



DATA ANALYSIS REPORT

**ANALYSIS ON THE CURRENT TREND OF
SOFTWARE TECHNOLOGIES**

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EXECUTIVE SUMMARY

Problem Statement

Technological advancement is on an ever growing high. With new software emerging, one can easily miss out on the current Big-move in the tech industry.

This report gives perspective to what software and technologies are currently on high demands and which one of them is expected to be, in the coming years.

Methodology

Ikenna has collected the data of a the survey taken of software professionals, open sourced by Stack Overflow, and has carried out exploratory data analysis to ascertain what trends lies within them. Various visualizations and dashboards have been made and compiled in this report. This report helps to give perspective on the current trends in technology..

Problem Solution

As you would further read in this report, of over 5000 different programming languages currently available, only a very few of it is currently being used. Staying up to date with technologies like JavaScript and PostgreSQL would keep any programmer in the front ends of demand in the tech space.



INTRODUCTION

About the dataset

The data used for this report was originally collected by Stack Overflow, a popular website for developers. They conducted an online survey of software professionals across the world. The dataset used in this report comes from the following source:

<https://stackoverflow.blog/2019/04/09/the-2019-stack-overflow-developer-survey-results-are-in/> under a ODbL: Open Database License.

The data explored, analyzed, and visualized in this report is a randomized subset about 1/10th the original data,

Visualisations

The visualization in this report is made with IBM Cognos Analytics while those of the Appendix were made with pandas inbuilt visualization tools. Python's visualization library plotly.express was used in the final visualization on this report..



METHODOLOGY

Data Collection

The data was first collected using SQL queries and reading into a data frame in a python scripting interface, Jupyter note book, where further wrangling and exploring was carried out.

Wrangling Process

Python library Pandas was used for the cleaning and normalization of the data set. Duplicates as well as missing values were removed and imputed respectively.

Exploratory Analysis

Further analysis is carried out to identify the distribution of data, identify outliers as well as ascertain the correlation amongst groups of data.

Visualizations

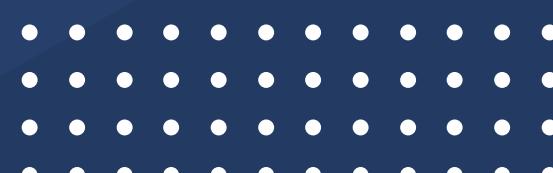
Finally, a visualization of the various groups of data is made. This gives a much clearer insight to the overall data observation.





RESULTS

- There is a positive correlation between the Compensation and age of respondents having a median age of about 29 years . the average compensation of respondents excluding outliers is approximately \$60,000 US dollars with most of the respondent identifying as a man.
- The top 5 Database desired to learn next year by respondents includes : PostgreSQL,, MongoDB, Redis, MySQL and Elasticsearch; with PostgreSQL being the top Database currently used
- The top 5 Languages desired to learn in the coming years by respondents include : Javascript, Html/CSS, Python, SQL, Typescript.
- Most of the respondnts are Full Stack Developers.

