



# Skill Analysis for current and emerging technologies

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# OUTLINE



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

# EXECUTIVE SUMMARY



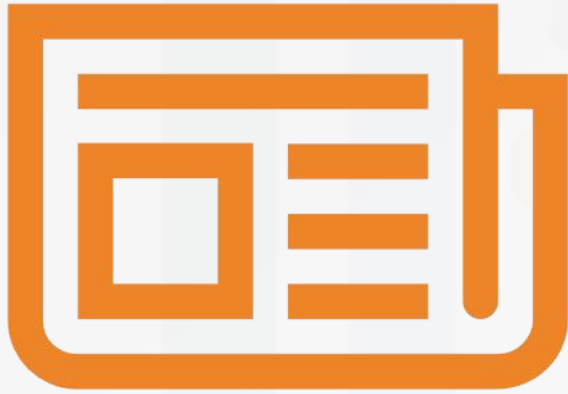
- This presentation will show current and future trends in Programming Languages, Databases, Platforms and WebFrames.
- It is important to identify future skill requirements and trends to keep pace with changing technologies and remain competitive.
- Overall, the aim in identifying future skill requirements and trends is to help the firm make more informed data-driven hiring and budgetary decisions.

# INTRODUCTION



- The datasets containing relevant information is obtained
- It comprises of surveyed data that describes both the user preferences and the user demographics
- This surveyed data is useful in understanding who and what the user is
  - User preference talks about what user prefers to work with
  - User demographics talks about the background of the user

# METHODOLOGY



- Using a modified subset of the Stack Overflow dataset, 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, which are also a modified subset of the Stack Overflow dataset, Cognos Dashboard Embedded (CDE) was used to create the “Programming Language Trends”, “Database Trends”, “Current Technology Usage”, “Future Technology Trends” and “Demographics” slides.

