



The Stack Overflow Developer Survey 2019

Sumit Salve

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OUTLINE



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EXECUTIVE SUMMARY



- Relevant skills required in the field of IT and business consulting are ever-changing and evolving.
- It is important to identify future skill requirements and trends to keep pace with changing technologies and remain competitive.
- This presentation will show current and future trends in Programming Languages, Databases, Platforms and Web Frames.
- Overall, the aim in identifying future skill requirements and trends is to help the firm make more informed data driven hiring and budgetary decisions.

INTRODUCTION



- This presentation has been created for stakeholders and business decision makers within the global IT and business consulting services firm.
- The presentation will help identify future skill requirements in the global IT sector necessary for the firm to keep pace with changing technologies and remain competitive.
- Recommendations will be stated based on the analysis.

METHODOLOGY



- Using a modified subset of the Stack Overflow dataset¹, the data was wrangled in order to remove duplicates, impute missing values and normalize data.
- Next, the data underwent exploratory analysis in order to find the distribution of data, presence of outliers and determine the correlation between different columns in the dataset.
- The data was then used to visualize the distribution, the relationship between two features and the composition and comparison of data.
- Finally, after downloading two files², which are also a modified subset of the StackOverflow dataset, Cognos Dashboard Embedded (CDE) was used to create the “Current Technology Usage”, “Future Technology Trends” and “Demographics” slides.
- Appendix

To obtain average annual salaries web scraping was used to extract information from a website then saved to a csv file.