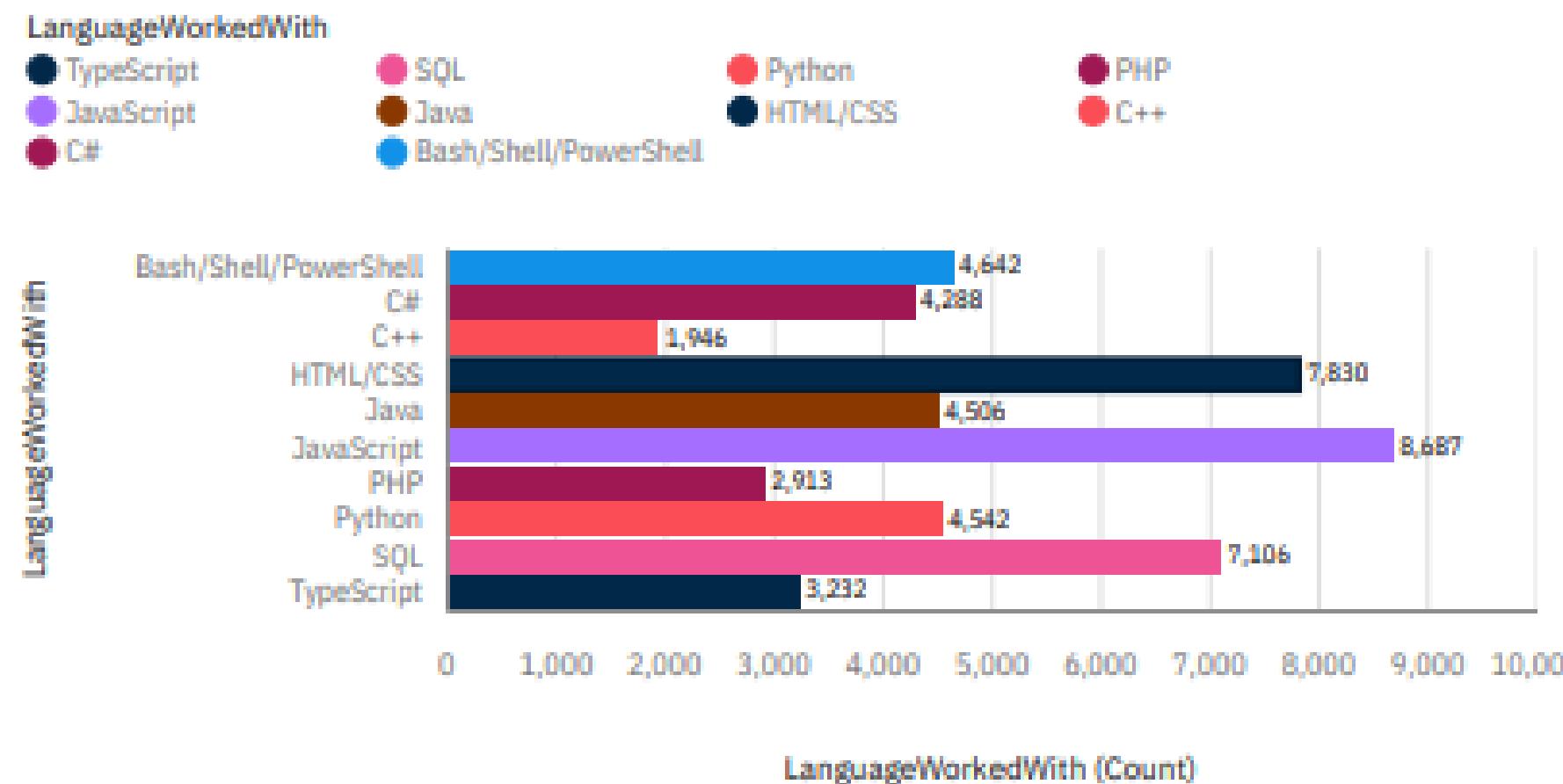


PROGRAMMING LANGUAGE TREND



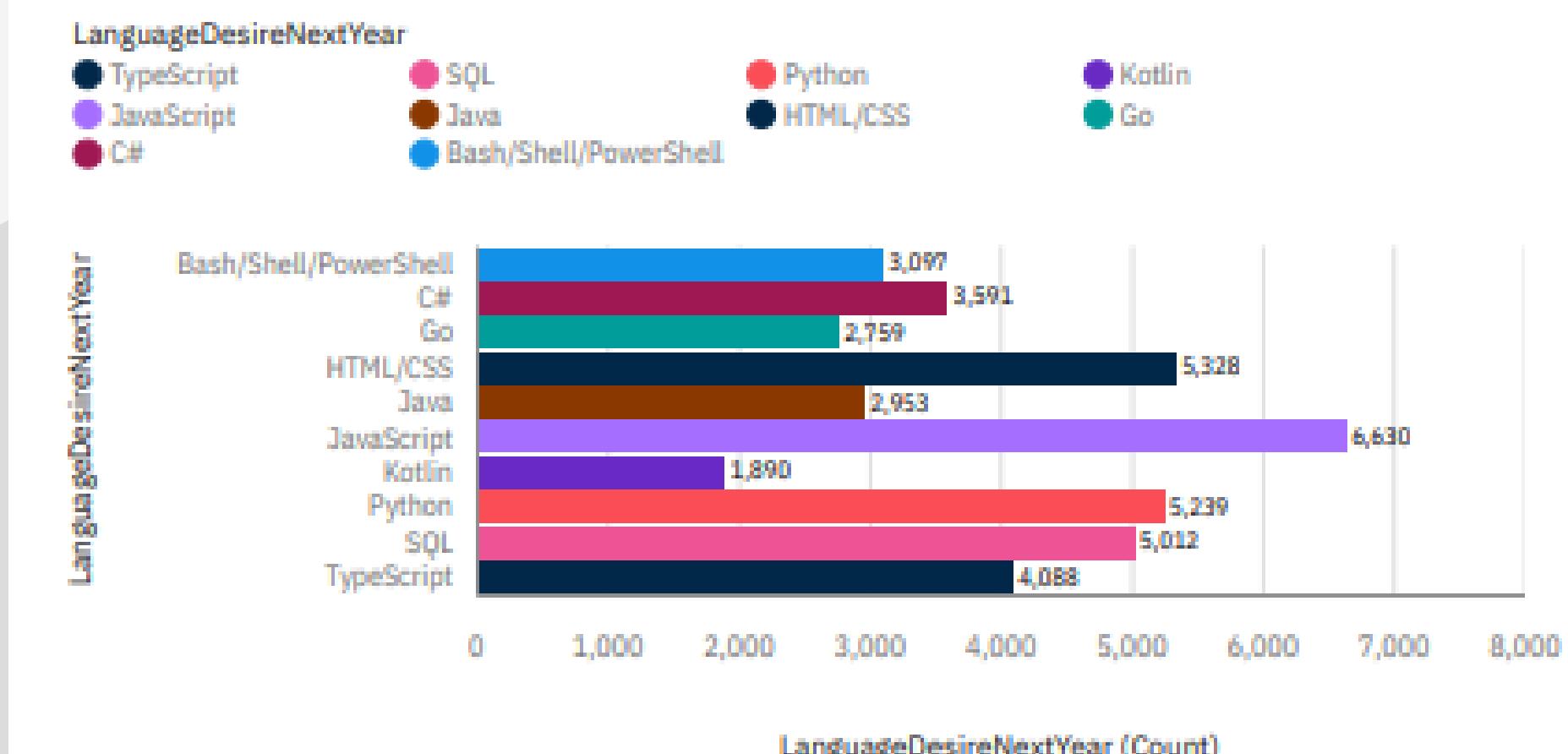
CURRENT YEAR

Top 10 Languages Worked With



NEXT YEAR

Top 10 Language Desire Next Year



PROGRAMMING LANGUAGE TREND - FINDINGS AND IMPLICATIONS

Findings

JavaScript is the most used programming language by software professionals with trends showing a maintained dominance in its use.

HTML/CSS is the second most used language by software professionals with trend showing a steady demand for the language.

Although Python is only the 5th most used language by programmers across the world, it is the 3rd most desired programming language by programmers across the world

Implications

More programs are being built with JavaScript and in extension, the demand for JavaScript programmers would as well increase.

Like Javascript, more programs are being built using HTML/CSS which in turn increases the demand for more HTML/CSS programmers.

