Technologies Trend Survey and Analysis .

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OUTLINE

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EXECUTIVE SUMMARY

The Presentation summarizes key findings from an analysis data collected from 2019 Stack Overflow Developer Survey.

Insights :

- Current and Future Technology trends
- Most popular languages, databases, and other technologies findings
- Demographics survey

Results presentation supported with graphs and trends.

Discussion of overall findings and implications regarding the results.

Final conclusions.

INTRODUCTION

As a Data analyst collecting data from various sources and identifying trends for the report on emerging skill from includes Job postings, Training portals, Surveys.

Once enough data is collected, will begin analyzing the data and identify insights and trends that may include the following:

- What are the top programming languages in demand?
- What are the top database skills in demand?
- What are the popular IDEs?

Web scraping is done and begin accessing APIs to collect data in various formats like .csv files, excel sheets, and databases.

Data wrangling techniques are used for analyzing data further.

When the data is ready statistical techniques are applied to analyze the data. Then bring and by using IBM Cognos Analytics all information are gathered together to create dashboard.

METHODOLOGY

Data Collection

- Data Source: 2019 Stack Overflow Developer Survey

Data Exploration

- Analyzing data distribution.
- Handling outliers.
- Correlations.

Data Wrangling

- A part of the dataset is loaded and cleaned using SQL and Python's Pandas library.

Data Analysis and Visualizations

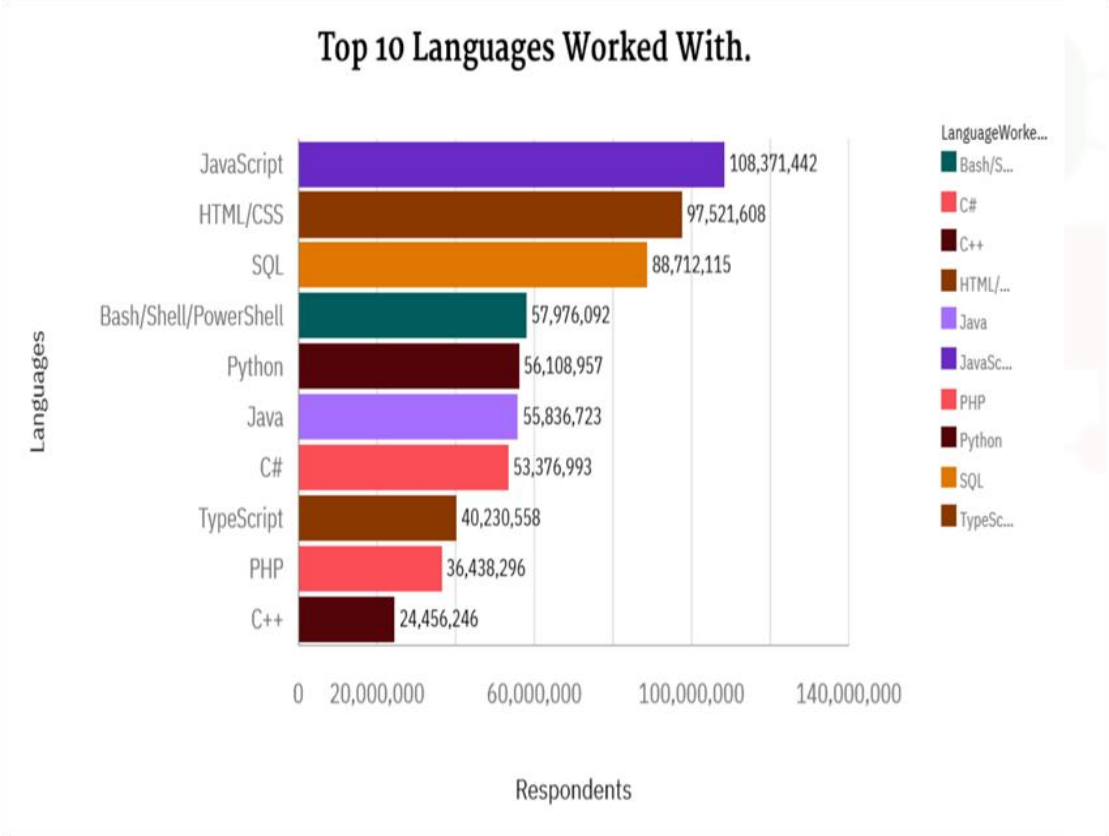
Dashboard.

