STACK OVERFLOW DEVELOPER SURVEY 2019

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OUTLINE

- Executive Summary
- Introduction
- Methodology
- Results
  - Visualization – Charts
  - Dashboard
- Discussion
  - Findings & Implications
- Conclusion
- Appendix

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 WebFrames.
- 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.

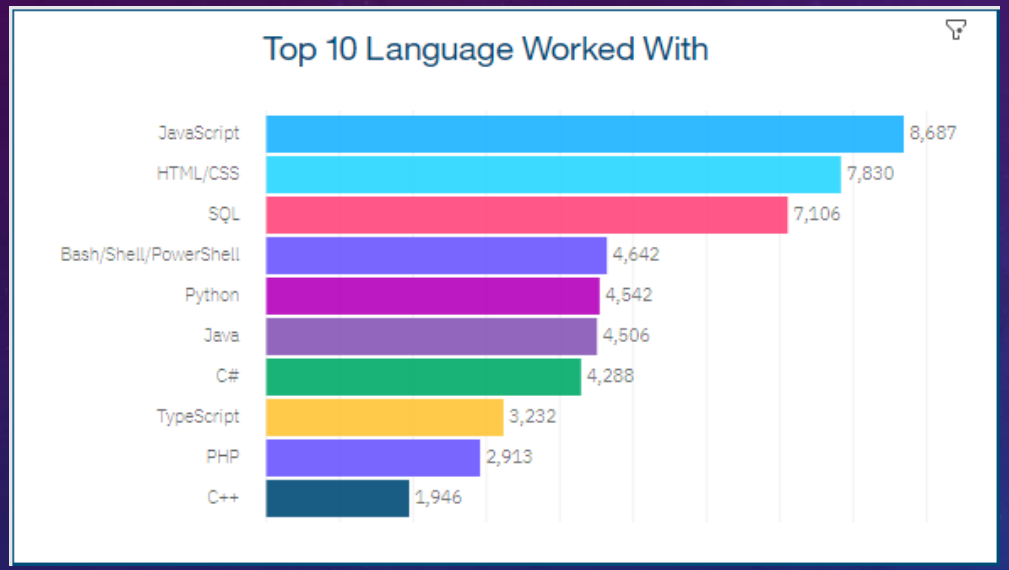
METHODOLOGY

- Using a modified subset of the Stack Overflow dataset[1], 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 files[2], which are also a modified subset of the Stack Overflow 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.