More Python built programms are emerging, hence the current desire to learn python programming language.

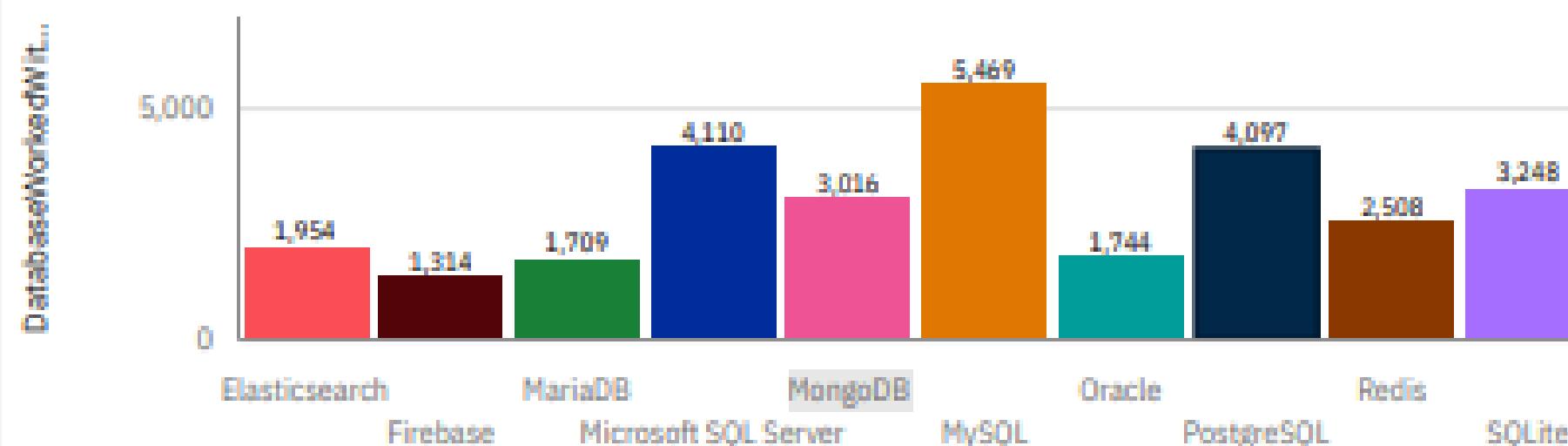


DATABASE TREND



CURRENT YEAR

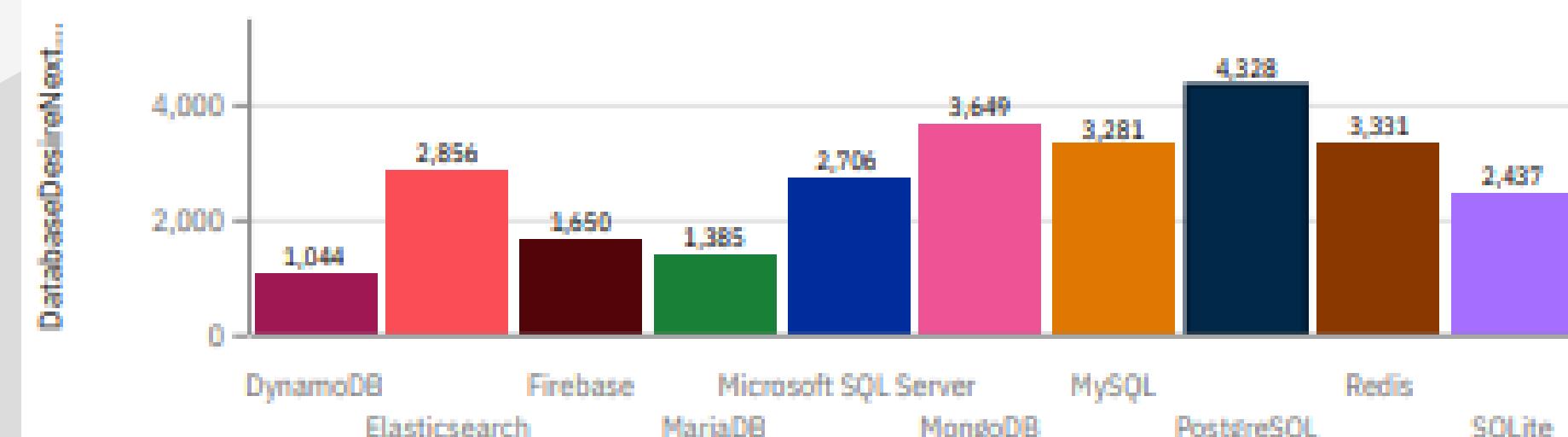
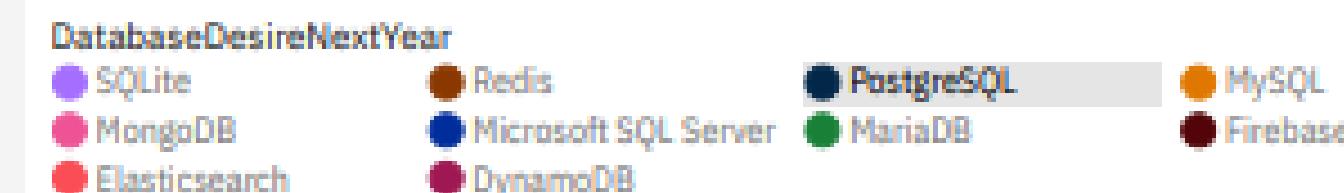
Top 10 Database Worked With



DatabaseWorkedWith

NEXT YEAR

Top 10 Database Desire Next Year



DatabaseDesireNextYear

DATABASE TREND - FINDINGS AND IMPLICATIONS

Findings

MySQL is currently the most Used database across the world with a future desire for it standing at a 4th position in its ranking.