RESULTS

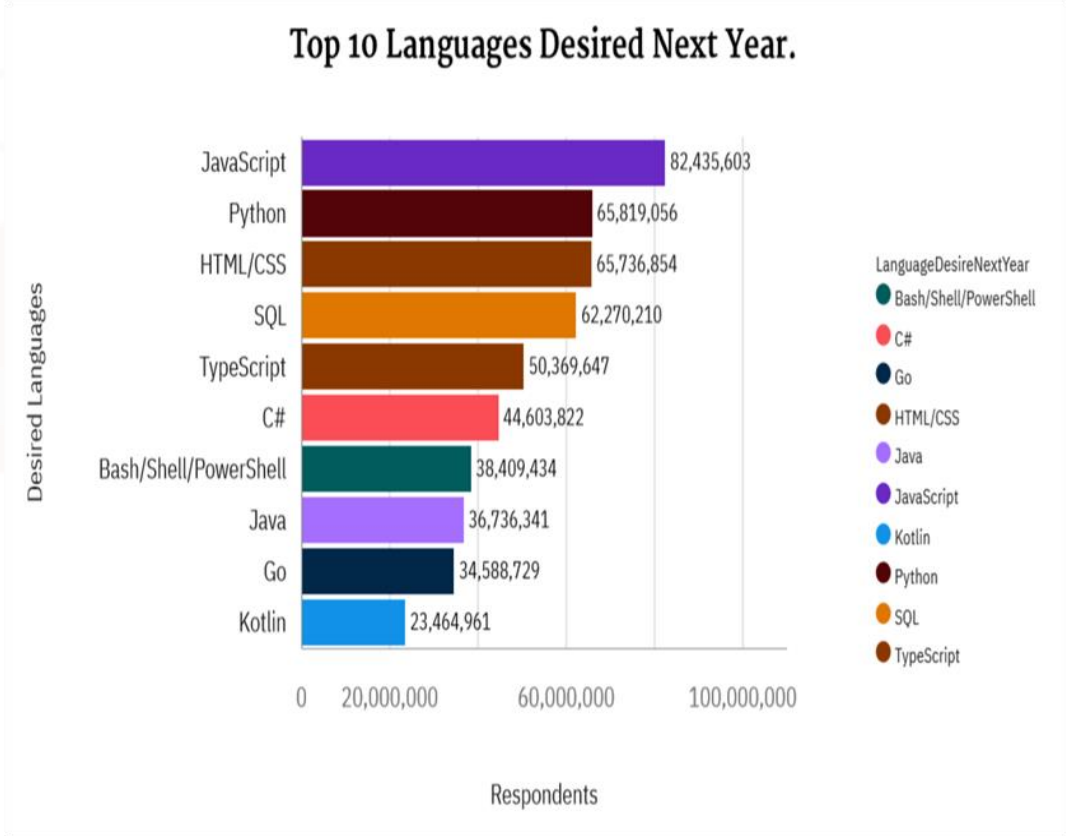
	Respondent	LanguageWorkedWith	LanguageDesireNextYear	DatabaseWorkedWith	DatabaseDesireNextYear	PlatformWorkedWith
0	4	C	C	MySQL	MySQL	Linux
1	4	C++	C#	SQLite	SQLite	Windows
2	4	C#	JavaScript	NaN	NaN	NaN
3	4	Python	SQL	NaN	NaN	NaN
4	4	SQL	NaN	NaN	NaN	NaN
...	...	...	...	...	...	...
74584	25142	Go	Python	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



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings :

