



Analysis of New Technology Trends in The Job Market

Course 9 Capstone Project Report

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OUTLINE

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- Discussion
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- Conclusion
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EXECUTIVE SUMMARY

Technology is constantly growing at a rapid speed. This accelerated rate of change has an impact on the job market as it pertains to the adoption of these new technologies. In this report, I will provide an analysis of :

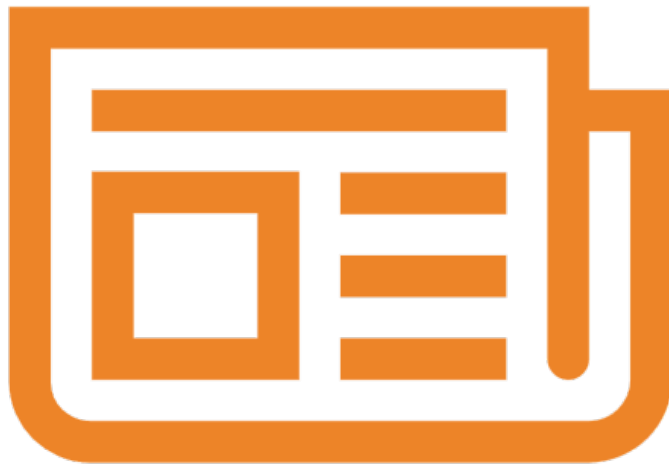
- The current trends and distribution of programming languages and databases in the job market.
- Gender gaps in Jobs and technological gaps in countries
- Identify future technological trends in the job market

INTRODUCTION

The analysis is based on survey data of individuals using new programming languages and databases in their fields of employment.

Purpose:





METHODOLOGY

Data Collection

Using API's and Webscraping

Data Cleansing

Finding duplicate data and missing values

Data normalization

Data Analysis

Data composition and distribution

Identifying correlations in data

Data Visualization

Dashboard

Findings

RESULTS

Results are based on this table:

	Respondent	LanguageWorkedWith	LanguageDesireNextYear	DatabaseWorkedWith	DatabaseDesireNextYear	PlatformWorkedWith	
	0	4	C	C	MySQL	MySQL	Linux
	1	4	C++	C#	SQLite	SQLite	Windows
	2	4	C#	JavaScript	NaN	NaN	NaN
	3	4	Python	SQL	NaN	NaN	NaN
	4	4	SQL	NaN	NaN	NaN	NaN

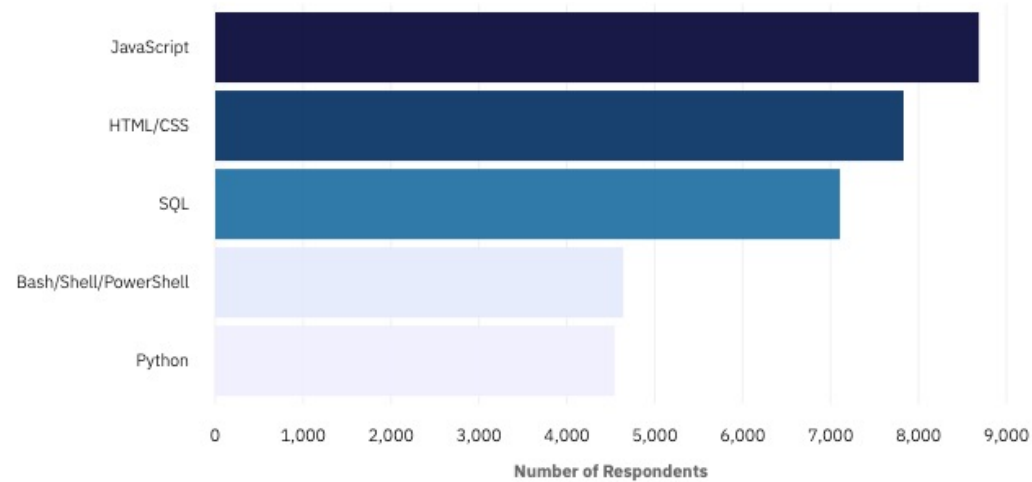
	74584	25142	Go	Python	NaN	NaN	NaN
	74585	25142	HTML/CSS	R	NaN	NaN	NaN
	74586	25142	PHP	NaN	NaN	NaN	NaN
	74587	25142	Python	NaN	NaN	NaN	NaN
	74588	25142	R	NaN	NaN	NaN	NaN