A large desire to learn PostgreSQL as it takes first place in most desired databases to learn in the coming years.

MongoDB is ranked 2nd most desired databases among software professional from its current ranking in 5th place.

Implications

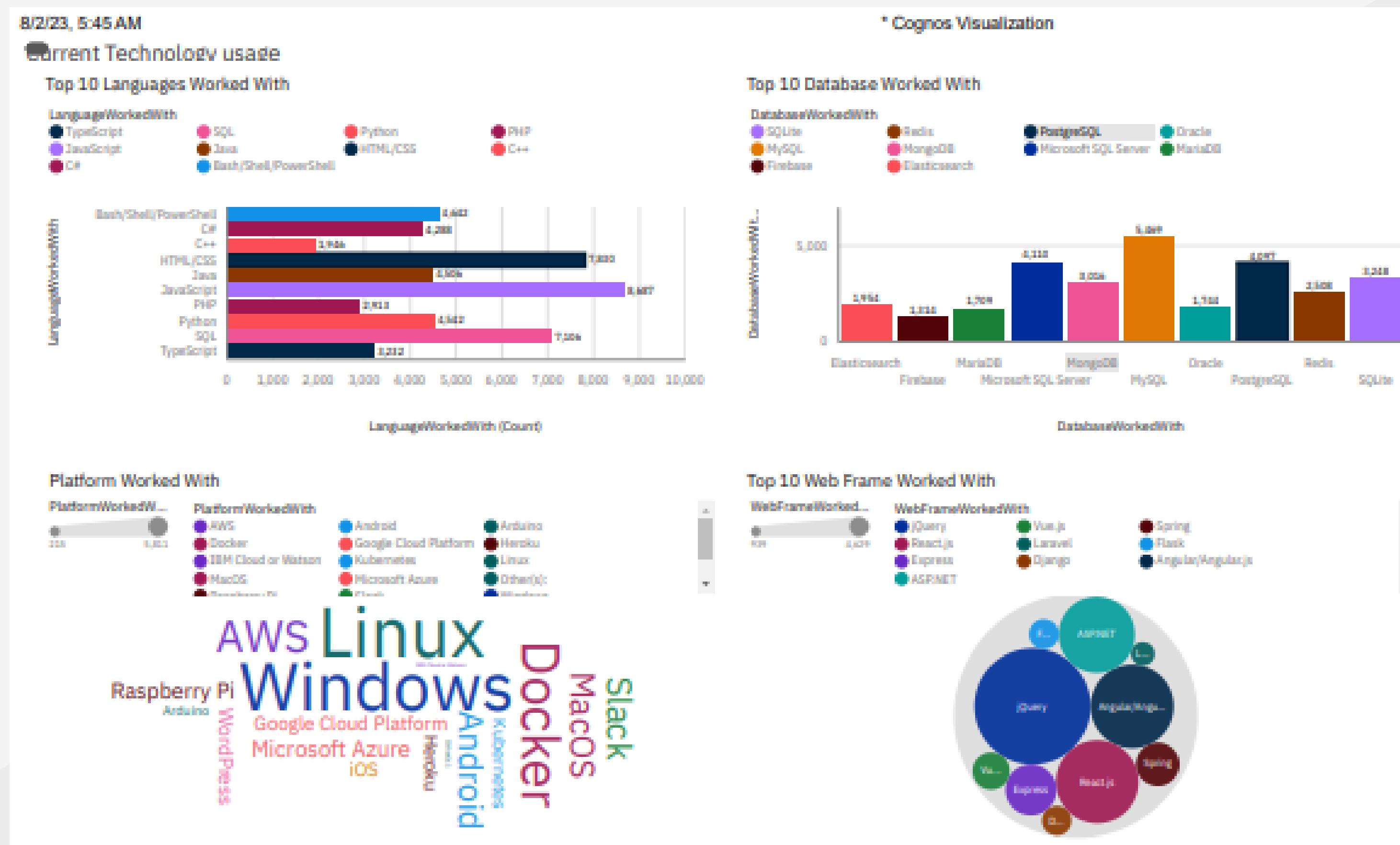
This implies that MySQL in the coming years may not be the most used but is certainly going to stay actively relevant in the tech market.

This shows the possible switch by companies towards the use of PostgreSQL for their data storage.