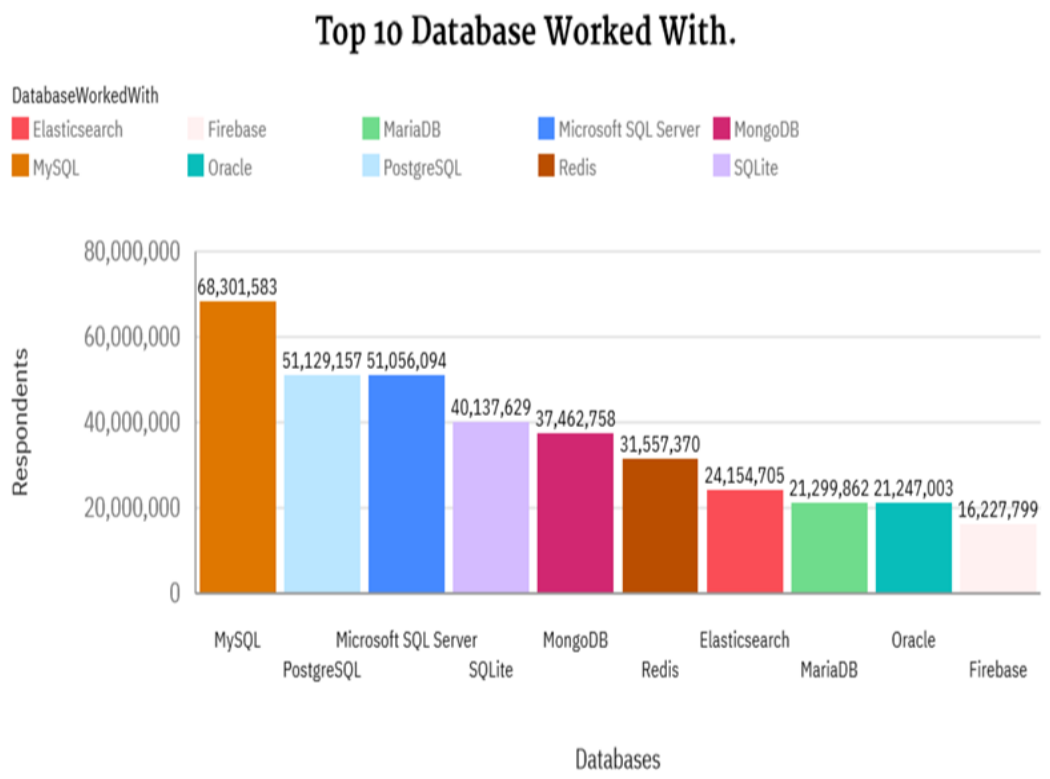
- JavaScript is the top trending language
- Increasing interests in Python and TypeScript.
- HTML/CSS and SQL still has greater interest in upcoming year.
- Decreasing interest in PowerShell/Bash

Implications :

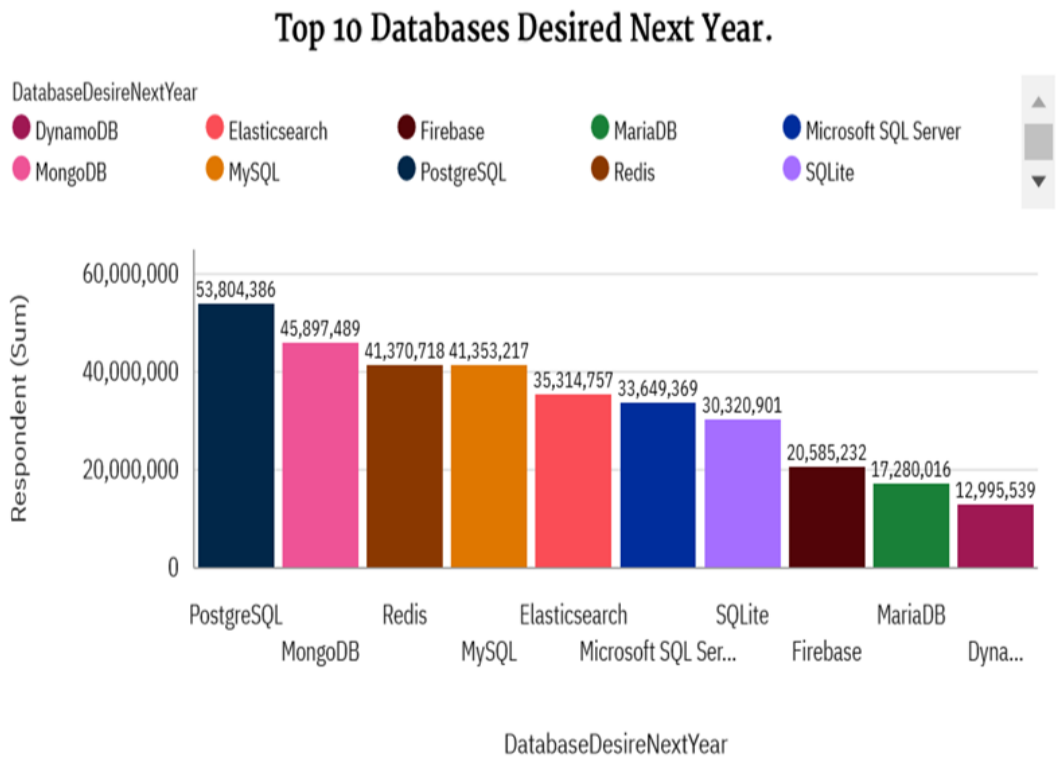
- Web developments and Web developers are still in high demands.
- JavaScript and TypeScript are crucial to learn for developers.
- Python is the new trending language, especially popular in AI fields.
- SQL still in high demand due to its vast application .