# RESULTS

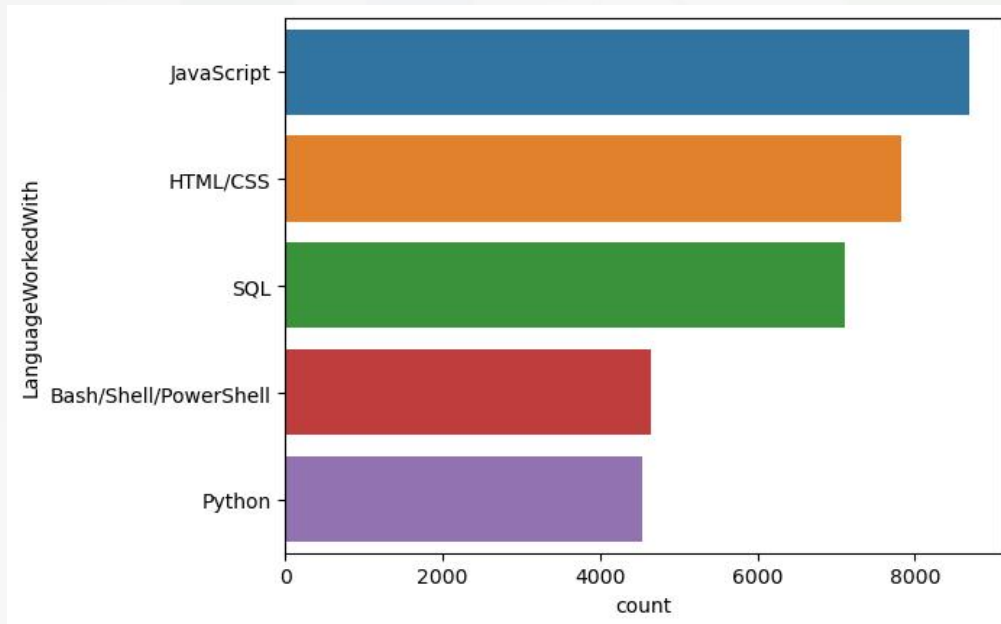


The various trends observed from the given data are shown in the upcoming slides

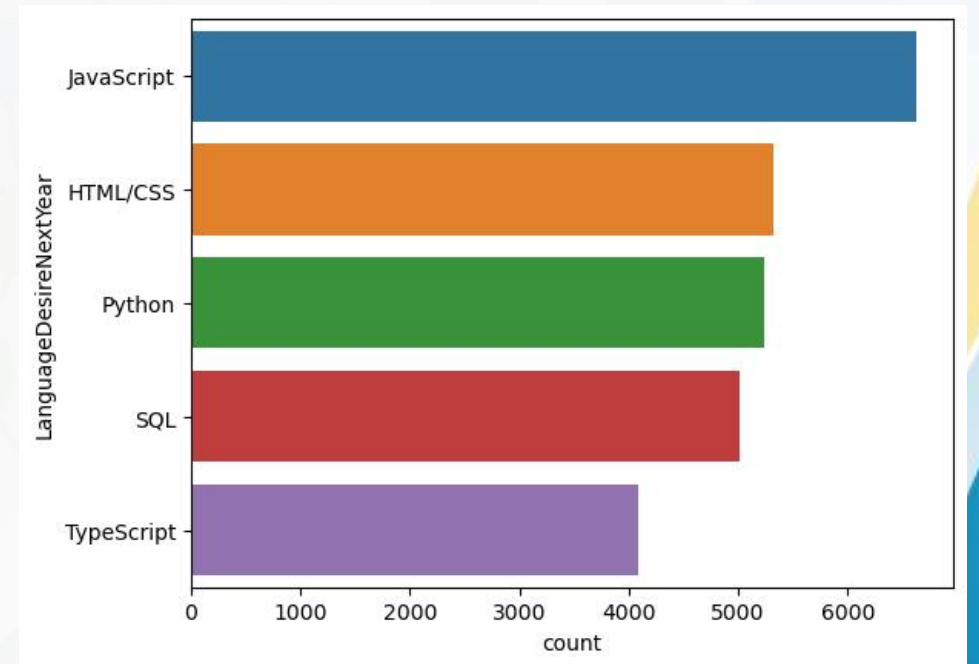


# PROGRAMMING LANGUAGE TRENDS

Top 5 Programming Languages for the Current Year



