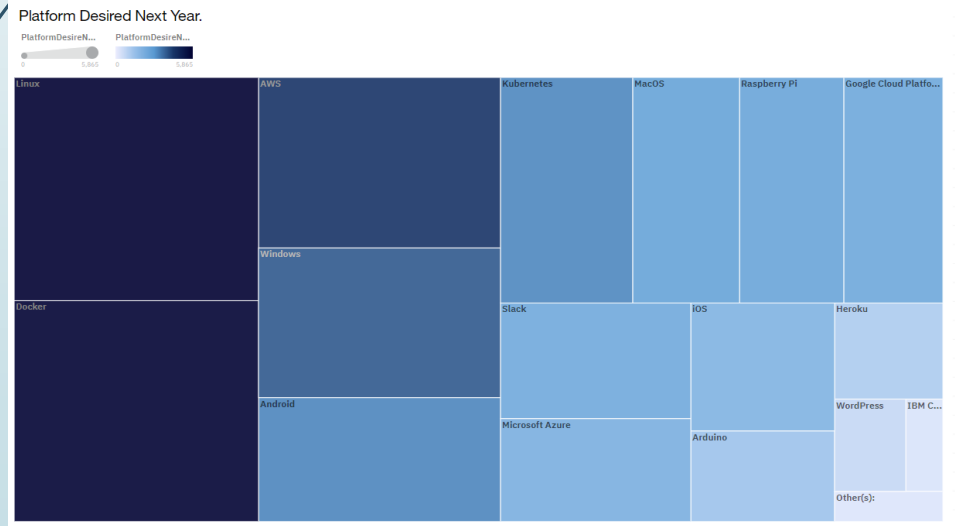
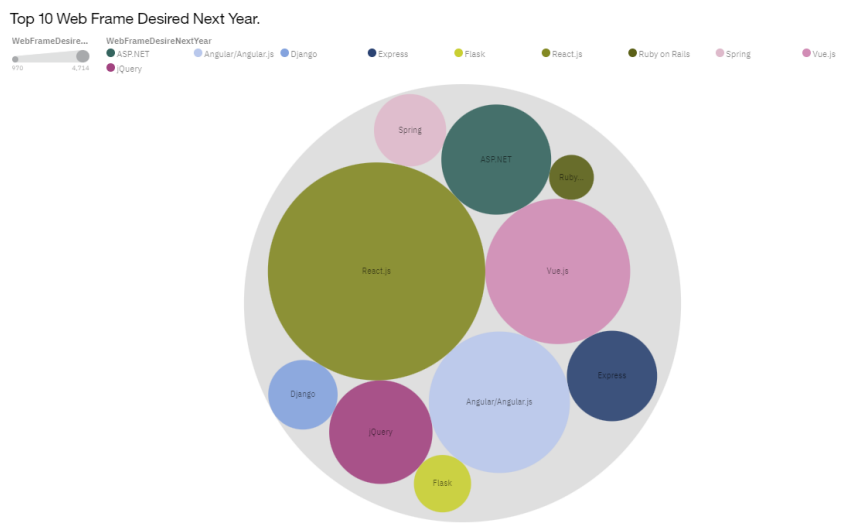
Dashboard B: Future Trends