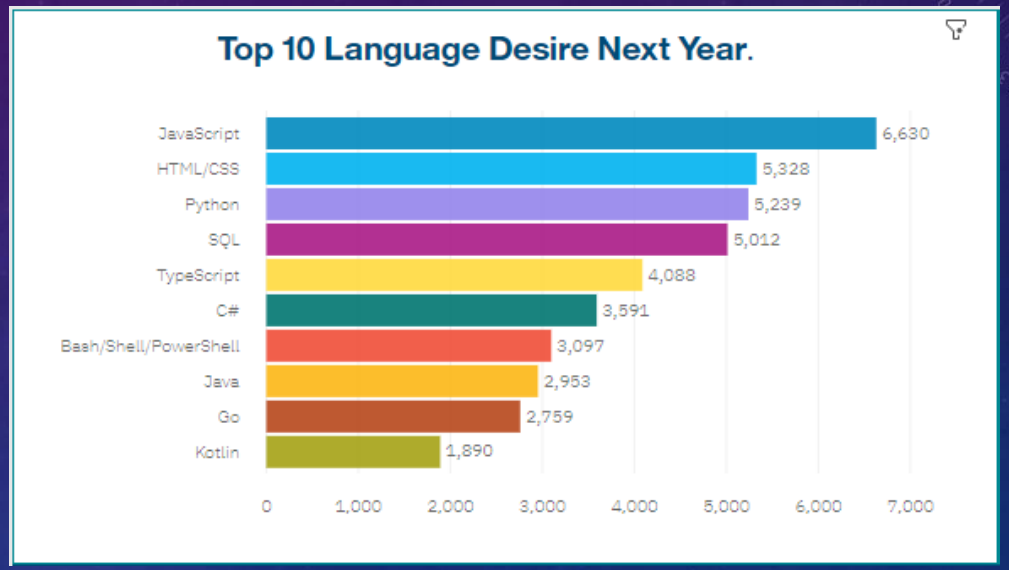
RESULTS

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

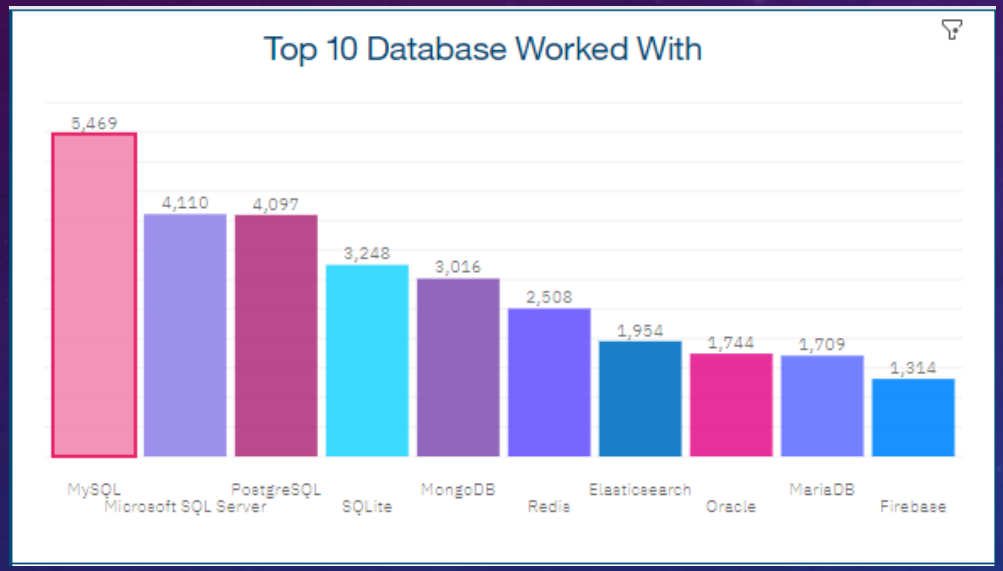
- JavaScript, HTML/CSS and SQL continue to be the top two most popular programming languages for this year and next.
- Python gained more interest for next year.
- Whereas interest in TypeScript have and C# has will almost still the same.

Implications

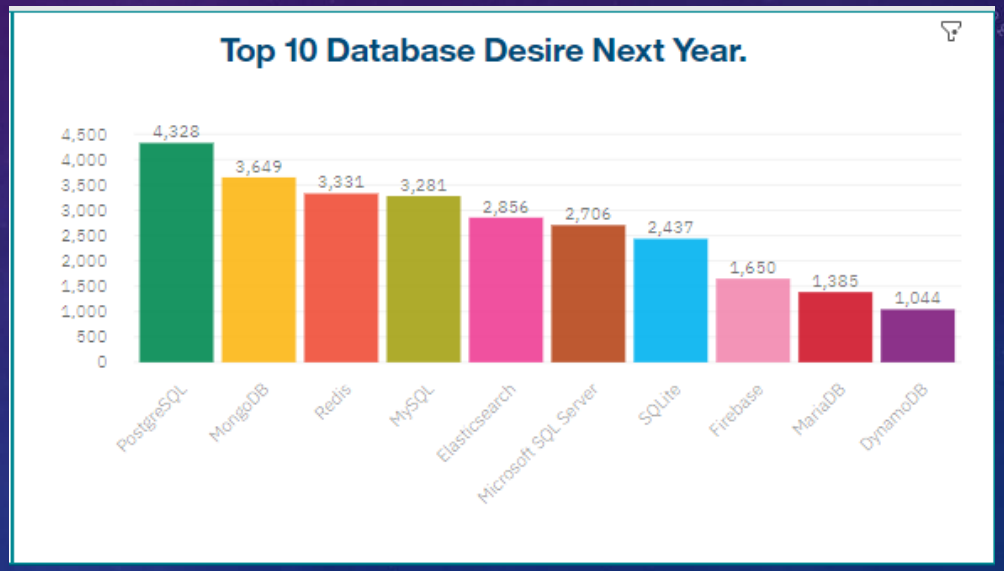
1. Continue to employ a similar number of people skilled in JavaScript and HTML/CSS.
2. Employ more people skilled in Python and SQL.
3. Employ less people skilled in TypeScript and Jave Bash/Shell/PowerShell.