Top 5 Programming Languages for the 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.

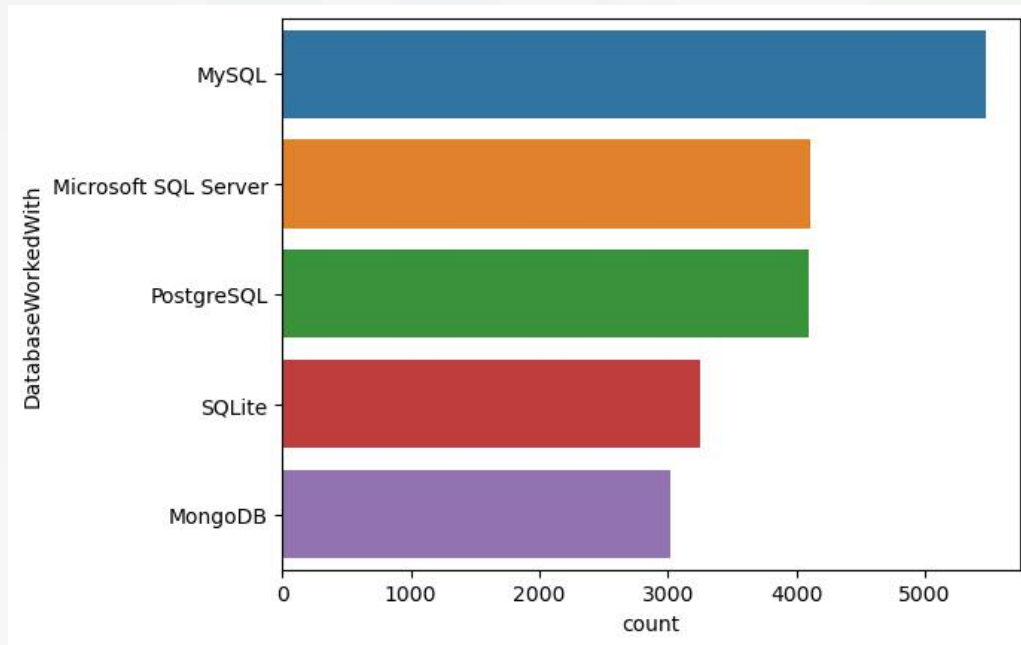
## Implications

- 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.