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Increasing interest in PostgreSQL and MongoDB
- MySQL is the most popular database
- Redis and Elasticsearch is most favorable and gaining popularity

Implications

- Open-source databases like MySQL are still preferable and in use.
- NoSQL database programs are gaining popularity, reflecting in handling non-relational and unstructured data.

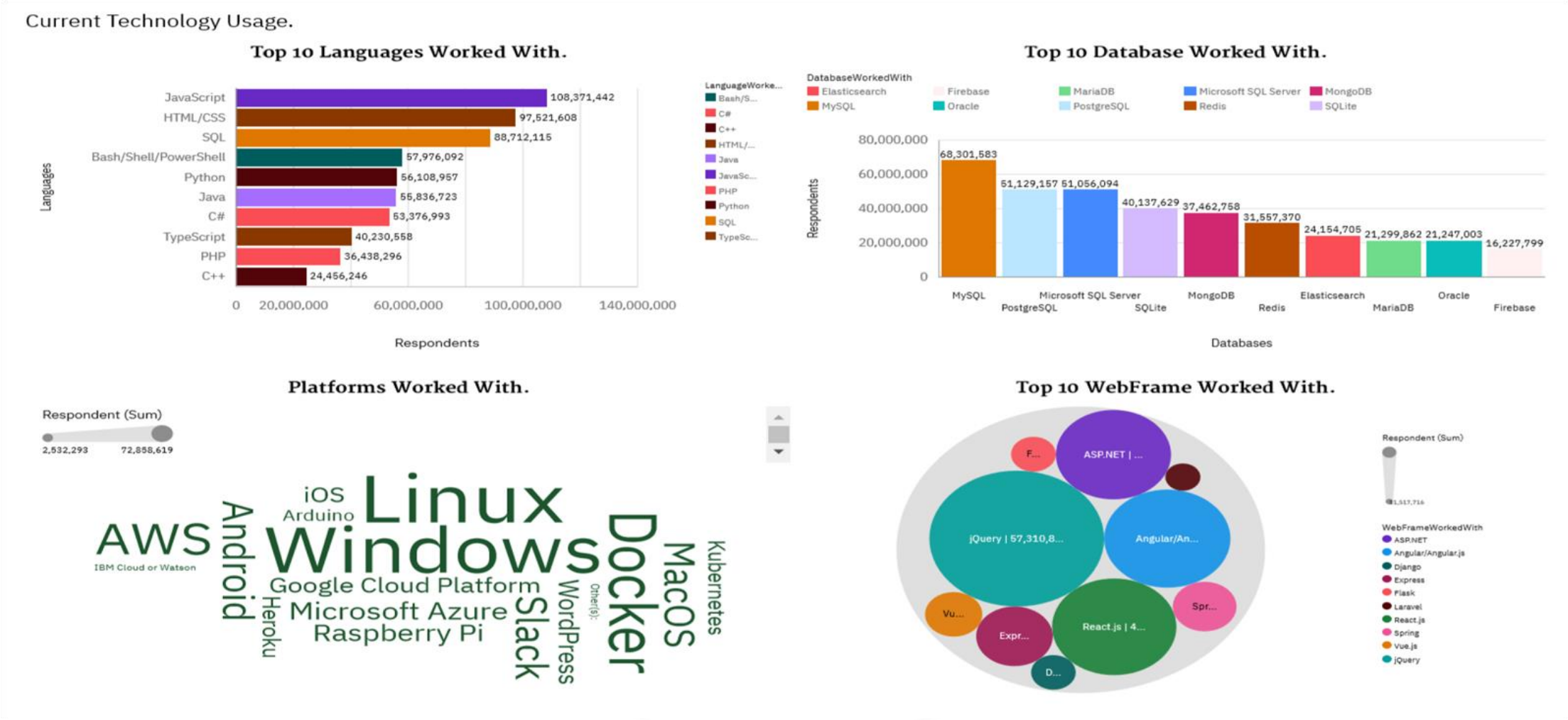
DASHBOARD

Survey Data Dashboard.