PROGRAMMING LANGUAGE TRENDS

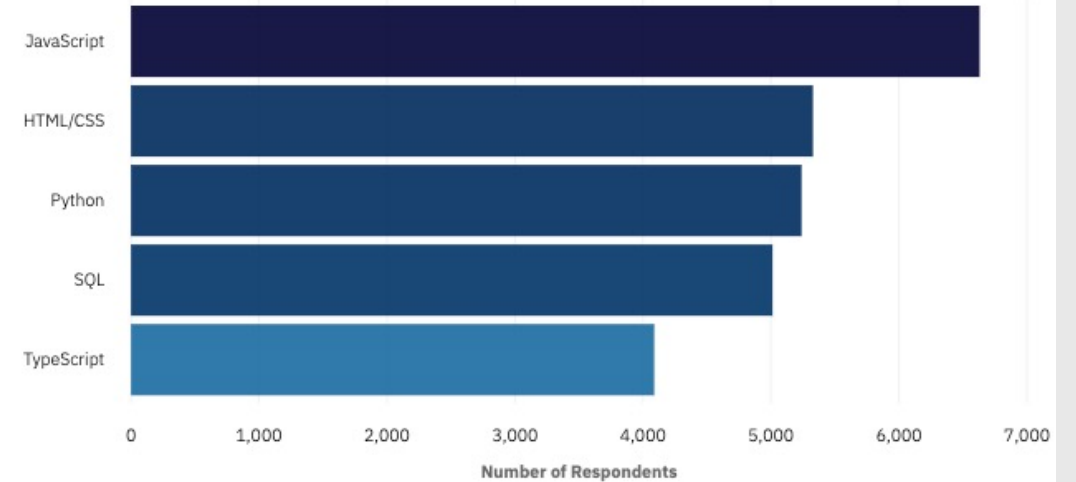
Current Year

Top 5 Programming Languages Used



Next Year

Top 5 Languages Desired Next Year



PROGRAMMING LANGUAGE – FINDINGS & IMPLICATIONS

Findings

- The current programming Languages remain in the Top 5 with exception of Bash/Powershell being replaced by typescript.
- Top 5 languages remain in the top positions but lose supporters next year.
- Python climbs from 5th place to 3rd place replacing SQL

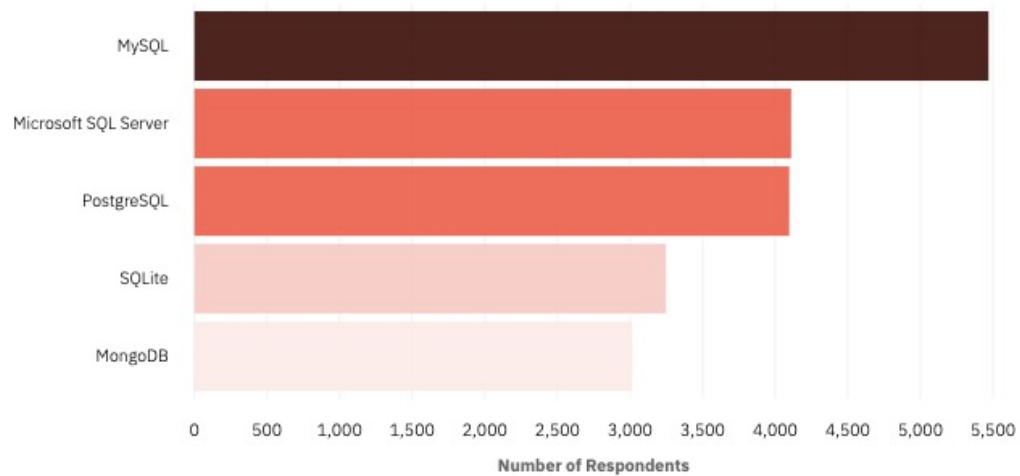
Implications

- Python is expected to maintain its position in the top 3 with AI and ML rising in the near future
- Web development is still in high demand with HTML and Javascript rounding out the top 3 And typescript making an emergence into the Top 5.
- Respondents are using a wider variety of Programming languages evidenced by the lower number of respondents for each language.