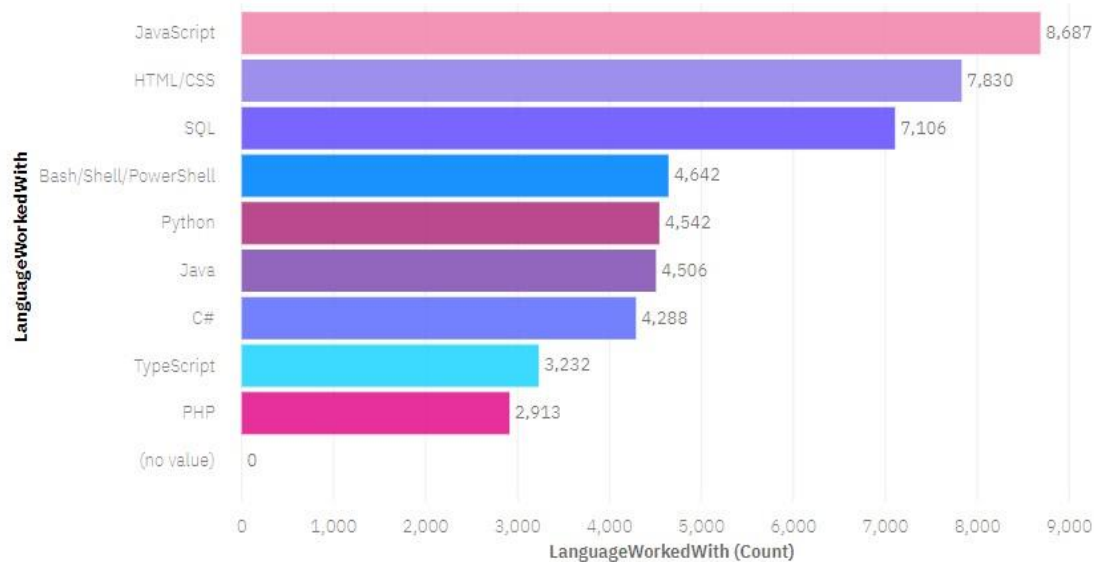
RESULTS



PROGRAMMING LANGUAGE TRENDS

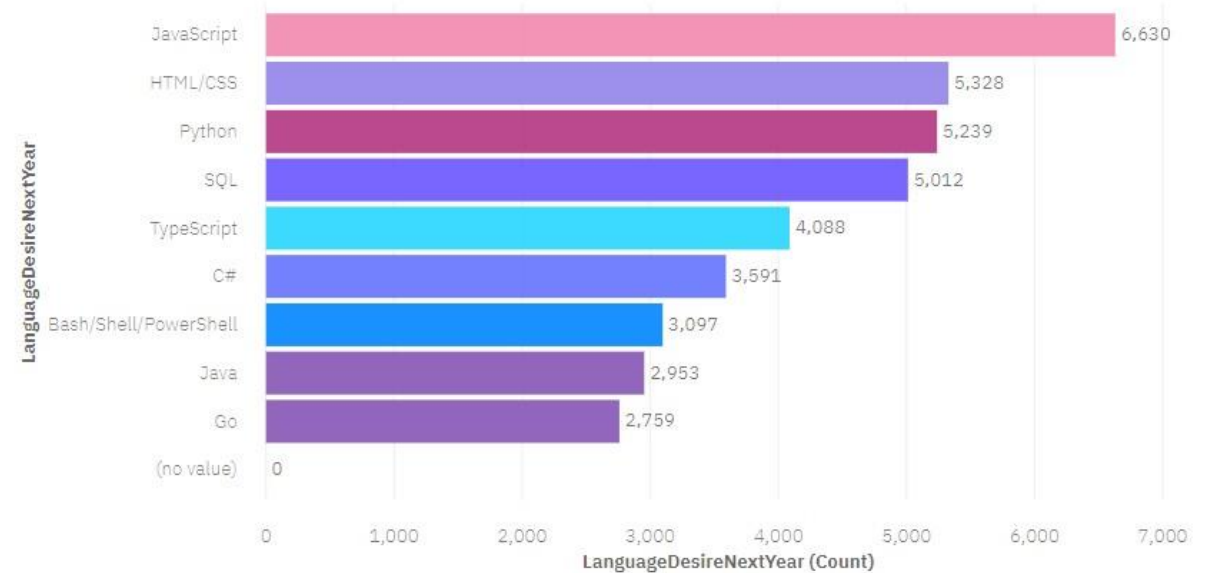
Current Year

Top 10 LanguageWorkedWith



Next Year

Top 10 Language Desire Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript and HTML/CSS continue to be the top two most popular programming languages for this year and next.
- Python and TypeScript have gained more interest for next Year.
- Whereas interest in SQL and Bash/Shell/PowerShell has decreased.

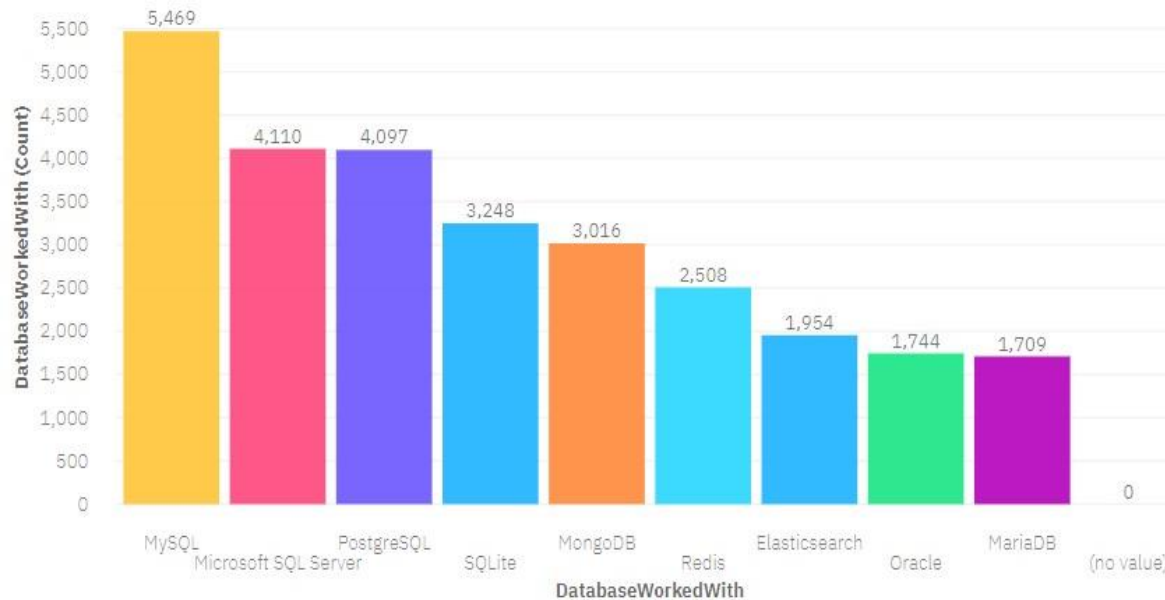
Implications

- Continue to employ a similar number of people skilled in JavaScript and HTML/CSS.
- Employ more people skilled in Python and TypeScript.
- Employ less people skilled in SQL and Bash/Shell/PowerShell.