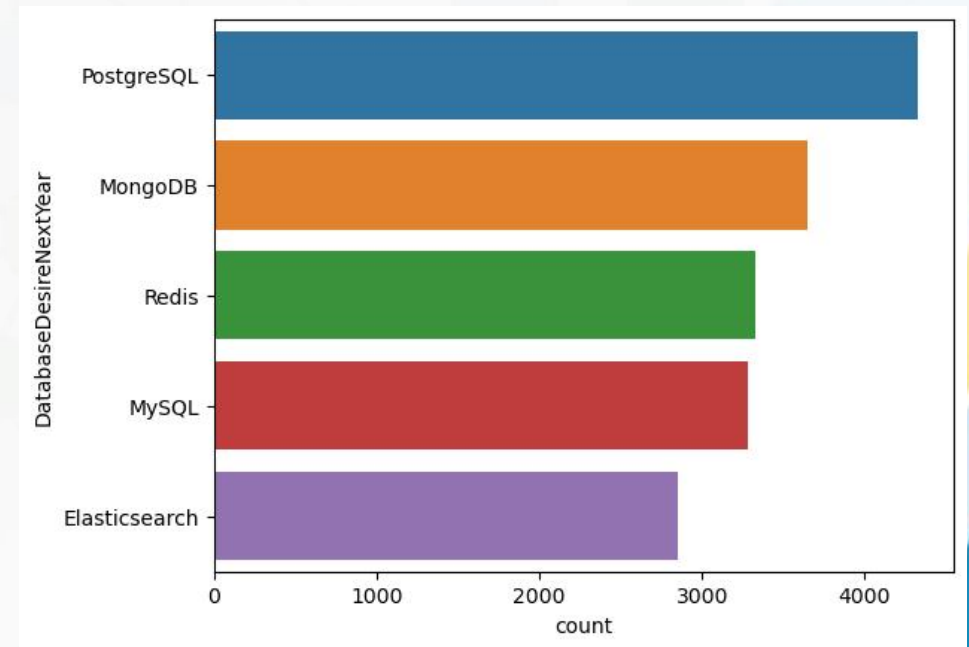


# DATABASE TRENDS

## Top 5 Databases for the Next Year



## Top 5 Databases for the 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

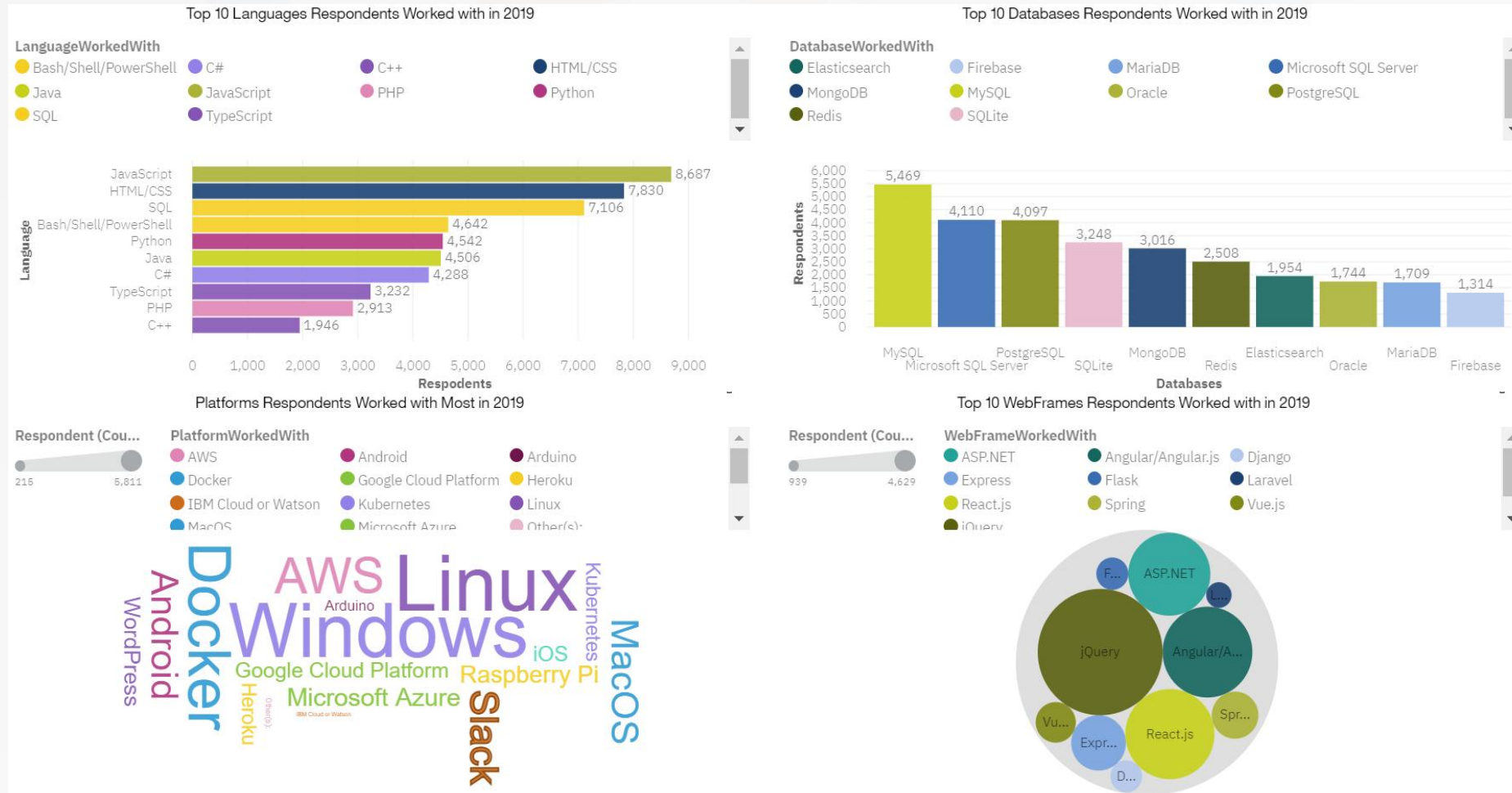
- Employ less people skilled in MySQL, Microsoft SQL Server and SQLite.
- Employ more people skilled in PostgreSQL and MongoDB
- Employ more people skilled in Redis and Elasticsearch.