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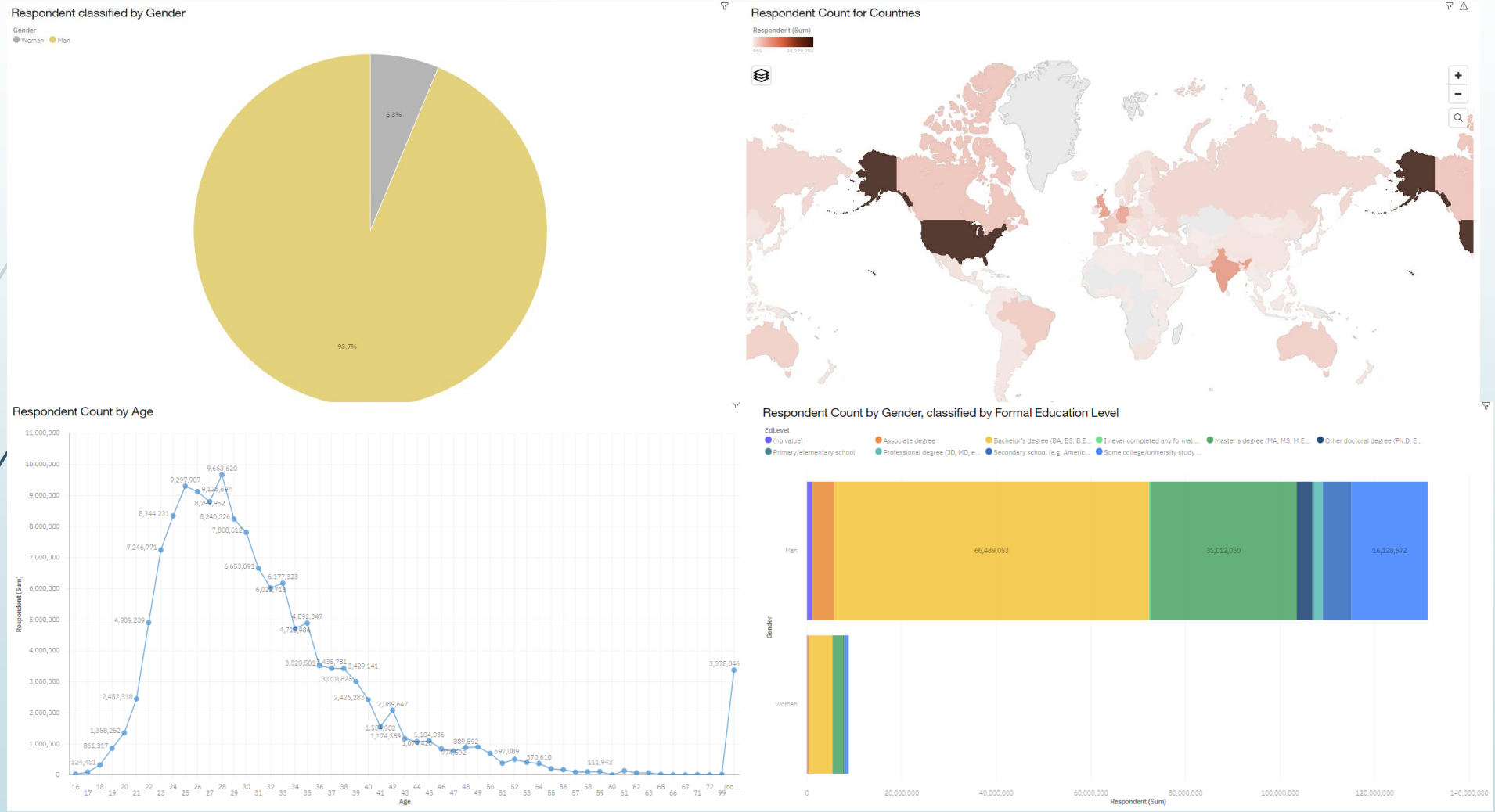
Dashboard C: Trends on Various Demographics



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DISCUSSION

- There is a large disparity in gender and age in the tech industry
- Trends in languages, databases, platforms, and web frames change in the tech industry and it is important to keep up to date learn new skills to stay relevant

OVERALL FINDINGS & IMPLICATIONS

Findings

- Javascript and HTML/CSS remain very popular for web development
- Interest and demand in Python is increasing
- PostgreSQL and MongoDB are becoming the most popular databases to work with
- React.js is becoming very popular overtaking jQuery
- Linux and Docker are becoming the most popular platforms
- There is a large disparity in age and gender in the tech industry

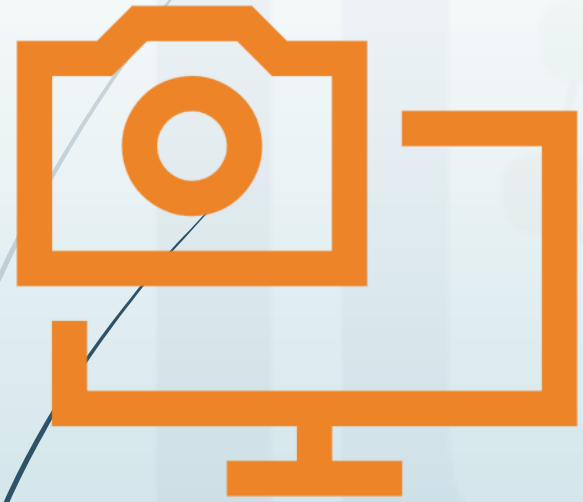
Implications

- Web development is still very much in demand. Those looking to join web development should learn HTML/CSS and Javascript
- Due to the increased interest in Data Analysis and Machine Learning, tech professional should look to learn Python, PostgreSQL, and MongoDB
- There should be an increased effort to address the disparity in gender and age in the technology industry