DATABASE TRENDS

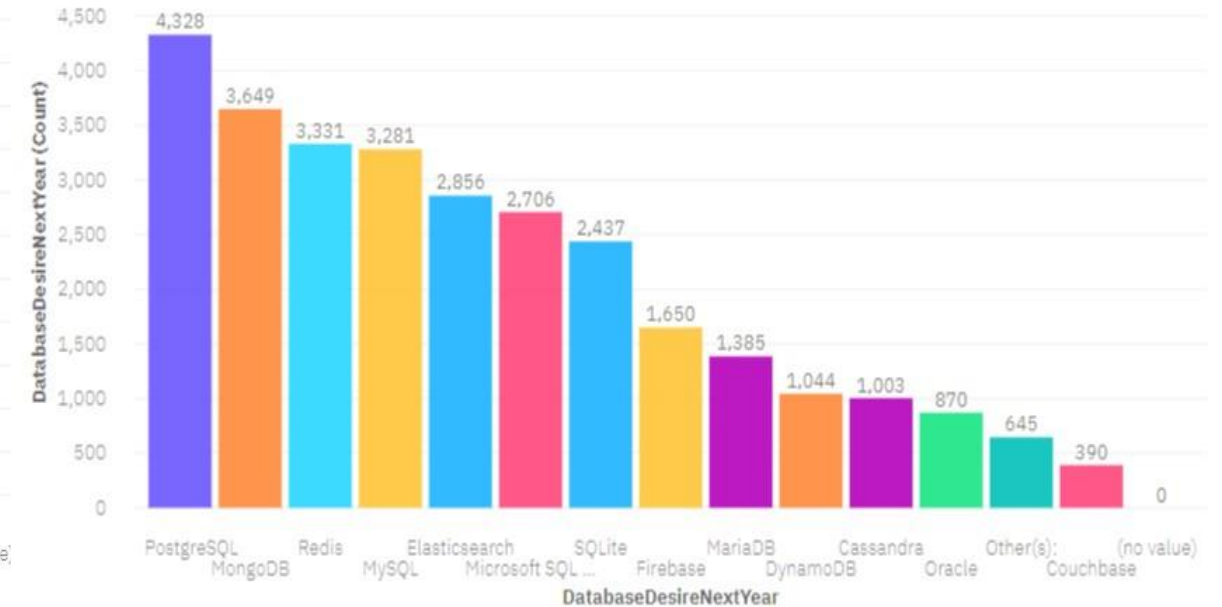
Current Year

Top 10 DatabaseWorkedWith



Next Year

Top 10 Database Desire Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Interest in MySQL, Microsoft SQL Server and SQLite has decreased for next year.
- Interest in PostgreSQL and MongoDB have increased compared to the current year.
- There is gained interest in Redis and Elasticsearch for next year.

Implications

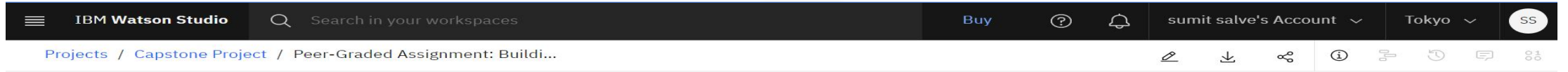
- Employ less people skilled in MySQL, Microsoft SQL Server and SQLite.
- Employ more people skilled in PostgreSQL and MongoDB.
- Employ more people skilled in Redis and Elasticsearch.

DASHBOARD

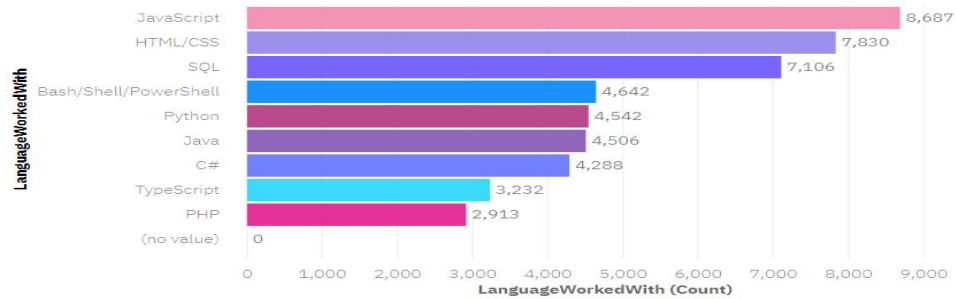


[Dashboard link](#)