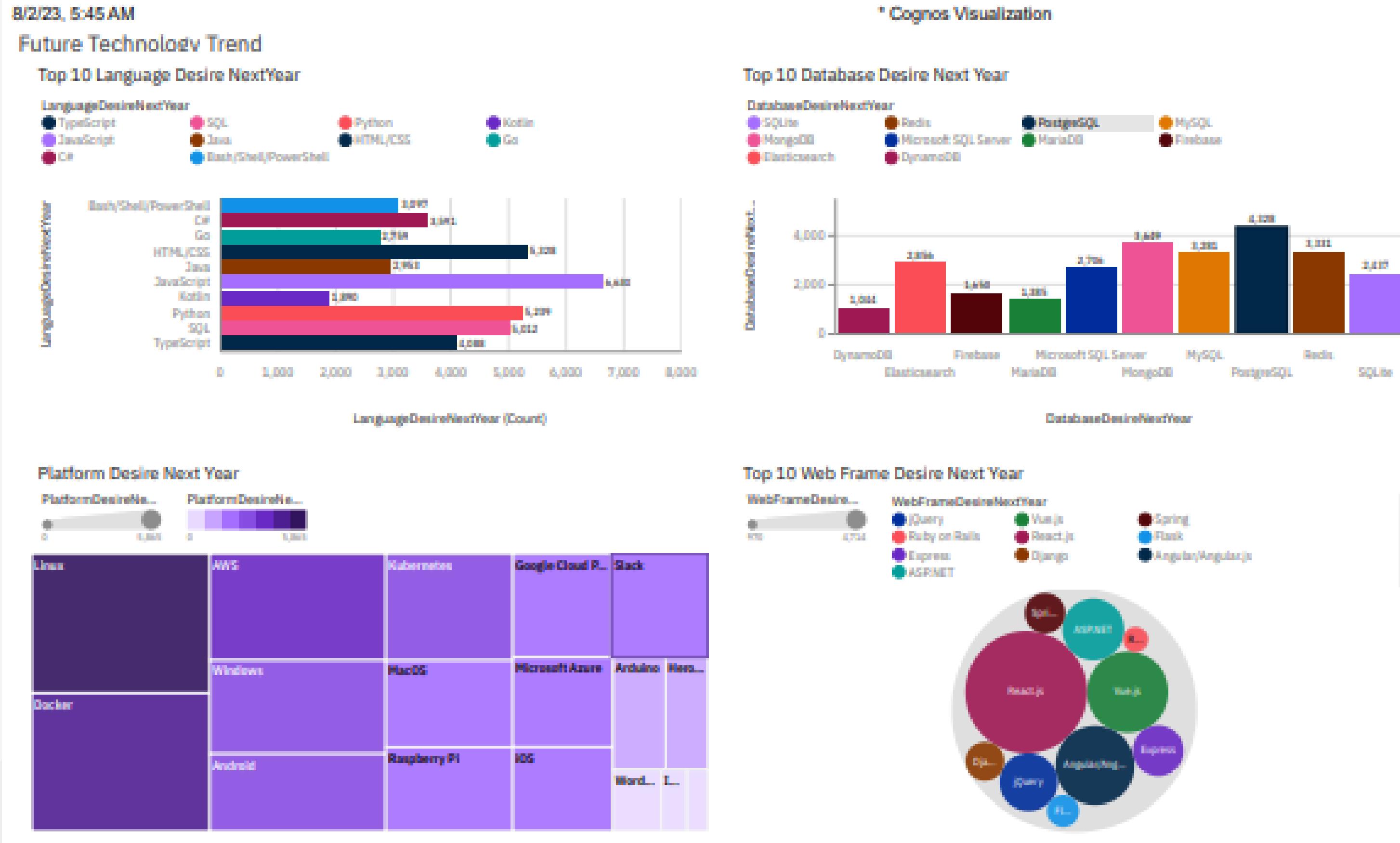
Company demand for MongoDB programmers is on the high and we are expected to find a larger population of programmers using it, in the coming years.



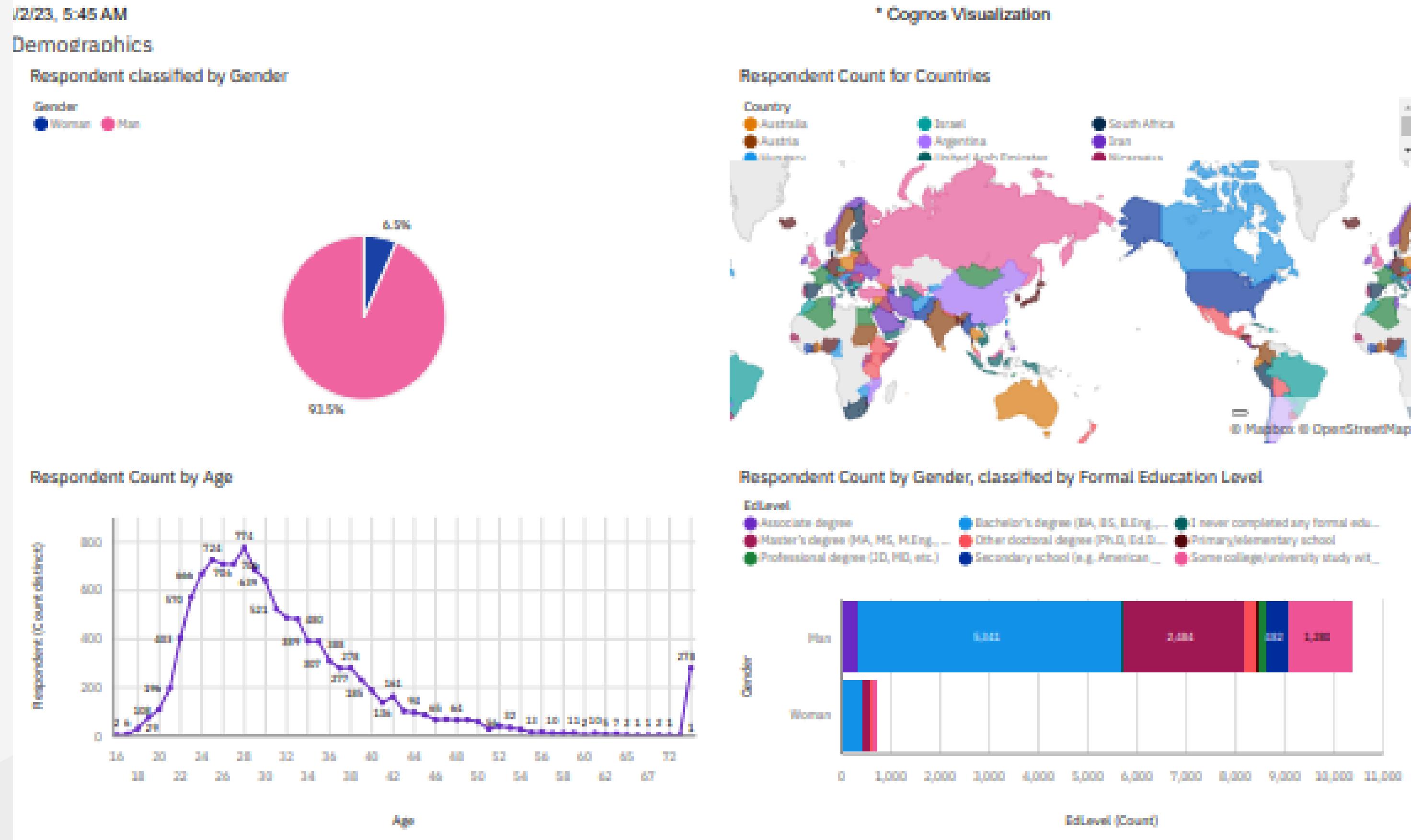
DASHBOARD TAB 1



DASHBOARD TAB 2



DASHBOARD TAB 3



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DISCUSSION

- C++ is currently ranked the 10th most used language but doesn't seem to rank in the top 10 most desired languages.