CONCLUSION

- The findings of this report have revealed insights into the current and future technology trends, particularly with languages, databases, platforms, and web frames
- The finding have shown the disparity in gender and age in the tech industry
- The findings have also given insight into the demographic of the tech industry in terms of education, gender, and age

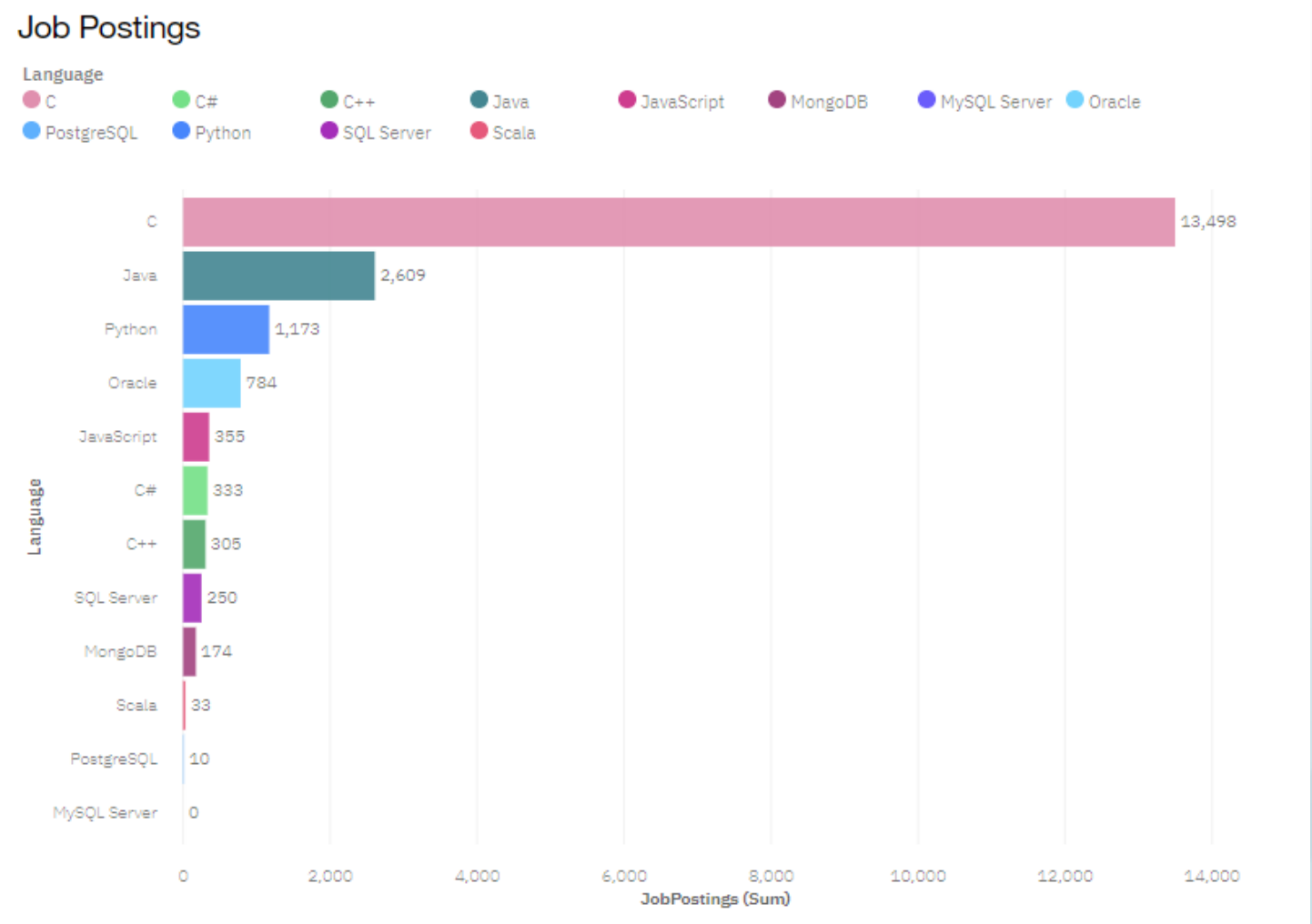
APPENDIX



The below charts are from a 2019 Stack

Overflow Developer Survey and from the Github API and show insights into languages that are in demand, the number of jobs for them as well as the Average Annual Salary for them