DASHBOARD TAB 1



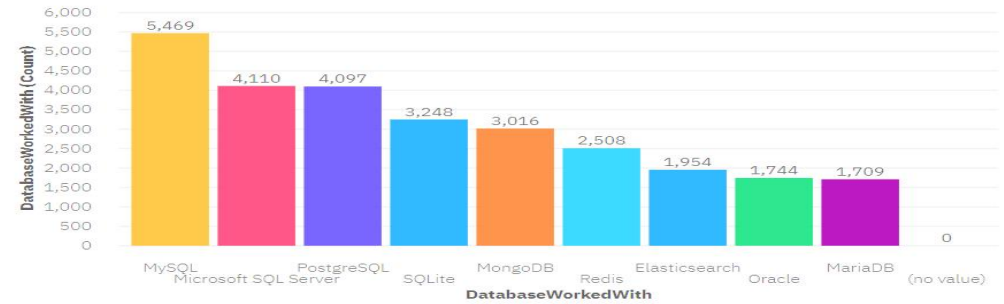
Top 10 LanguageWorkedWith



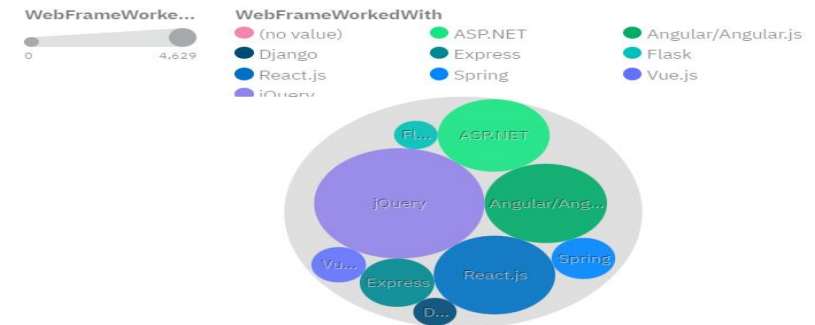
PlatformWorkedWith



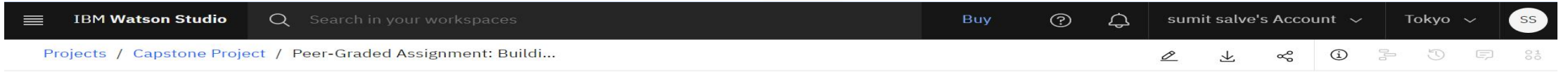
Top 10 DatabaseWorkedWith



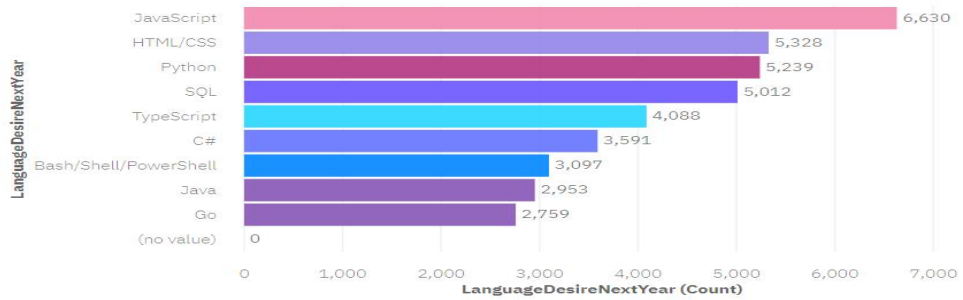
Top 10 WebFrameWorkedWith



DASHBOARD TAB 2



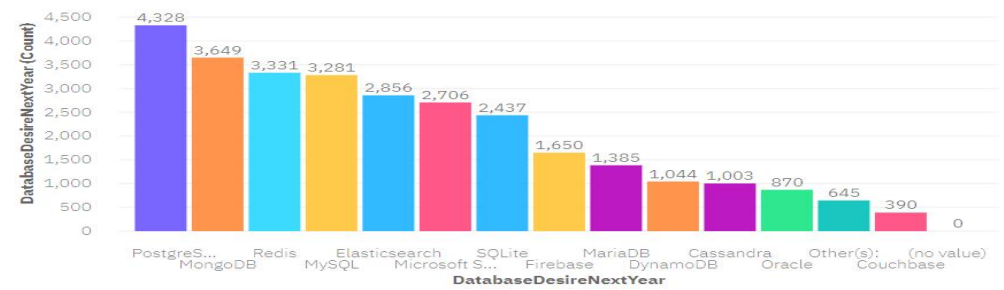
Top 10 Language Desire Next Year