Can we deduce that C++ is currently becoming outdated?

- Oracle, also a well known Database; currently ranked 7th most used Database across the world yet doesn't make the top 10 most desired Databases.

Does this mean that Oracle is gradually becoming outdated aswell?



OVERALL FINDINGS AND IMPLICATIONS

Findings

Languages like JavaScript, Html/CSS and SQL do not just have a high current use ratings but are also very as a desired programming language in the coming years.

Databases such as PostgreSQL, MySQL and MongoDb are not only being used widely but are also widely desired by programmers.

Implications

These languages are a major part of most new programs currently being developed and is expected to stay so for the years to come.

This goes to say that we should expect more companies around the world either using these languages or are making a switch towards the use of these languages.



CONCLUSION

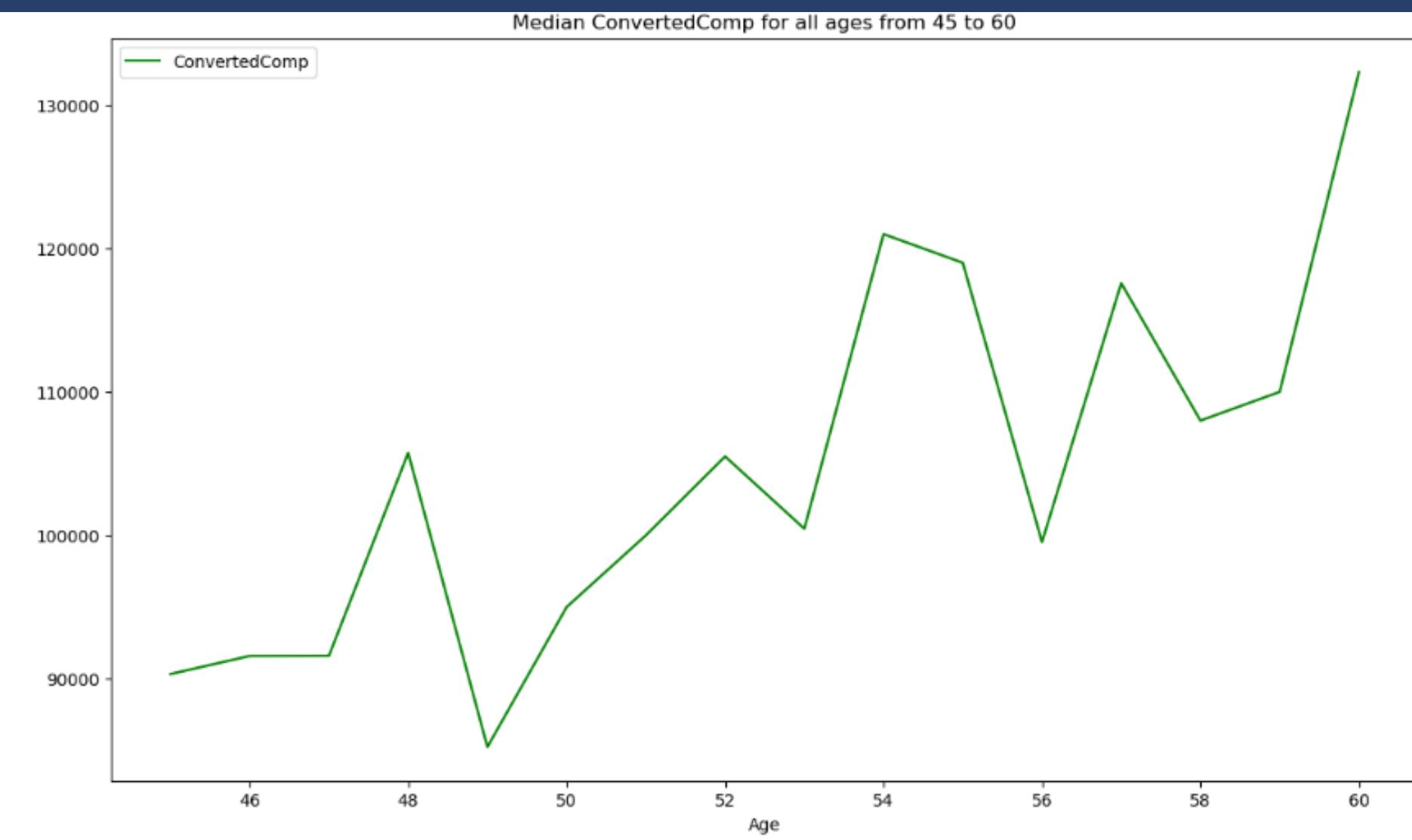
To stay relevant as a software professional, one has to stay updated with the latest trends in technologies as well as the changing expectations on both new and existing industry professionals.

This goes to say that languages such as; Javascript, SQL, Html/CSS and Python should be considered priority, as well as Databases such as PostgreSQL, MySQL, MongoDB and Microsoft SQL Server. Having one or more of these technologies would keep one ahead as a software professional.