DATABASE TRENDS

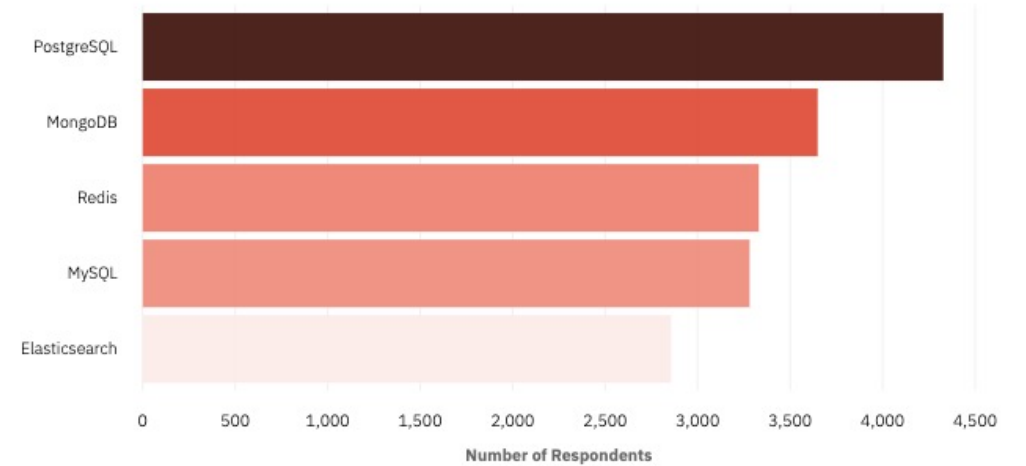
Current Year

Top 5 Databases Used



Next Year

Top 5 Databases Desired Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL, PostgreSQL, MongoDB remain in Top5
- Popularity of MongoDB stays relatively the same
- SQL server and SQL lite are replaced by Redis and Elasticsearch in Top 5

Implications

- Open-source databases are preferable to companies and users
- Database trends are unpredictable and new databases are expected to climb the ranks in The future
- Redis supports abstract data types and is used by many social media companies

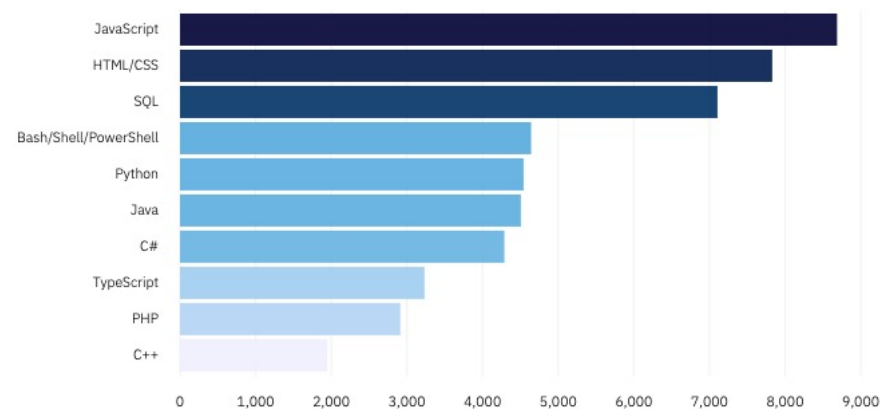
DASHBOARD

Cognos Dashboard Permalink:

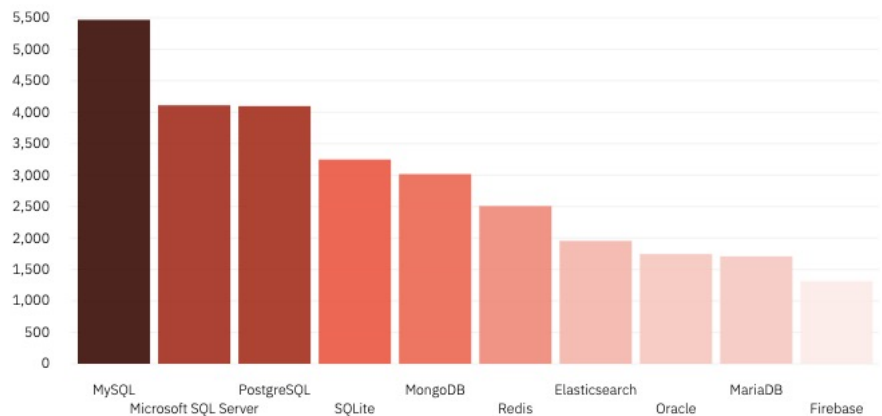
<https://dataplatfrom.cloud.ibm.com/dashboards/489e6fe5-c85d-4a38-a1fe-5eb55bco42ba/view/6f7fdb1b3aea3fcb67ccbde4o7997fo6783e2159b5bb8b50898c7b495e657897fo6b1bc7c82e4aobd9150537a6e944occf>