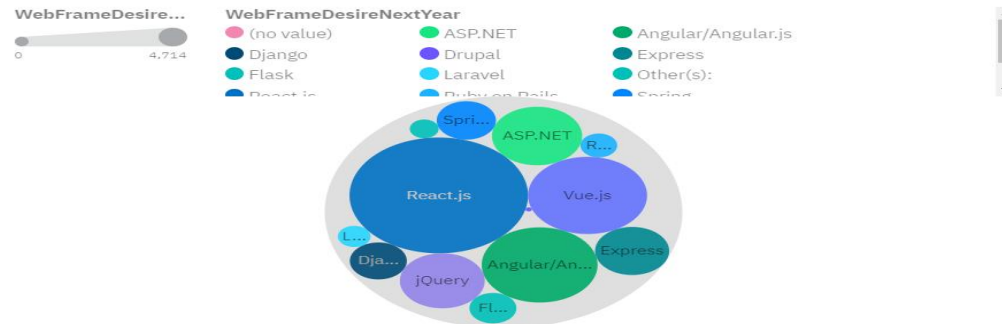
Platform Desire Next Year



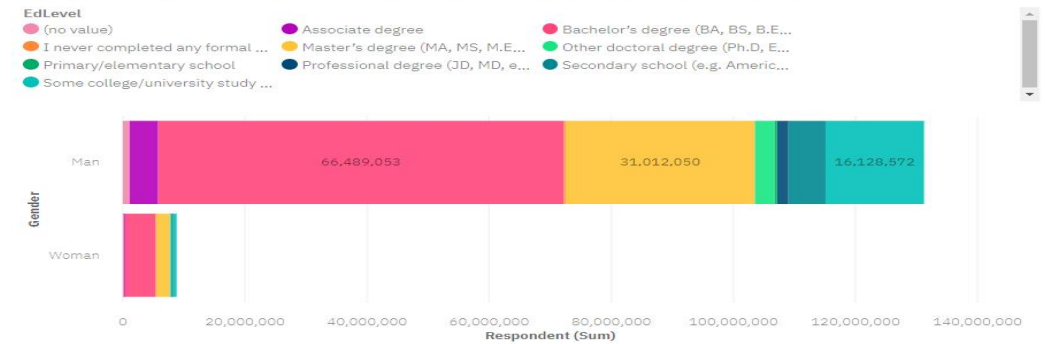
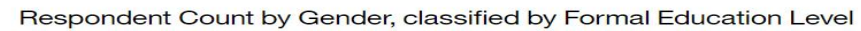
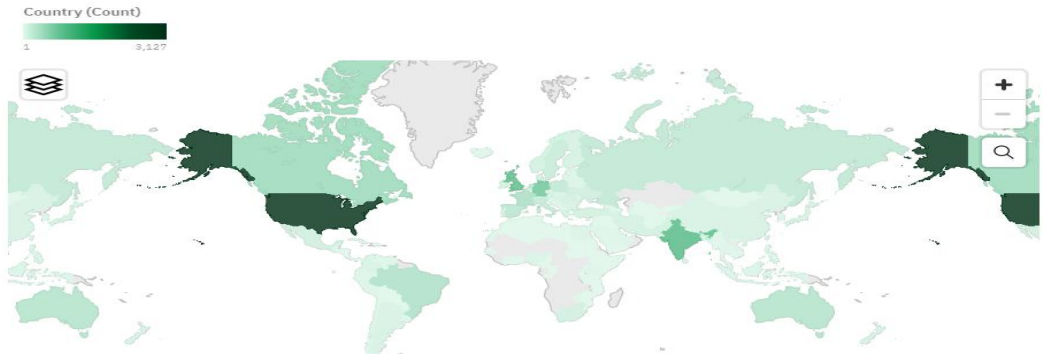
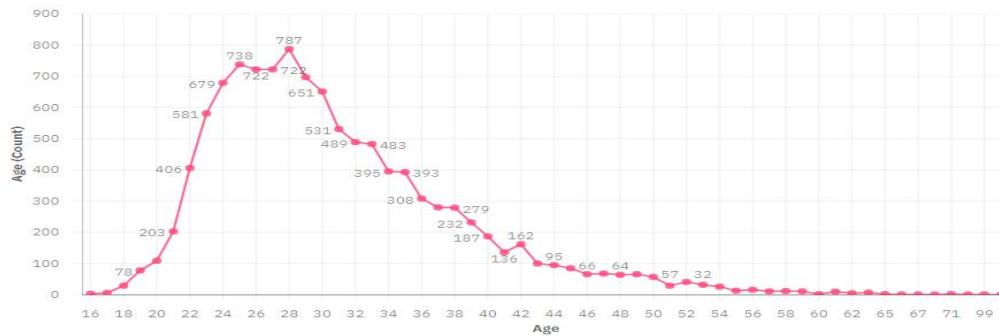
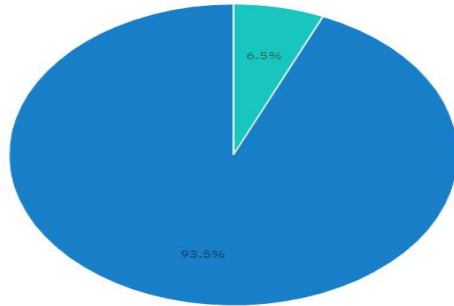
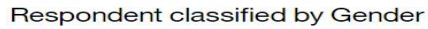
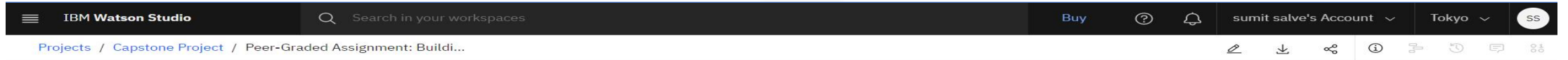
Top 10 Database Desire Next Year