DATABASE TRENDS

Current Year



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.

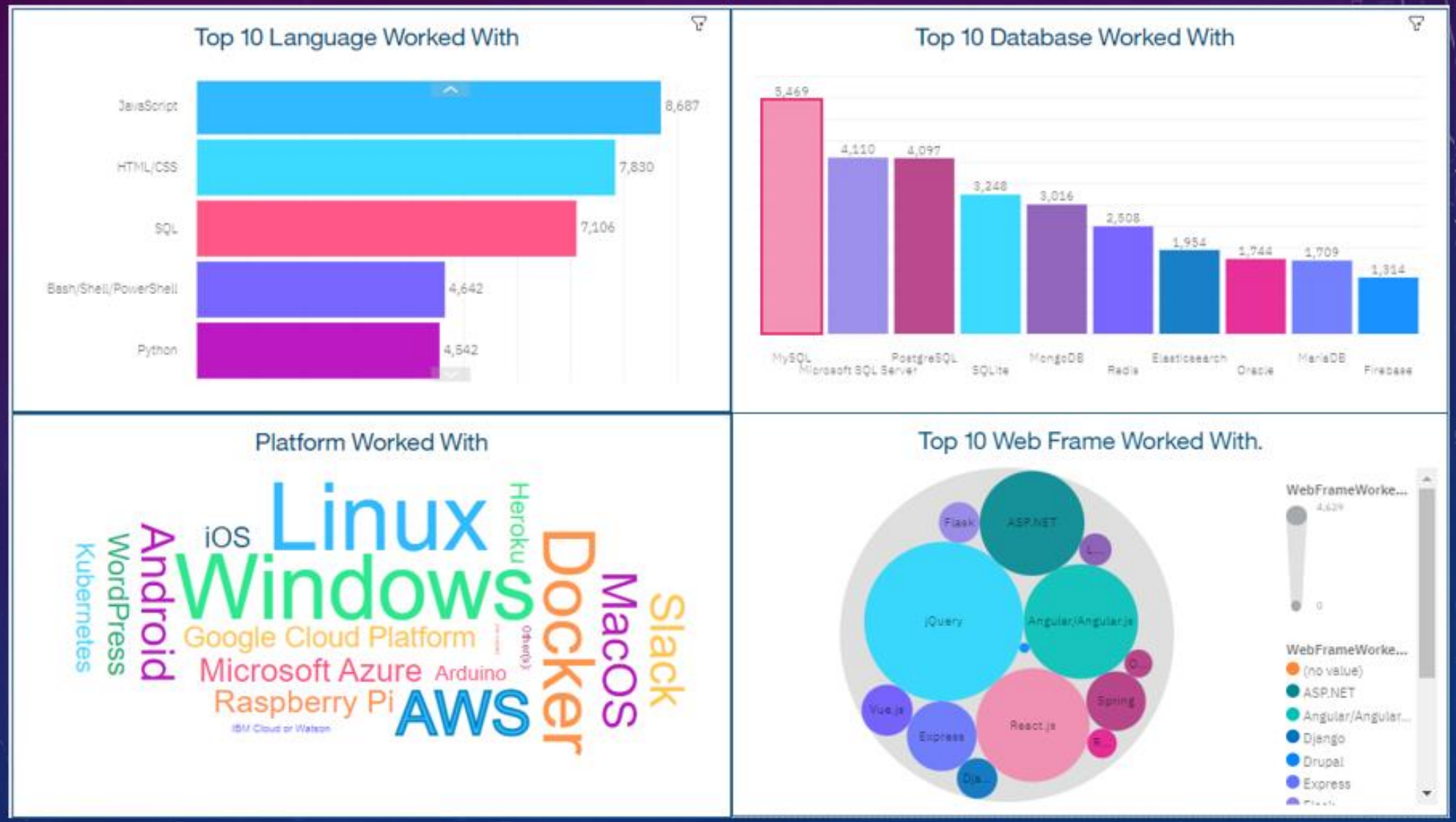
Implications

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

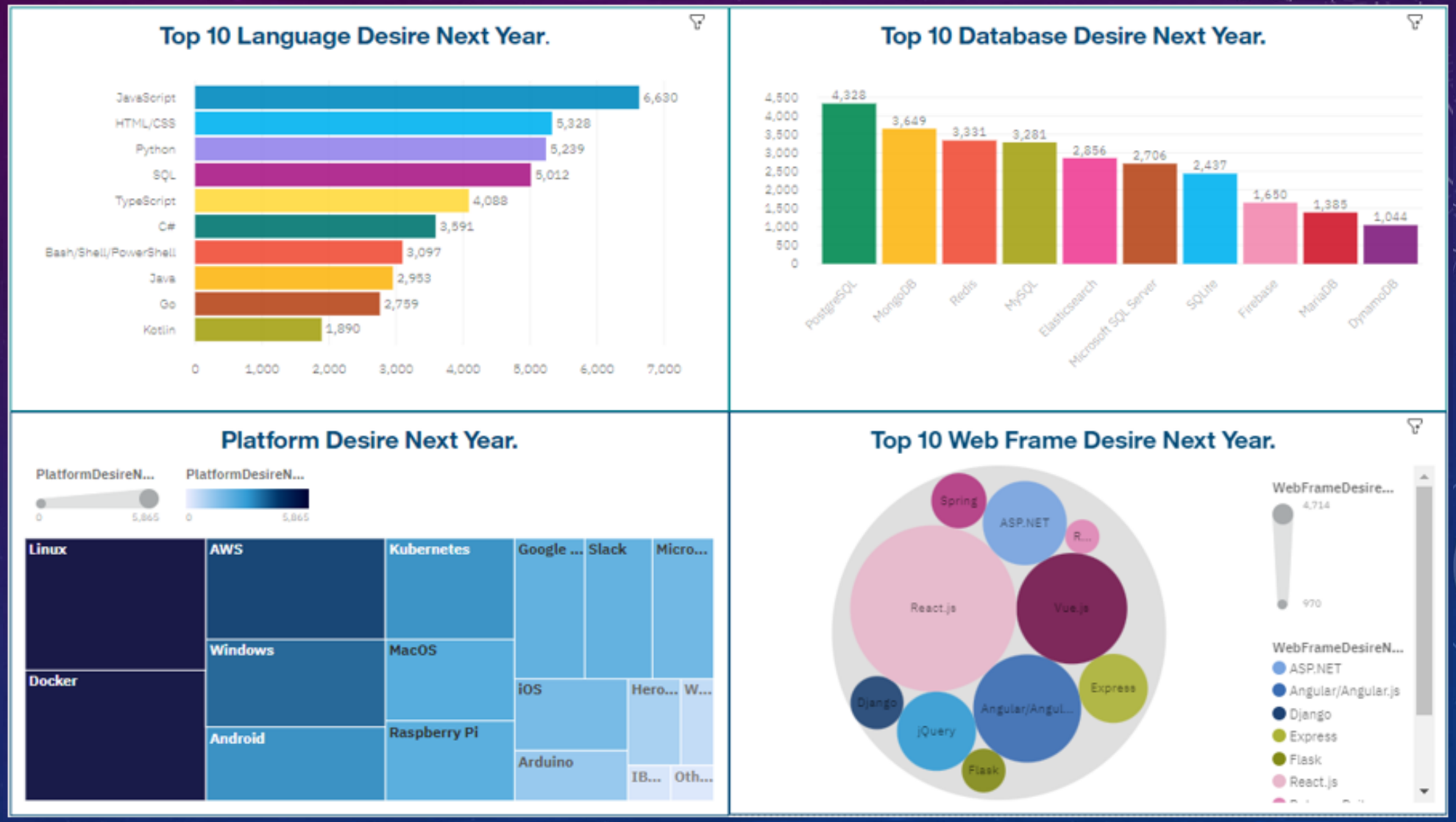
DASHBOARD

Click here to view my Cognos dashboard

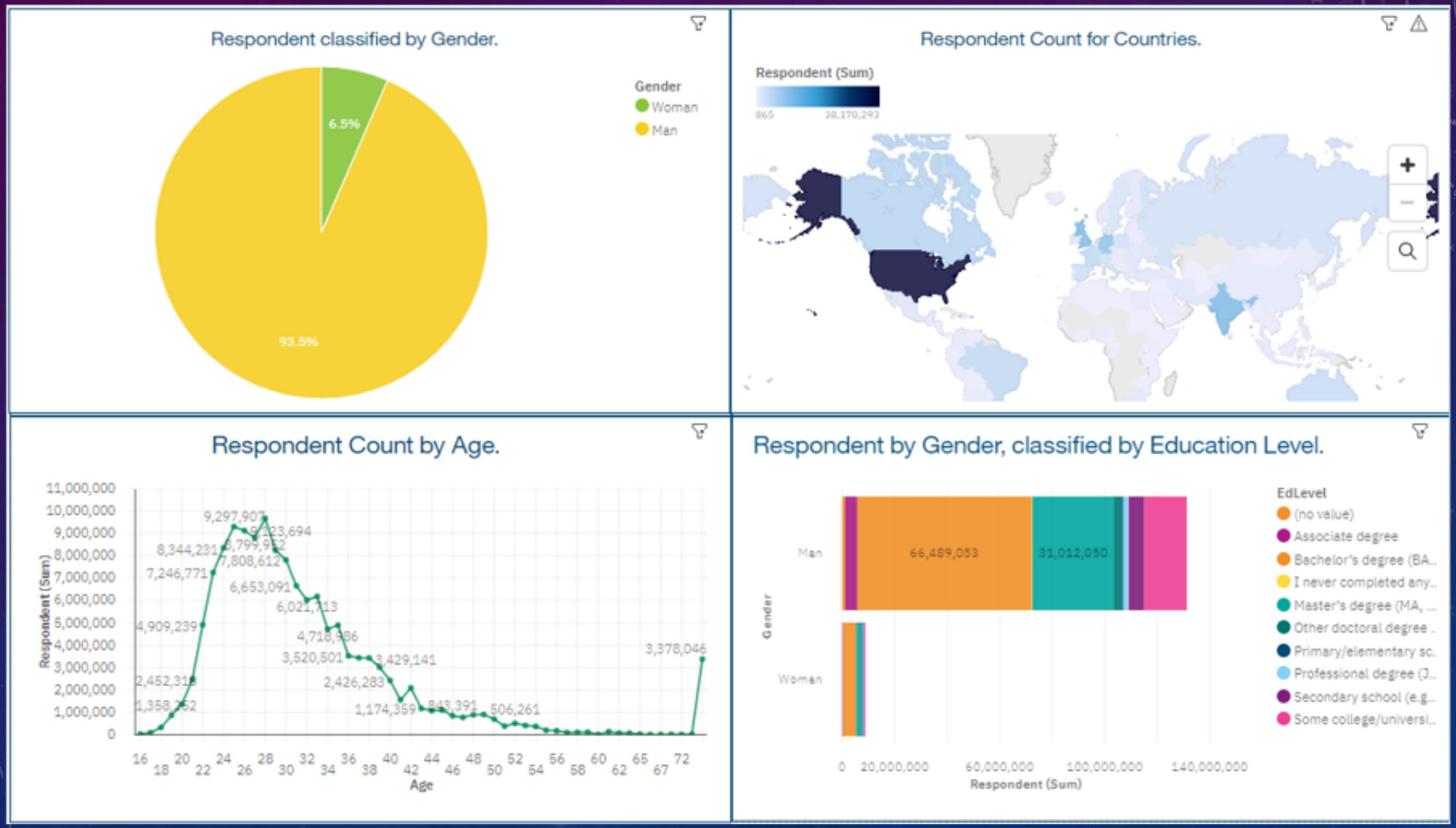
DASHBOARD TAB 1-Current Technology Usage



DASHBOARD TAB 2 - FUTURE TECHNOLOGY TREND



DASHBOARD TAB 3 - DEMOGRAPHICS



DISCUSSION

- Almost all respondent were Man
- Most respondents aged between 20 and 40 years old
- Most respondents have bachelors and masters degree
- Most respondents come from north America
- The platform of high interest are Linux, windows, docker , android and AWS
- The interesting web frame include, react.je, Angular, ASP.NET Value.js and jQuery

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.
- WebFrames - Vue.js is gaining substantial interest and React.js continues to grow as well.