Top 10 Programming Languages Used



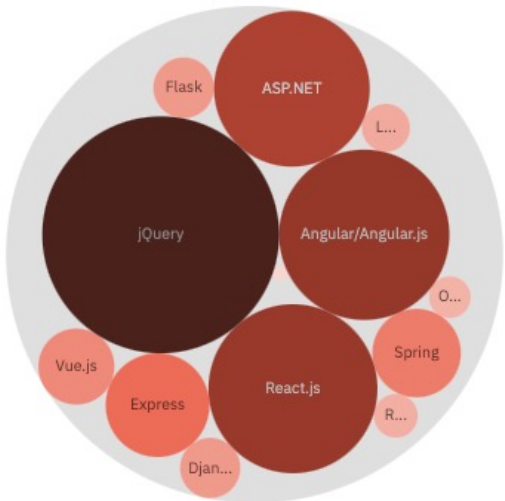
Top 10 Databases Used



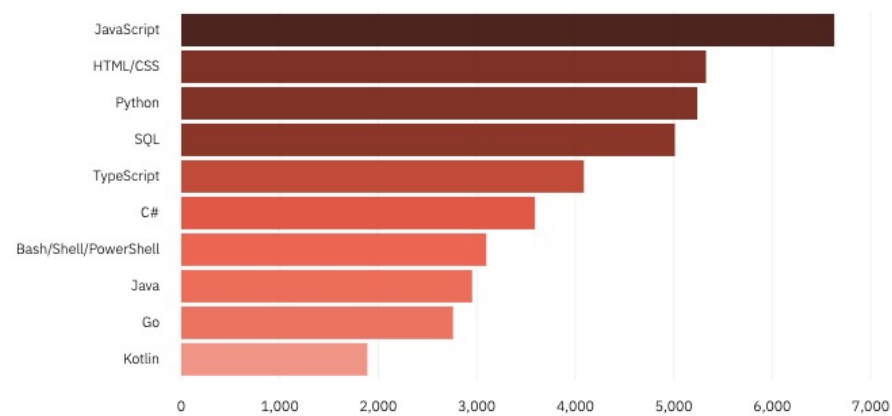
Most Used Platforms



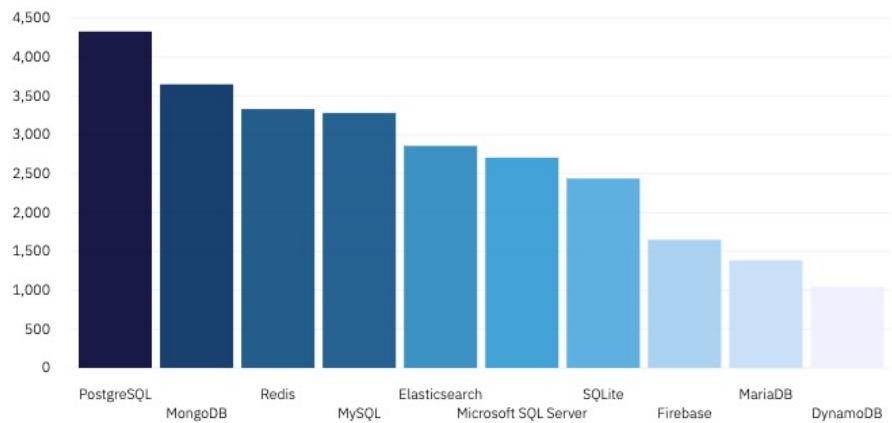
Top 10 Web Frames Used



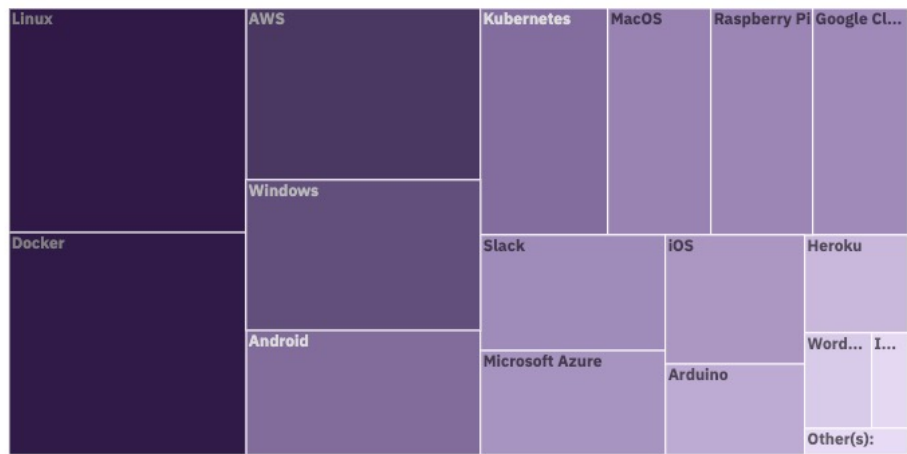
Top 10 Languages Desired Next Year



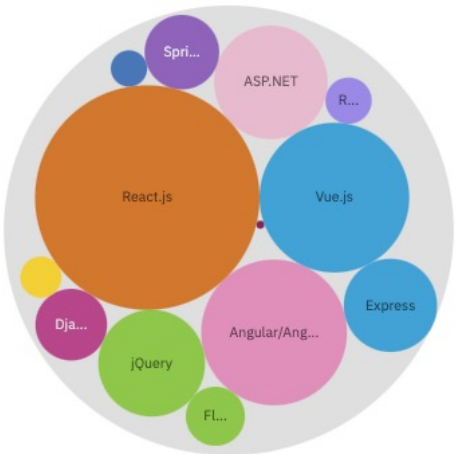
Top 10 Databases Desired Next Year



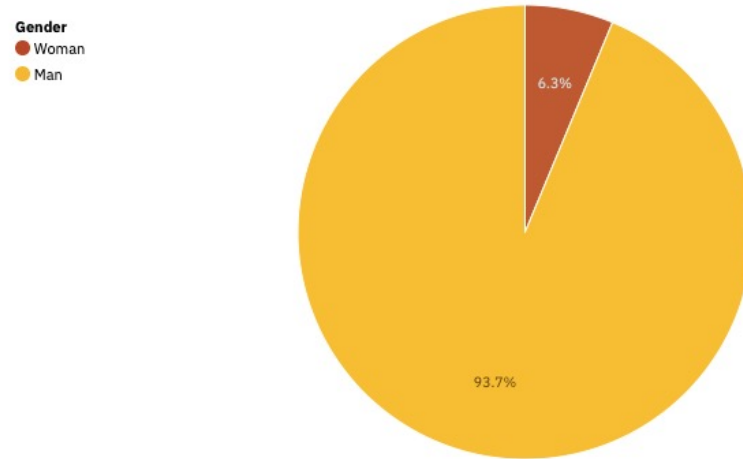
Platforms Desired Next Year



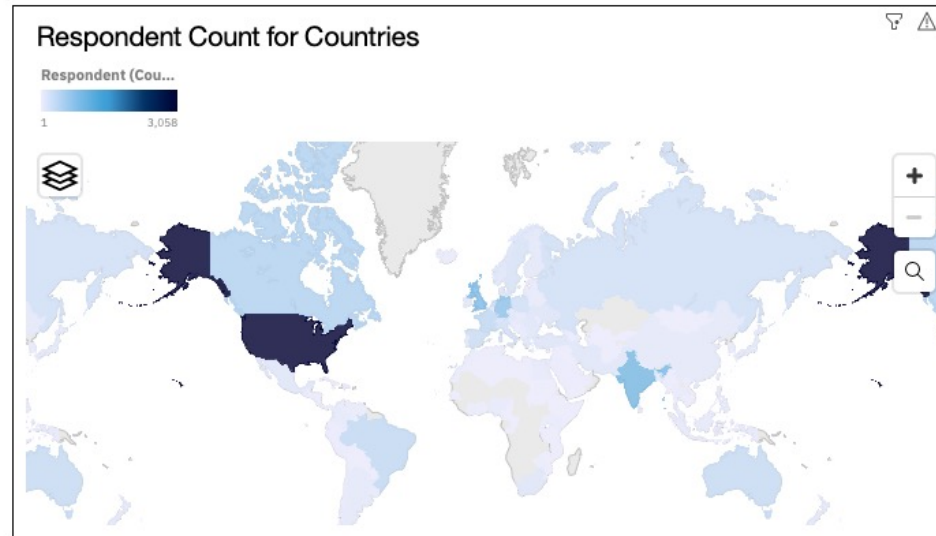