# DASHBOARD

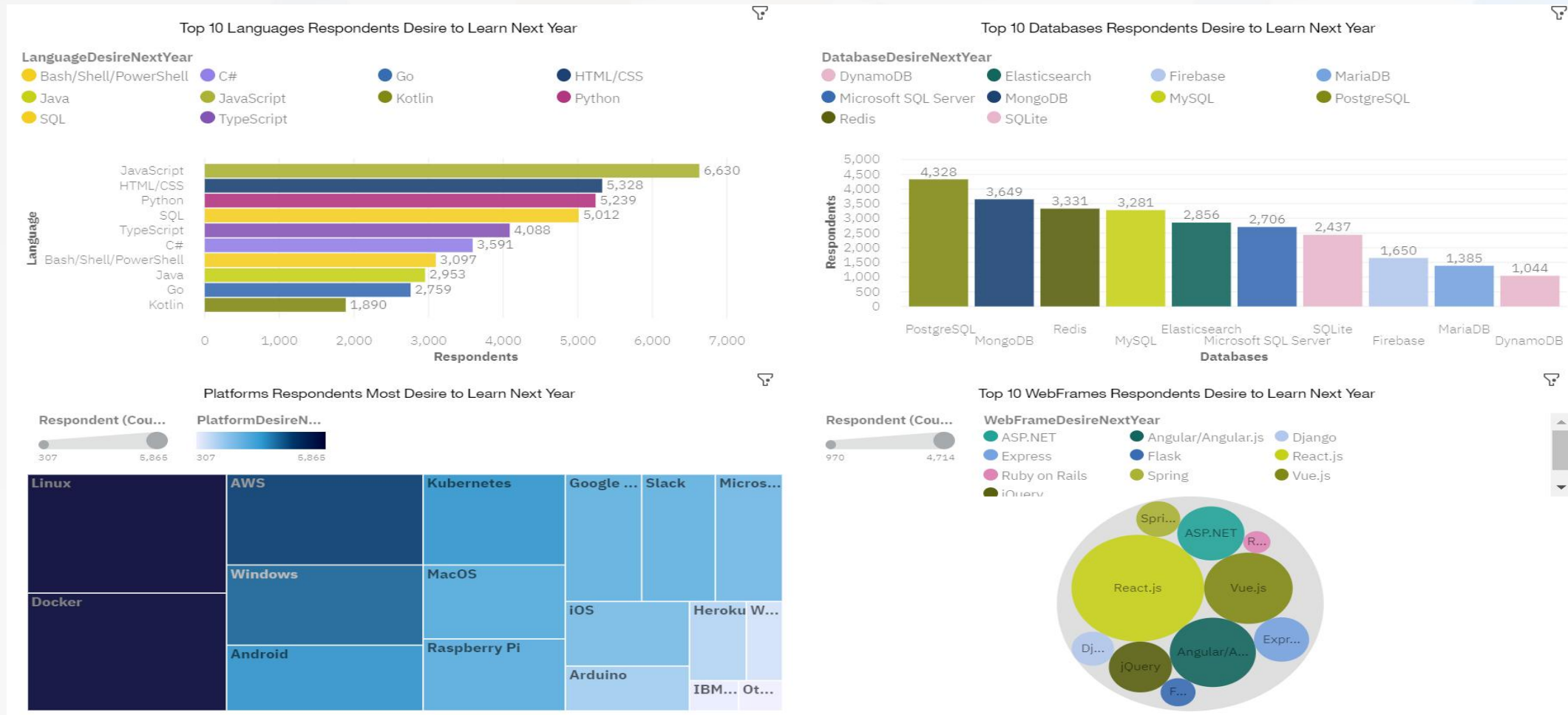


The Cognos Dashboard can be accessed through the link given [here](#)