Appendix A: Github JOB POSTINGS



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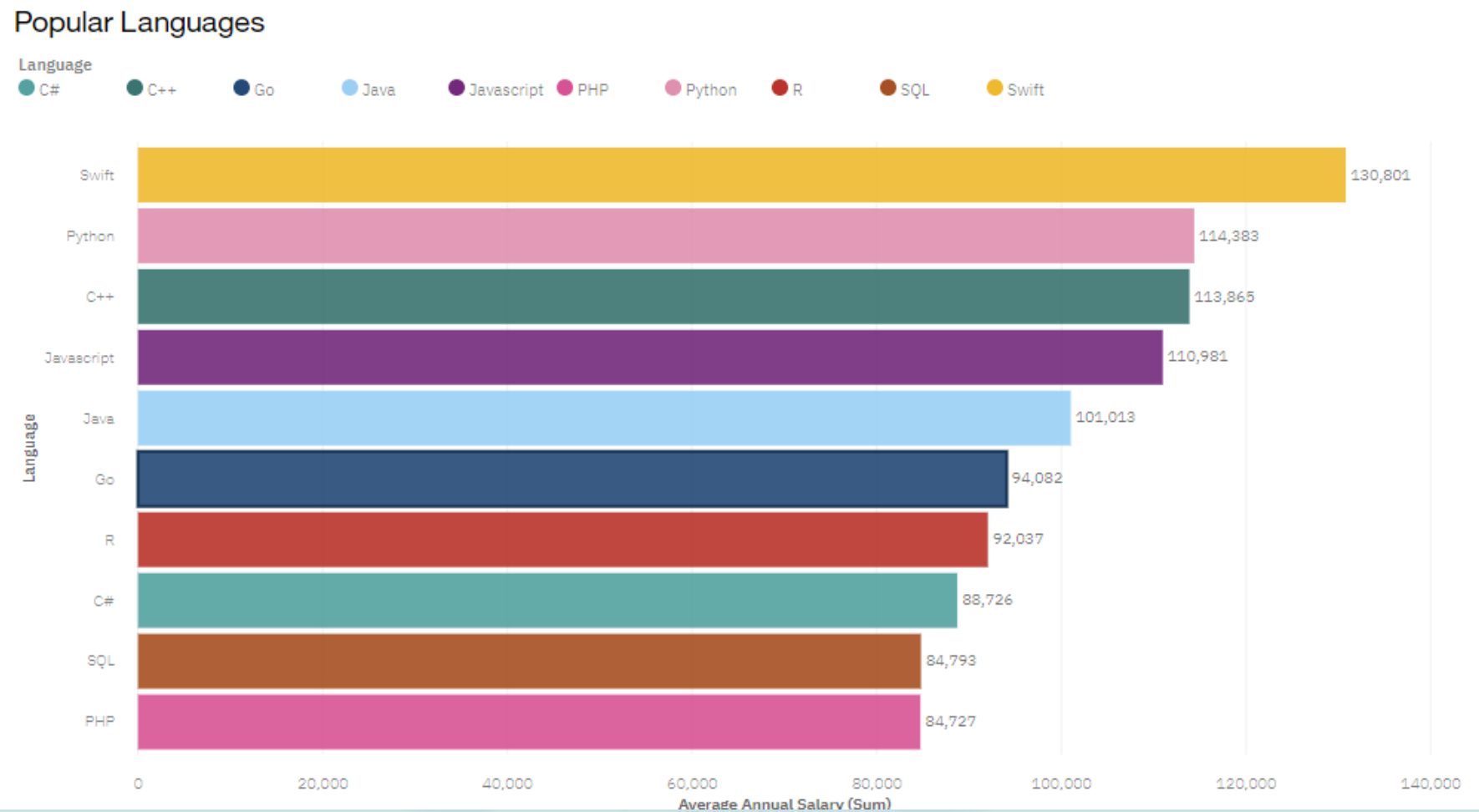
Appendix B: POPULAR LANGUAGES



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