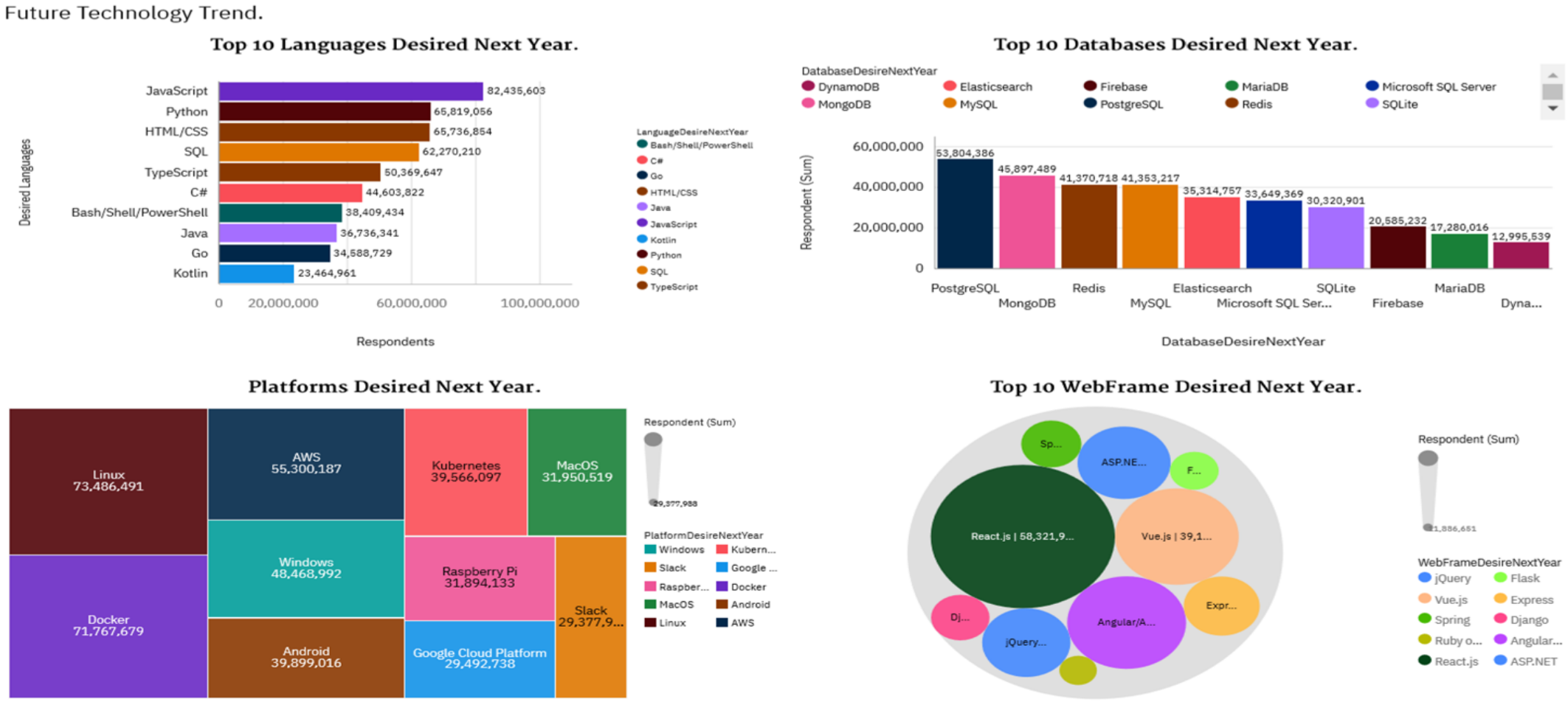
github link :