# CURRENT TECHNOLOGY USAGE TRENDS



# FUTURE TECHNOLOGY TRENDS

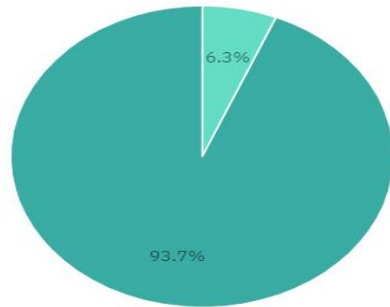




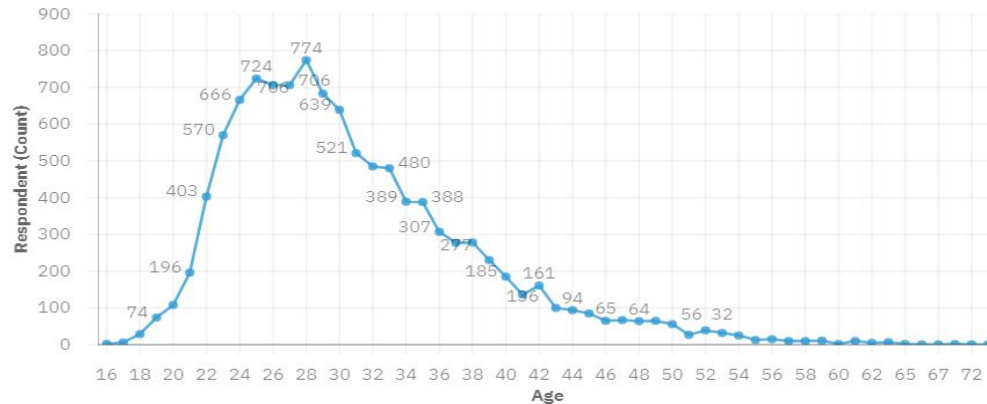
# DEMOGRAPHICS

Respondents Based on Gender

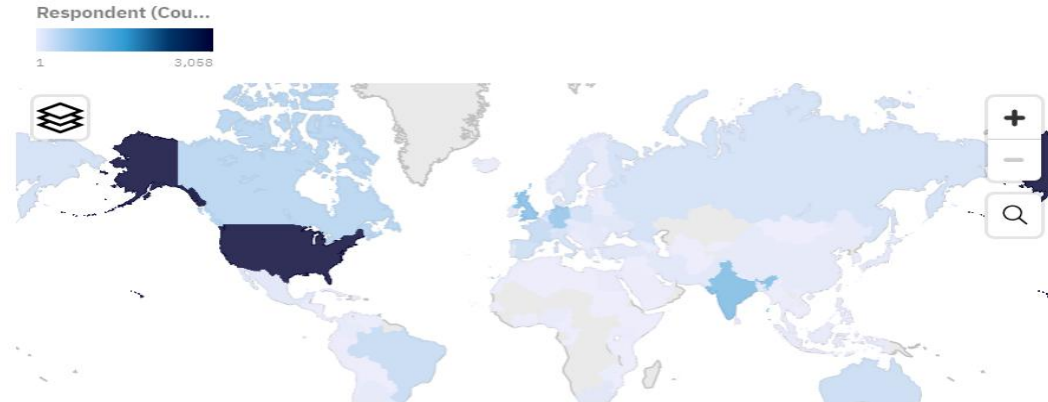
Gender  
● Woman ● Man



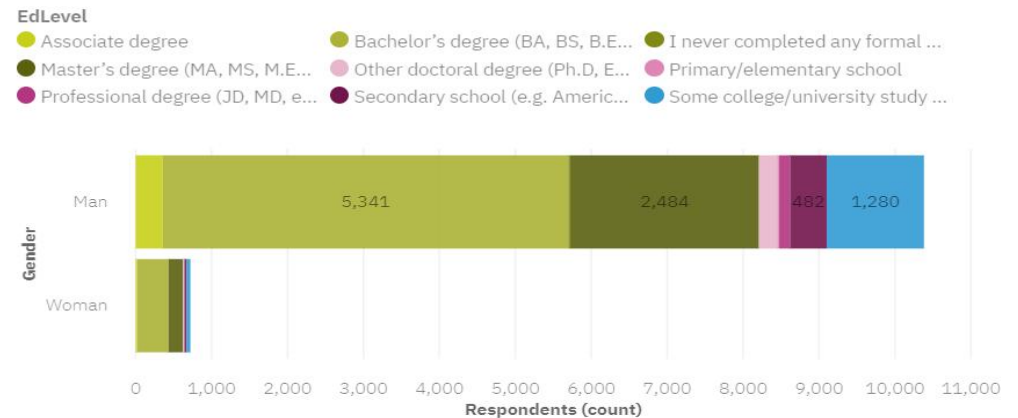
Respondent (Count) Based on Age



Respondent (Count) Based on Country



Respondent (Count) Based on Gender, Classified by Formal Education Level





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

## Implications

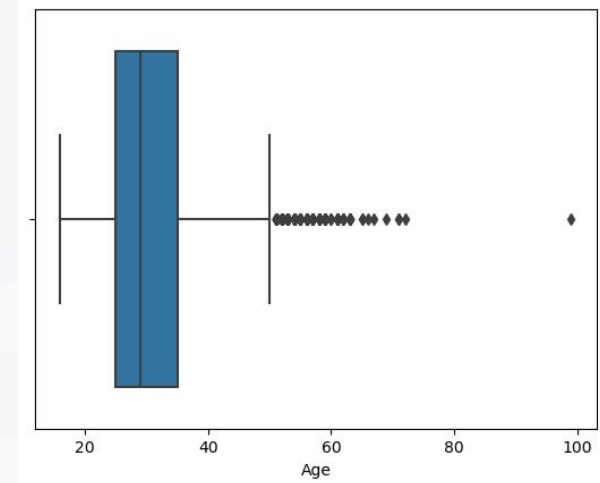