Top 10 Web Frame Desire Next Year



DASHBOARD TAB 3



DISCUSSION



OVERALL FINDINGS & IMPLICATIONS

Findings

- Programming Languages- TypeScript is gaining significant interest and Python continues to grow as well.
- Databases- Redis, Elasticsearch, PostgreSQL and MongoDB are gaining more interest.
- Platforms- Interest Slack and Windows is dropping significantly.
- Web Frames- Vue.js is gaining substantial interest and React.js continues to grow as well.

Implications

- Continue to staff enough JavaScript and HTML/CSS but employ more people skilled in TypeScript and Python.
- Employ more people skilled in Redis, Elasticsearch, PostgreSQL and MongoDB.
- Continue to staff enough ASP.NET but employ more people skilled in Vue.js and React.js.
- Continue to staff enough Linux, employ more people skilled in Docker, AWS and Android, but make reductions to Slack and Windows.

CONCLUSION



- Carve out budget in order to hire additional staff with skills needed to fill any gaps.
- Set aside budget or put a program in place to upskill those already employed.
- Make adjustments in staff for those skills no longer in demand.

APPENDIX



RESOURCE:

[The 2019 Stack Overflow Developer Survey Results](#)

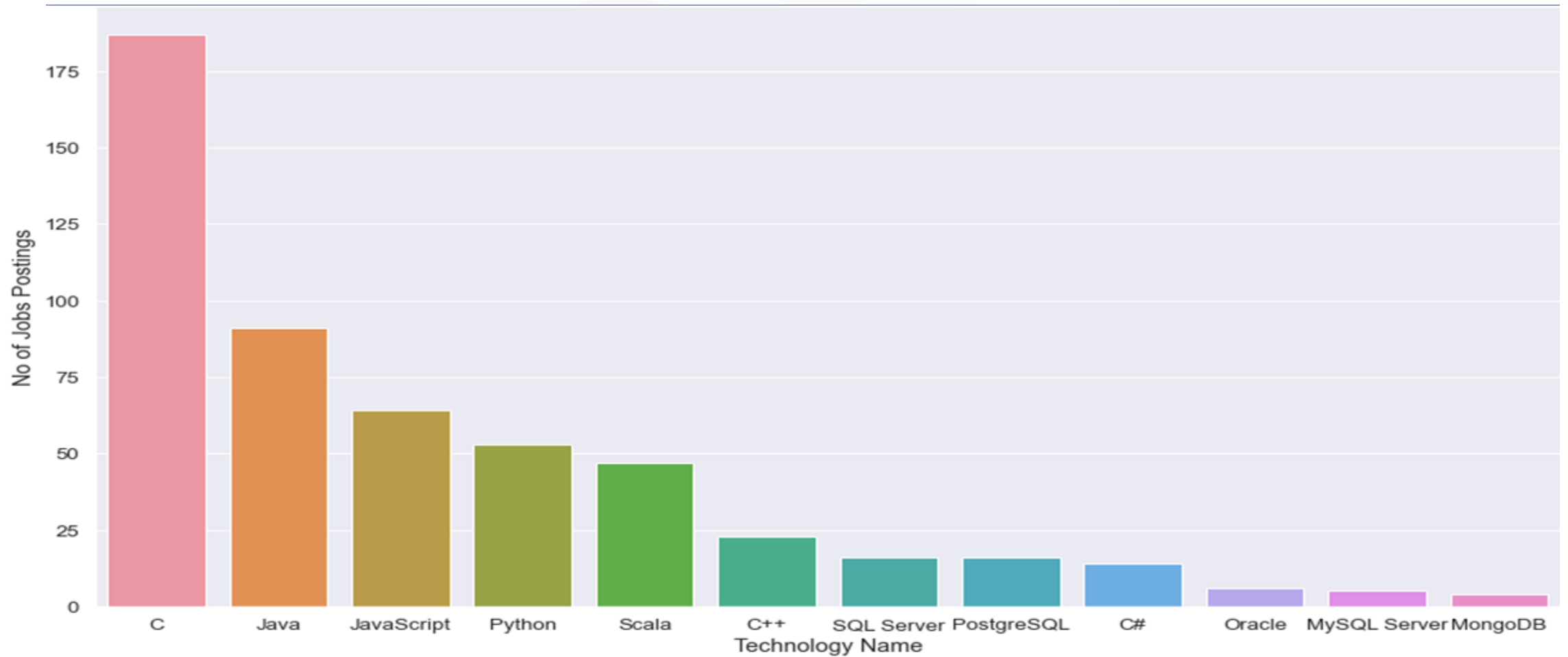
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and

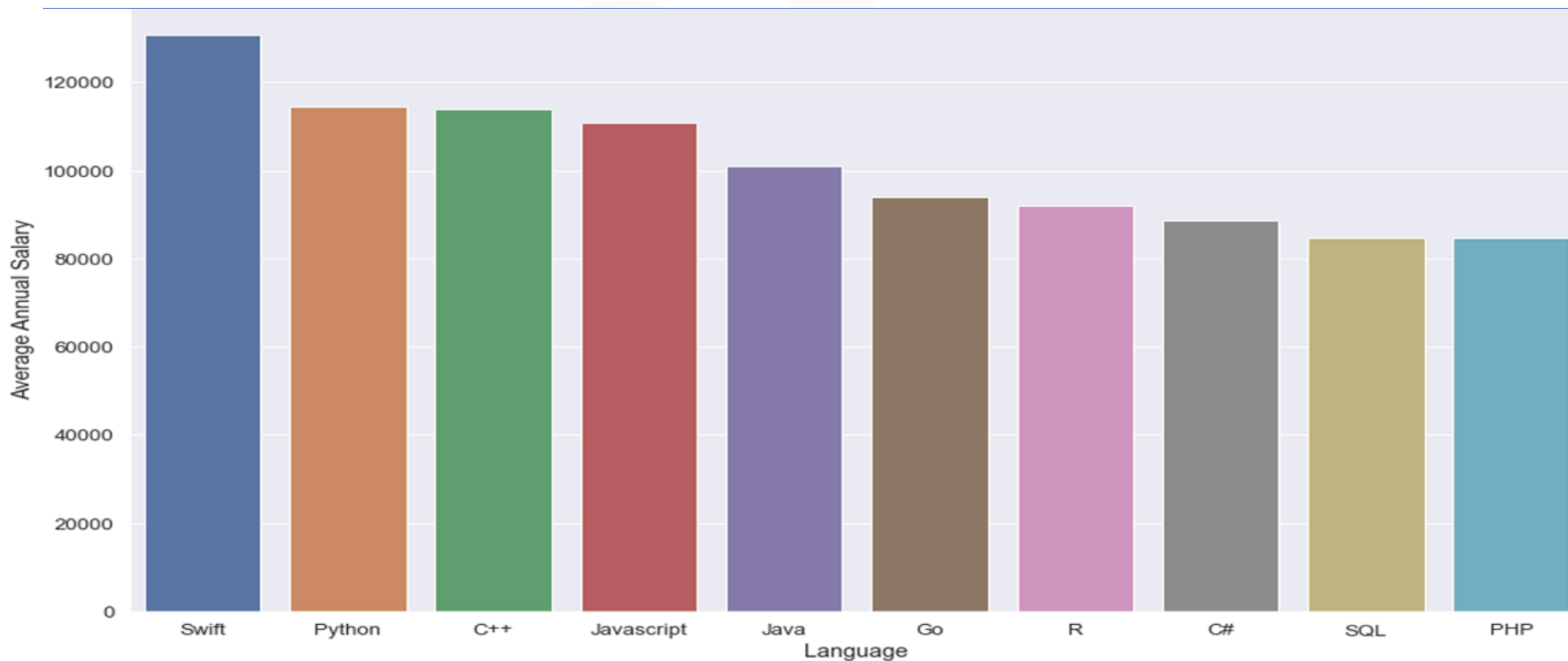
[m5_survey_data_technologies_normalised.csv](#)