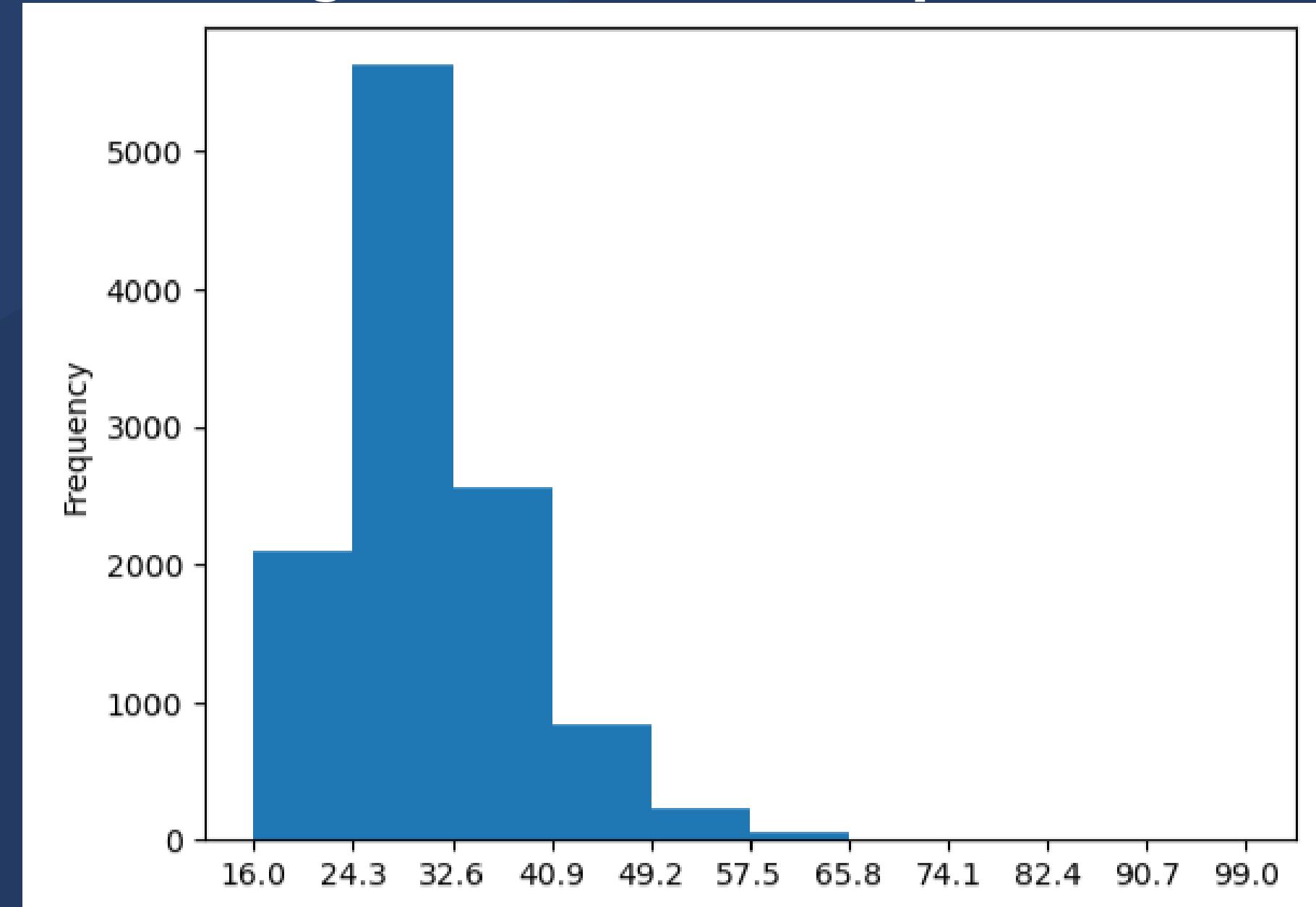


APPENDIX

Median Compensation for ages 45-60



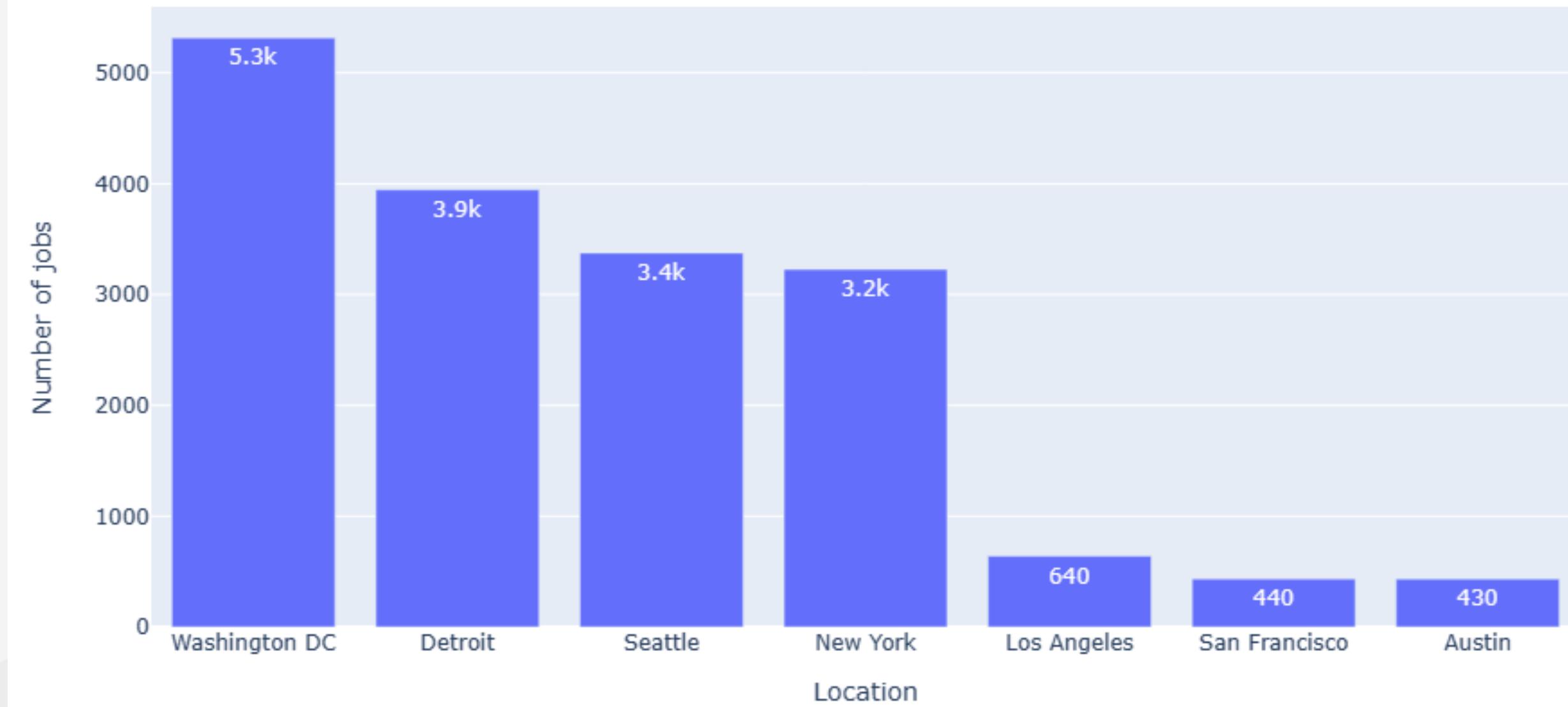
Age distribution of respondents



JOB POSTINGS

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