<https://github.com/Sashika2/TestREP/blob/main/M5_Survey_data_Dashboard.pdf.>

DASHBOARD: Current Technology Usage



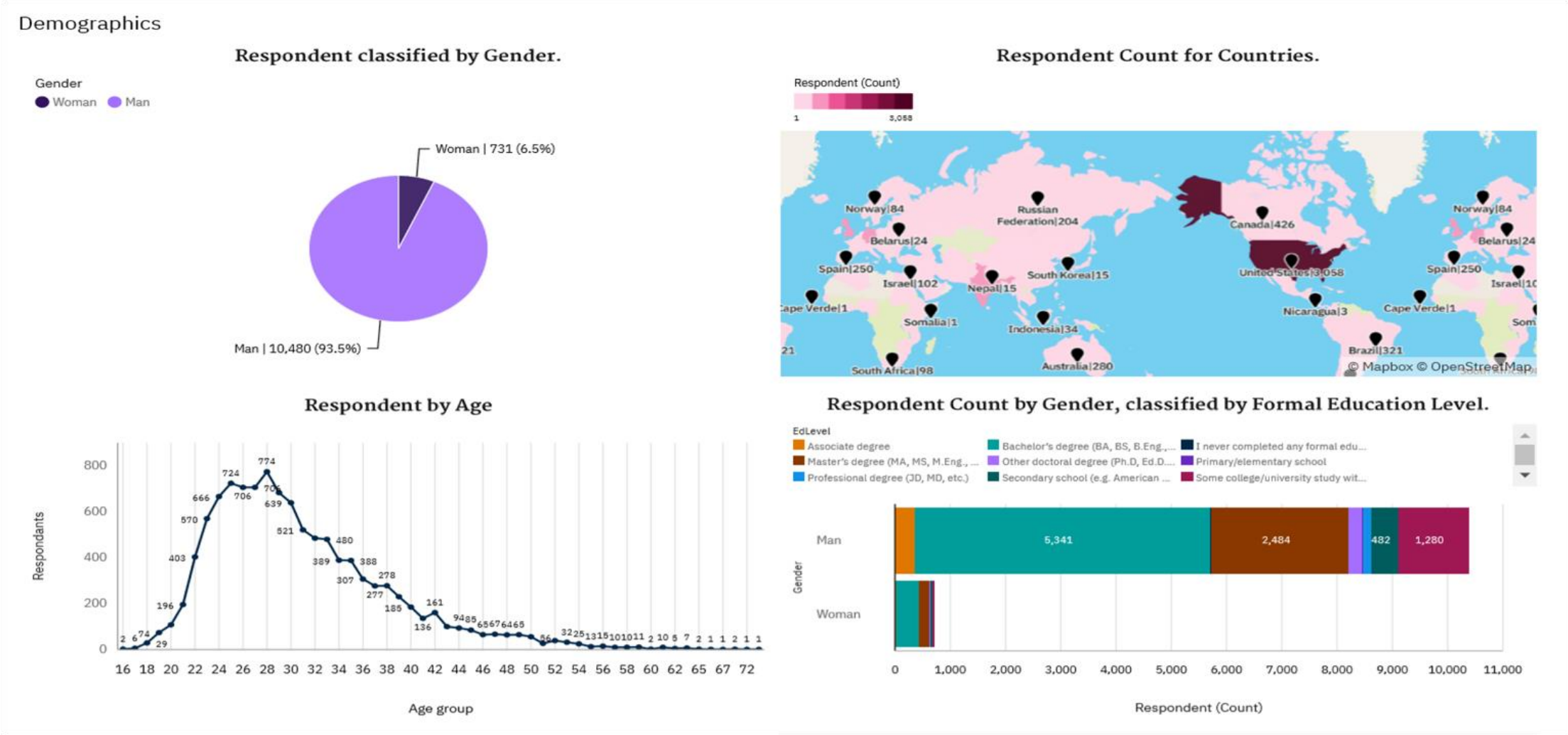
DASHBOARD: Future Technology Trend



IBM Developer

SKILLS NETWORK

DASHBOARD: Demographics



DISCUSSION

Technology Trends and Adaptation of new Technology.

- What kinds of developer technologies are in top demand?
- Which technologies should prospective developers and data professionals be learning?
- Which technologies should educators place more emphasis on teaching in upcoming years?

Gender Equality

- What is the developer demographic like?
- Is there a gender representation gap?

What does the distribution of annual compensation for developers look like?

Using Popular platforms.

Hiring new Tech. Workers

OVERALL FINDINGS & IMPLICATIONS

Findings

- Rapid Changes in Technology every year.
- Increasing interest in Python.
- High usage and interest in SQL and NoSQl where MySQL, PostgreSQL and MongoDB had the highest usage in 2019 and is desired for next year.
- USA is the top technology country
- Developers mostly located in developed countries.
- There is extreme gender and age discrimination.
- Docker and AWS are most popular platforms.