[Dashboard](#)

JOB POSTINGS

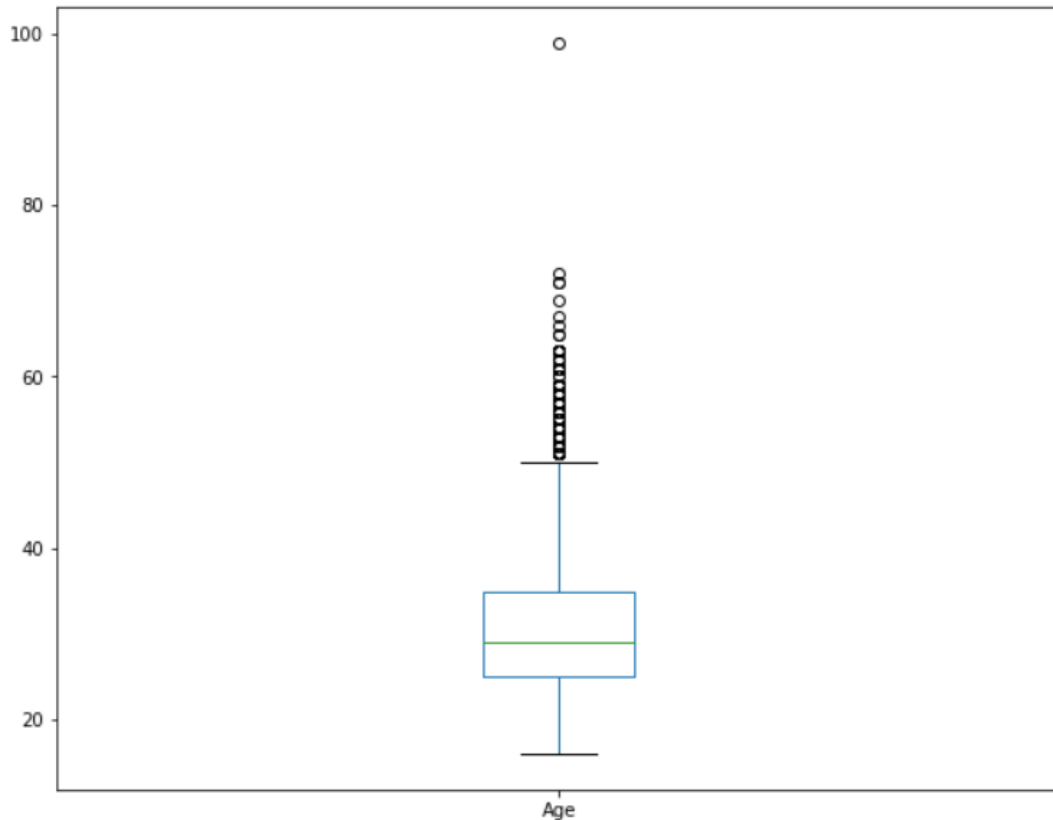


POPULAR LANGUAGES



ADDITIONAL VISUALS

Plot a box plot of Age.



Pie chart of the top 5 databases that respondents wish to learn next year.