Implications

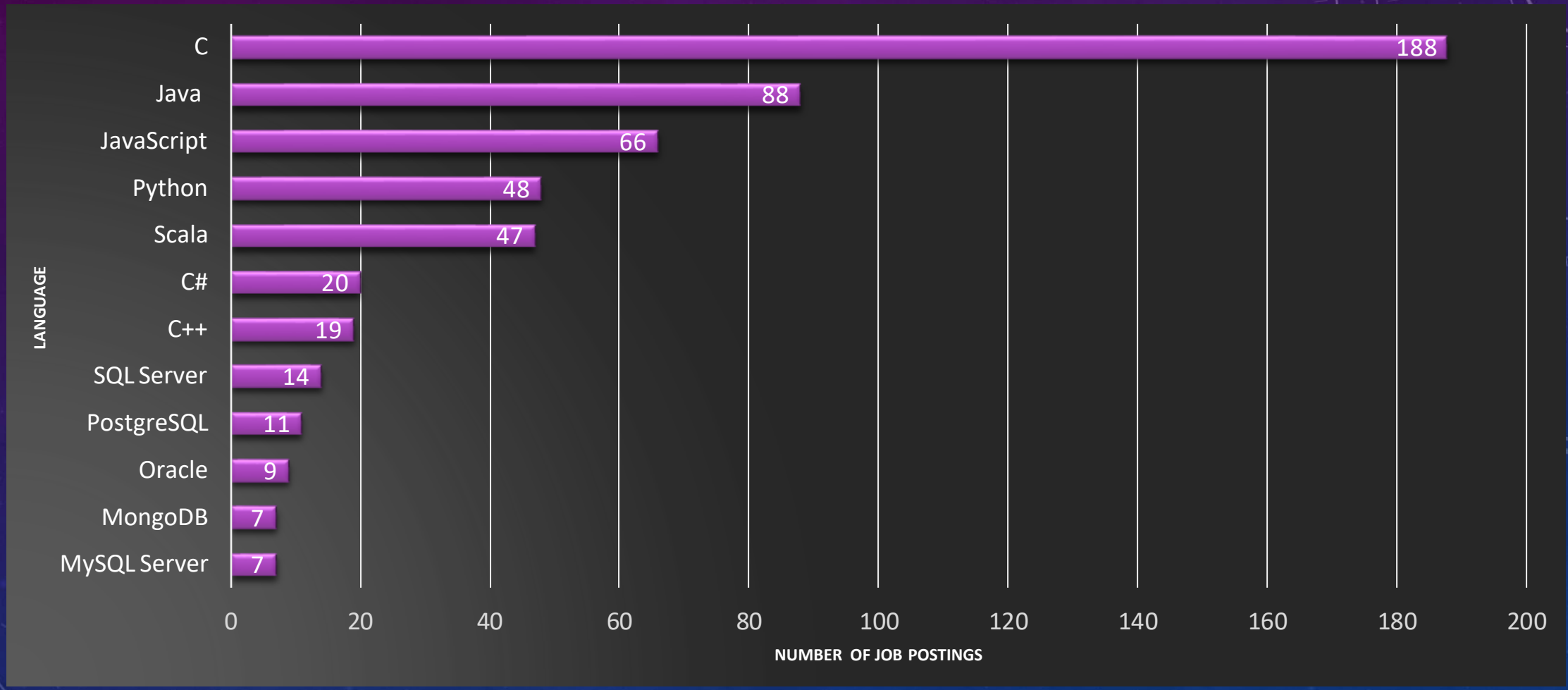
1. Continue to staff enough JavaScript and HTML/CSS but employ more people skilled in TypeScript and Python.
2. Employ more people skilled in Redis, Elasticsearch, PostgreSQL and MongoDB.
3. Continue to staff enough ASP.NET but employ more people skilled in Vue.js and React.js.
4. Continue to staff enough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