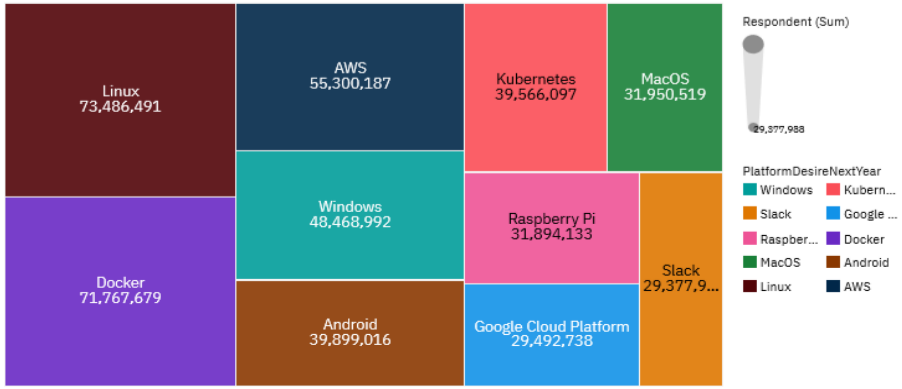
Implications

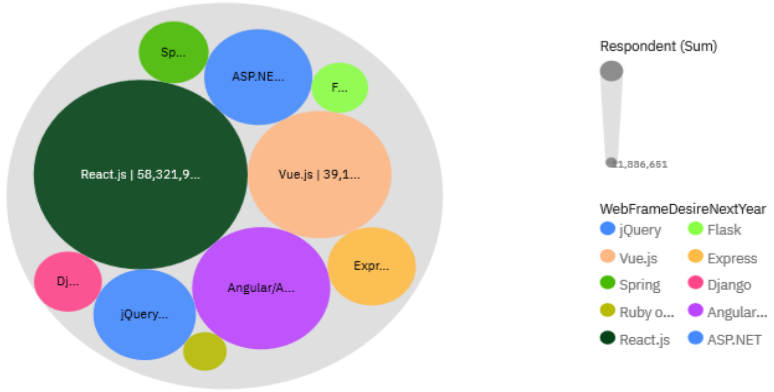
- Programmers should follow the latest technology trends.
- Companies should adapt new technologies and increase the hiring for new Technology Jobs.
- More countries should have the equal chance to be exposed to new technology.
- Gender and Age should not be one of the concerns for Employment opportunities.

CONCLUSION

- A Part of data collected from the 2019 Stack Overflow Developer Survey was analyzed and findings yielded numerous insights.
- Technology Trends and Technology to Adapt
- Demographics Overviews
- Skills and Future preferences
- Gender, Age and salary trends