Top 10 Web Frames Desired Next Year



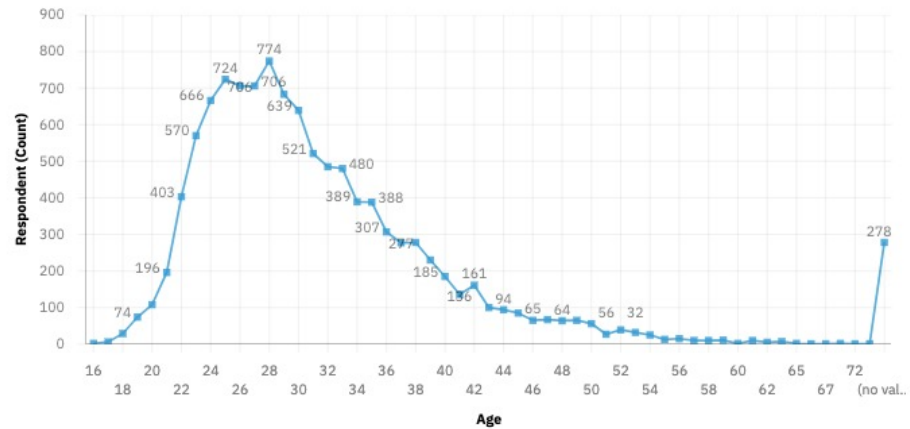
Gender Percentages of Respondents



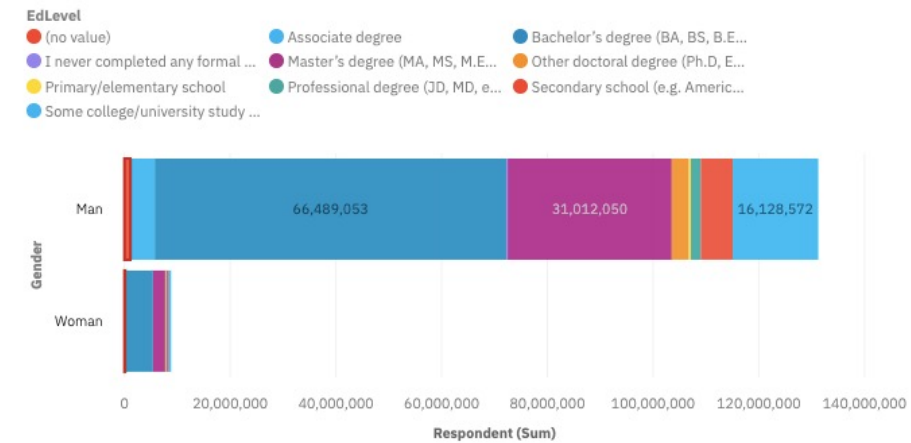
Respondent Count for Countries



Respondent Count by Age



Formal Education Level of Respondents by Gender



DASHBOARD
TAB 3



DISCUSSION

- gender disparity in tech field
- Technological trends: Present and Future
- Technological divide in developed vs developing countries
- Age and education employment prejudice