CONCLUSION

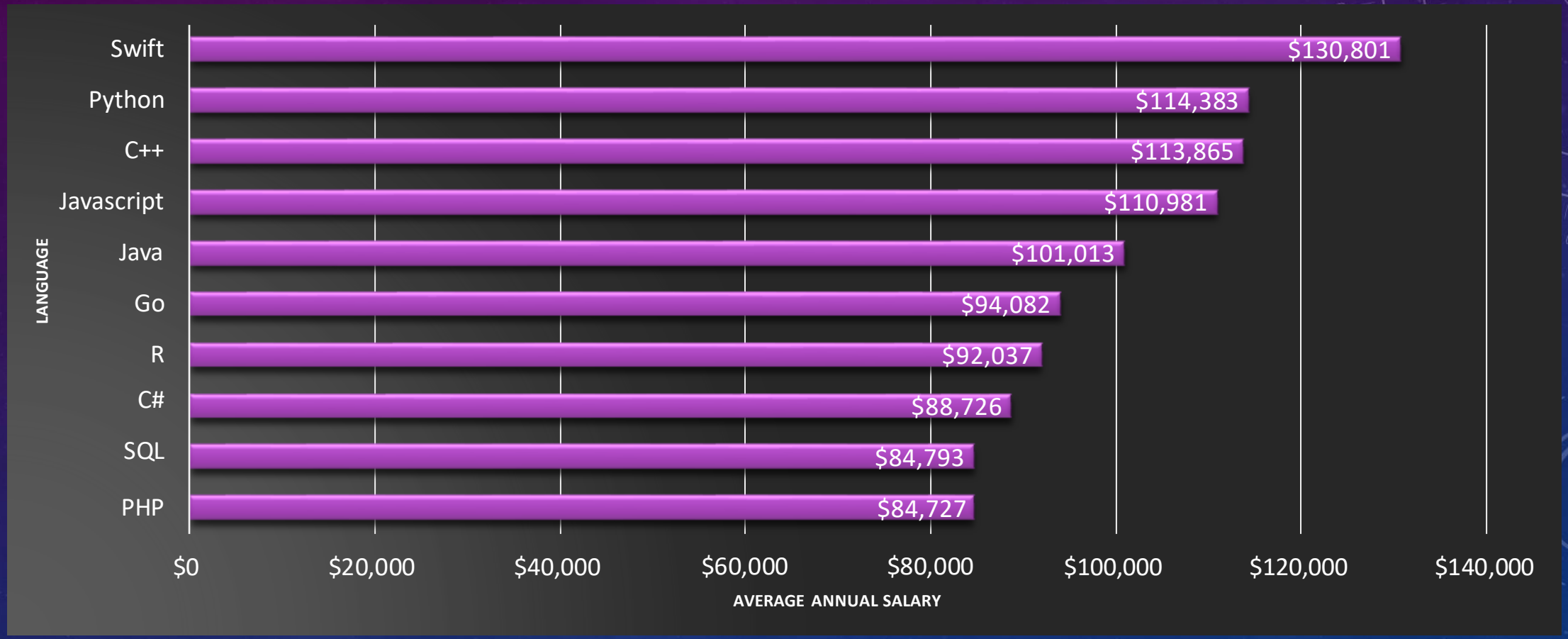
1	**Carve out budget in order to hire additional staff with skills needed to fill any gaps.**
2	Set aside budget or put a program in place to upskill those already employed.
3	Make adjustments in staff for those skills no longer in demand.

APPENDIX

GITHUB JOB POSTINGS



POPULAR LANGUAGES



RESOURCE

1. https://stackoverflow.blog/2019/04/09/the-2019-stack-overflow-developer-survey-results-are-in/
2. m5_survey_data_demographics.csv and m5_survey_data_technologies_normalised.csv
3. https://jobs.github.com/api
4. github-job-postings.xlsx
5. https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBM-DA0321EN-SkillsNetwork/labs/datasets/Programming_Languages.html

The End

Thank you for attention!