APPENDIX

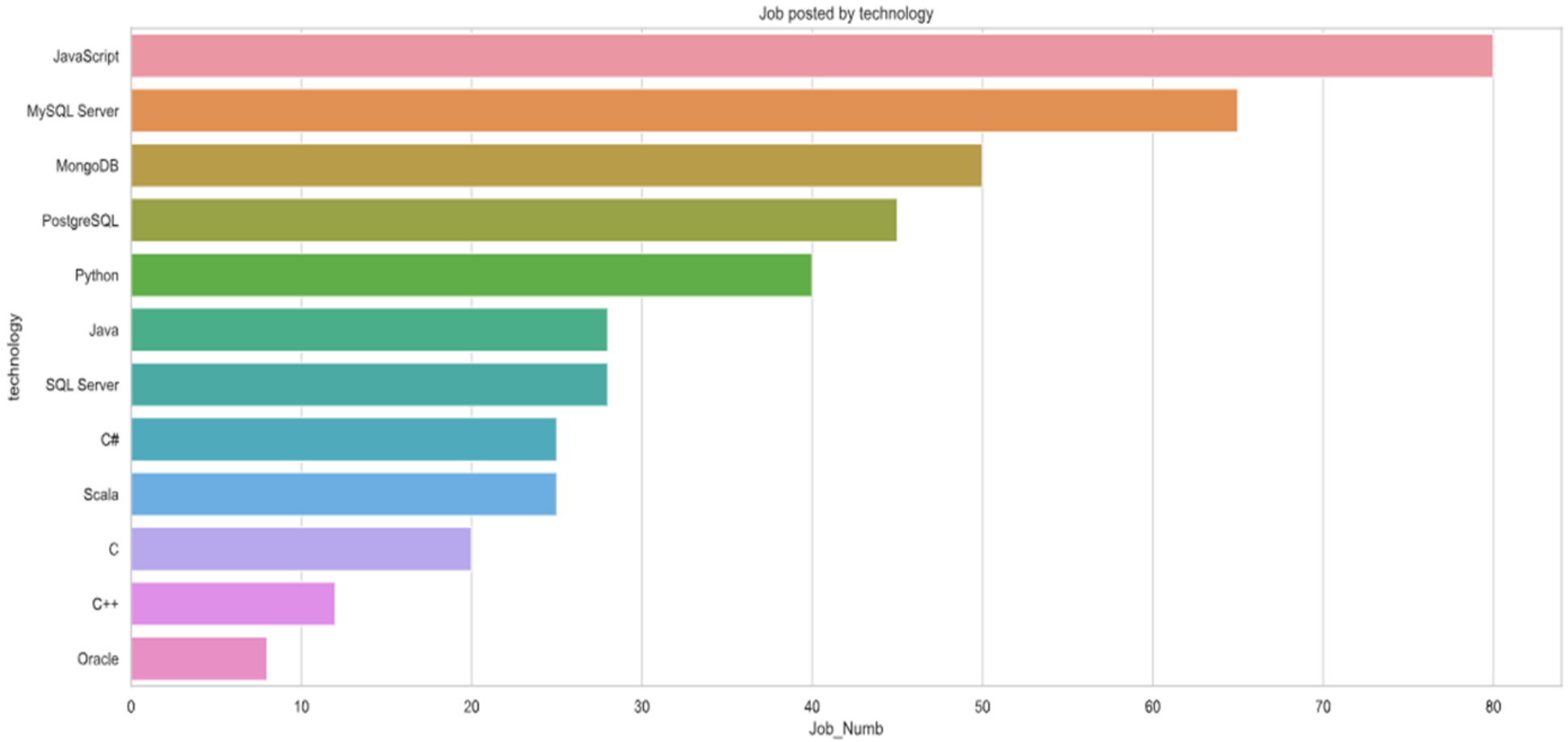


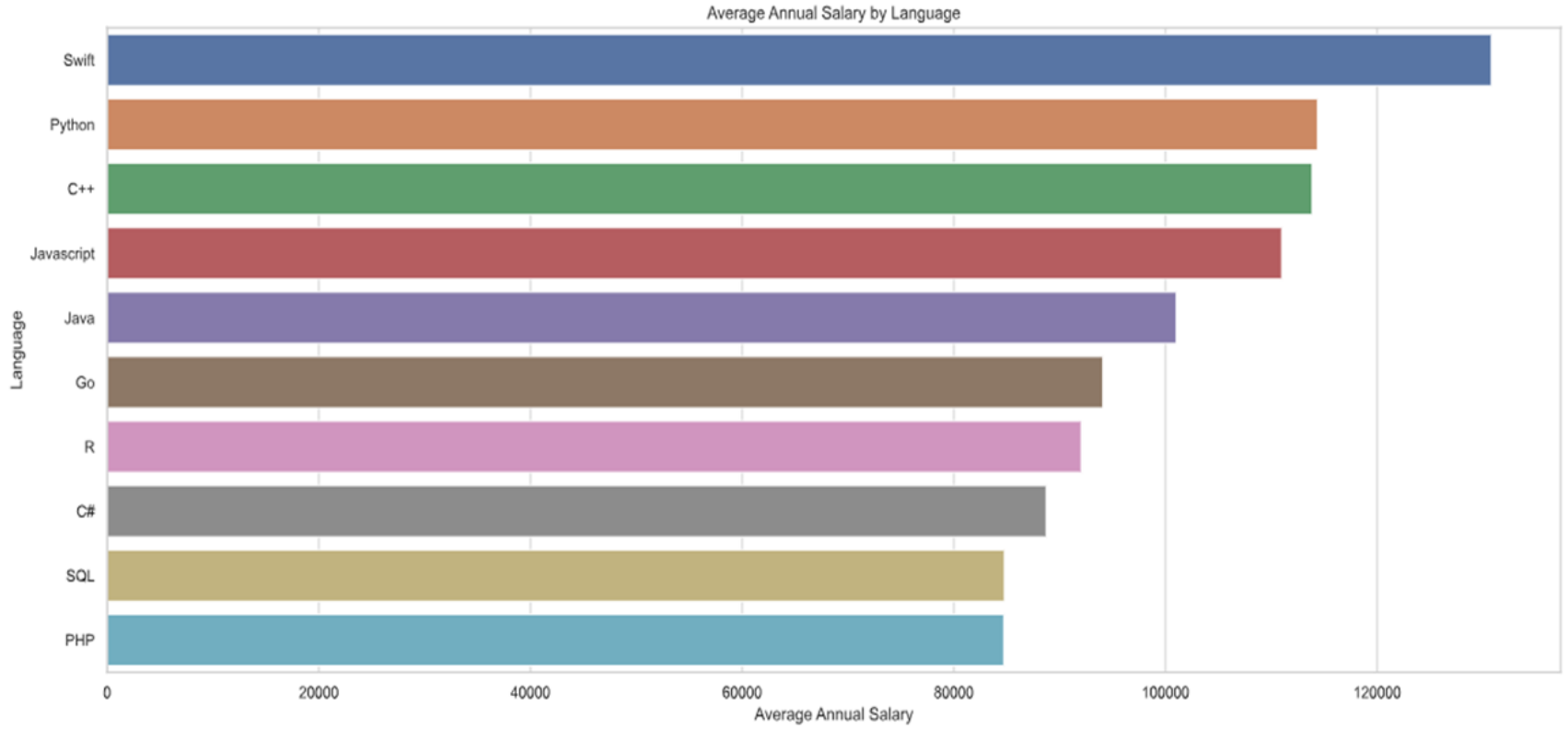


IBM Developer

SKILLS NETWORK

JOB POSTINGS



POPULAR LANGUAGES

```
plt.title('Average Annual Salary by Language')
plt.show()
```