OVERALL FINDINGS & IMPLICATIONS

Findings

- Positions are filled mainly by men in their 30s with a high level of education.
- Respondents are from US and India
- Docker and AWS are growing

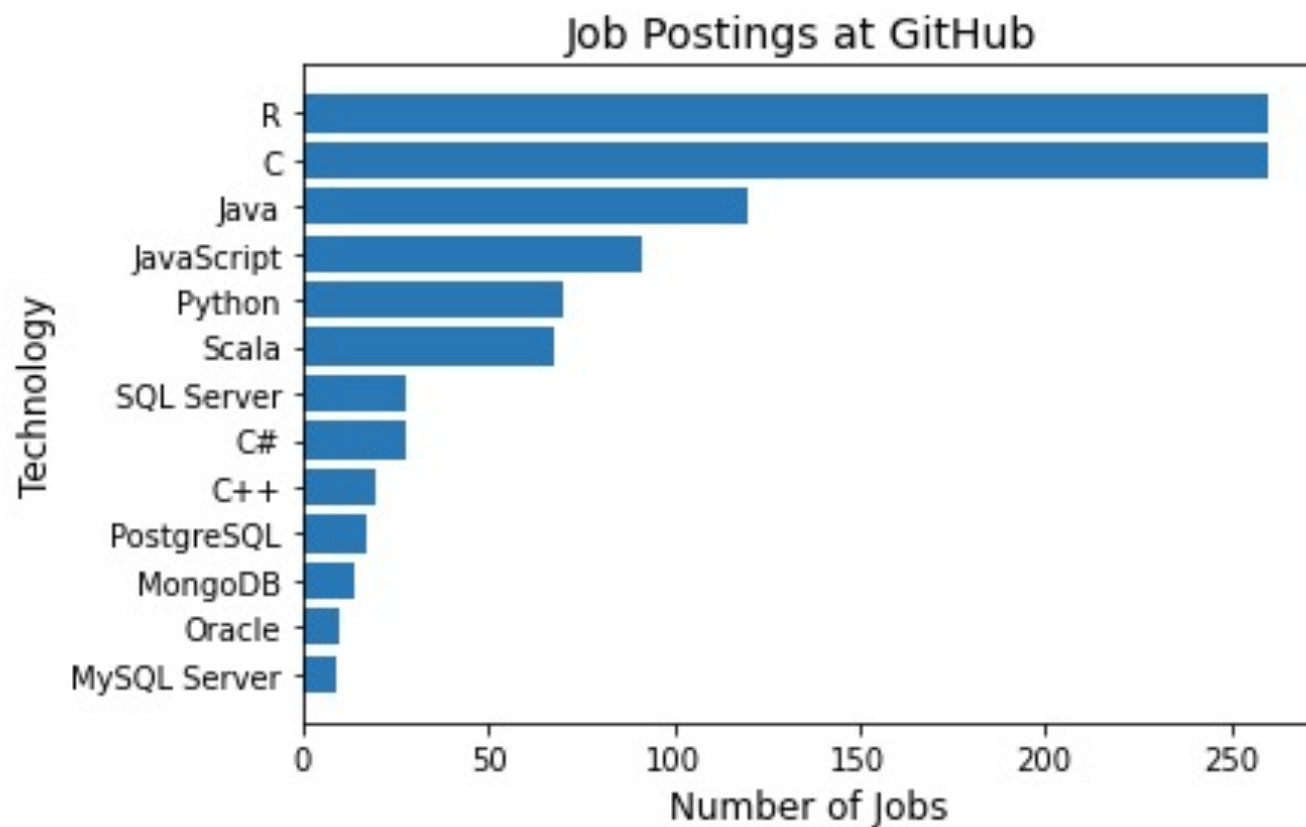
Implications

- Tech field is evolving at a much faster rate and companies need to be agile to keep up with the rate of change
- Technologies need to be adopted world-wide to keep up with trends in the field
- Training programs directed towards women need to be implemented in order to bridge the gender divide in the field.