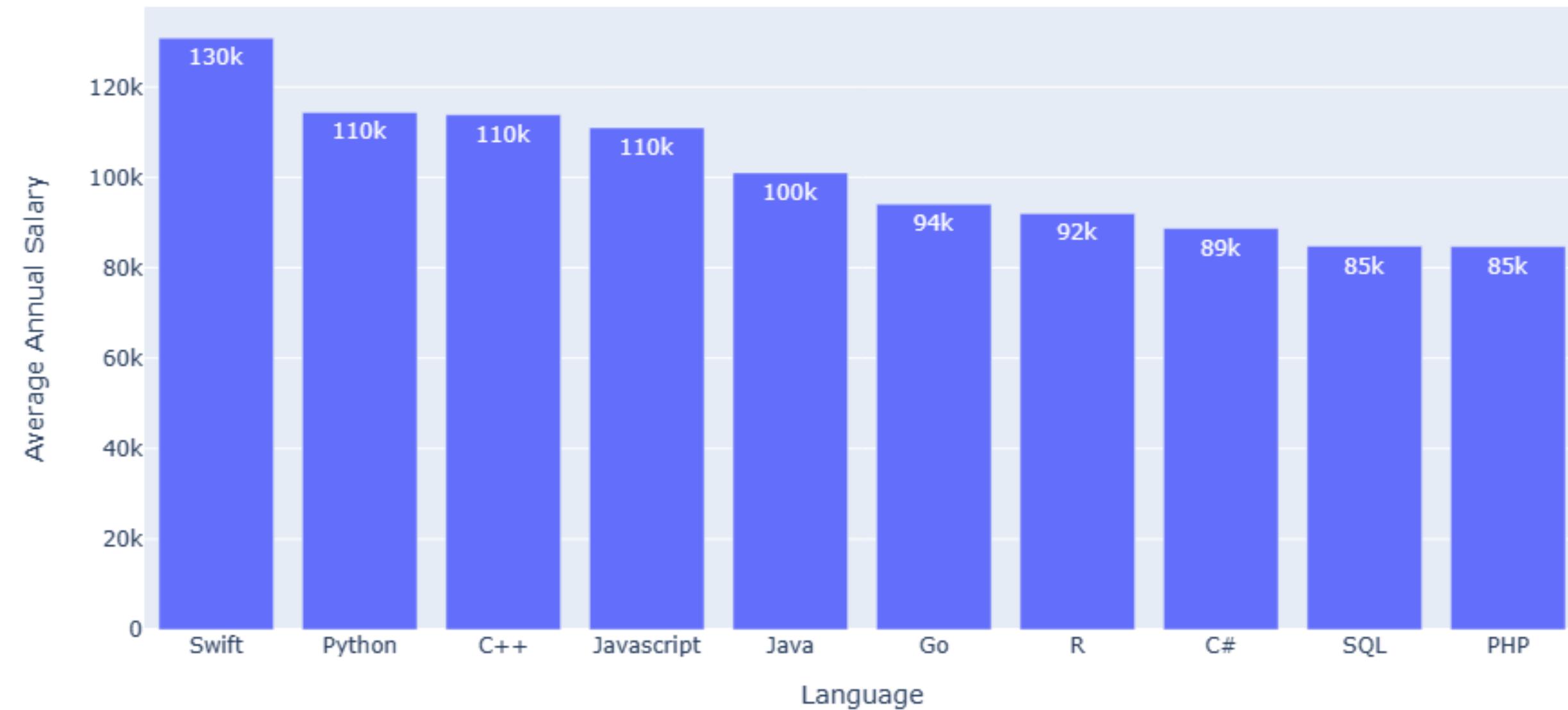
Number of Jobs Posting by Location



POPULAR LANGUAGES



Average Annual Salary by language





THANK YOU

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[/Nportfolio](#)