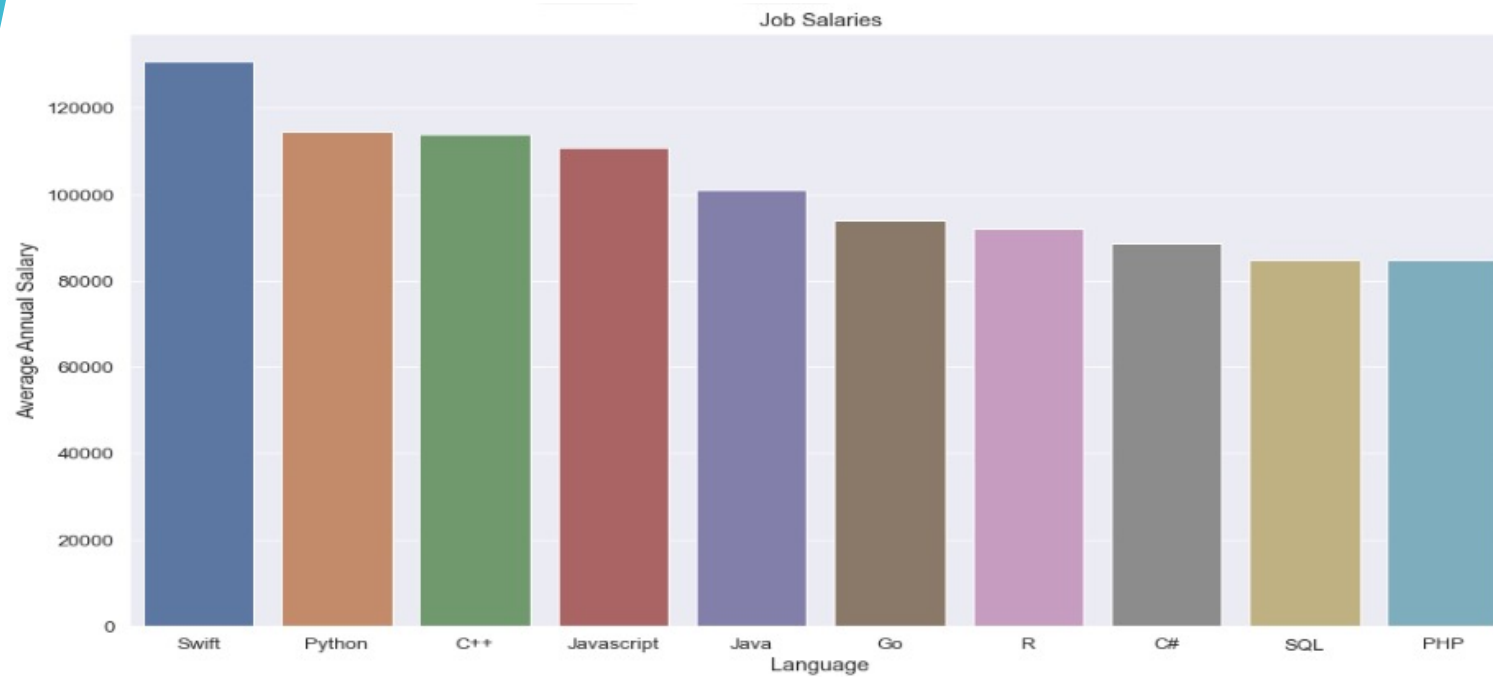
CONCLUSION

- the presence of women in the tech field needs to be further analyzed to fully understand the gender divide in tech
- Trends in programming languages and databases are constantly evolving as new technologies are emerging.
- machine learning and AI are gaining popularity within companies evidenced by python adoption.





APPENDIX- GITHUB JOB POSTINGS



APPENDIX- POPULAR LANGUAGES