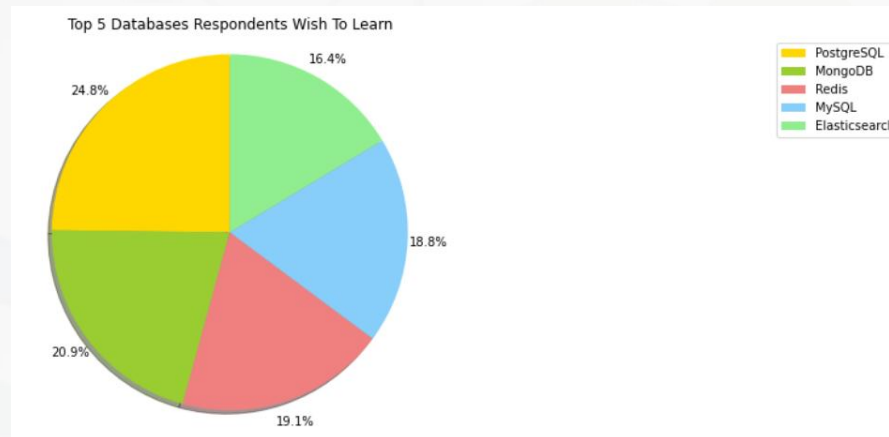
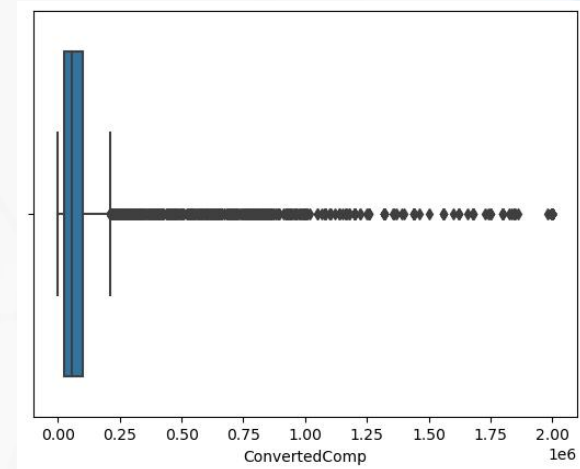
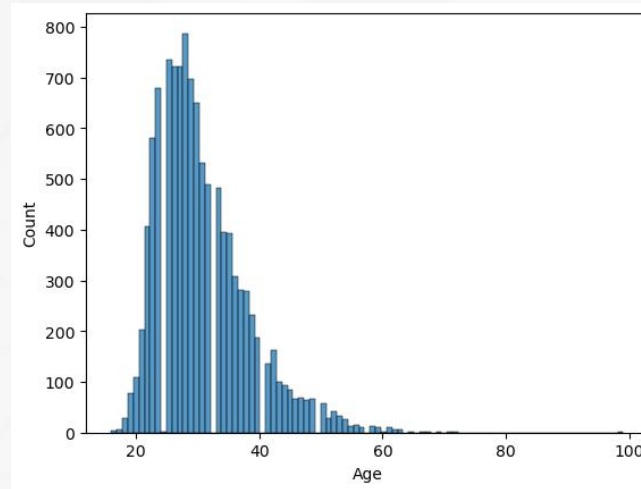
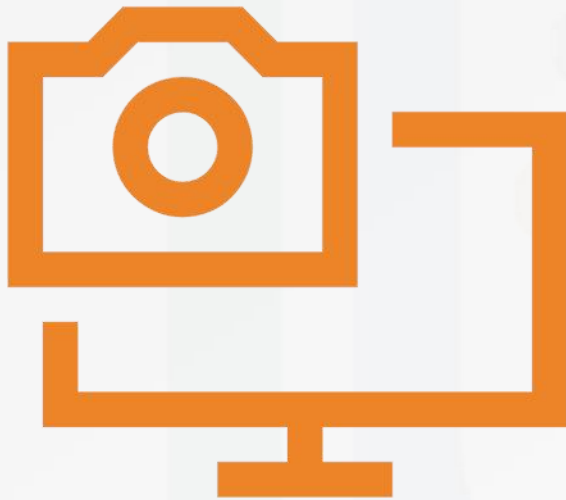
- Continue to staff enough JavaScript and HTML/CSS but employ more people skilled in TypeScript and Python.
- Employ more people skilled in Redis, Elasticsearch, PostgreSQL and MongoDB.
- Continue to staff enough Linux, employ more people skilled in Docker, AWS and Android, but make reductions to Slack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

# CONCLUSION

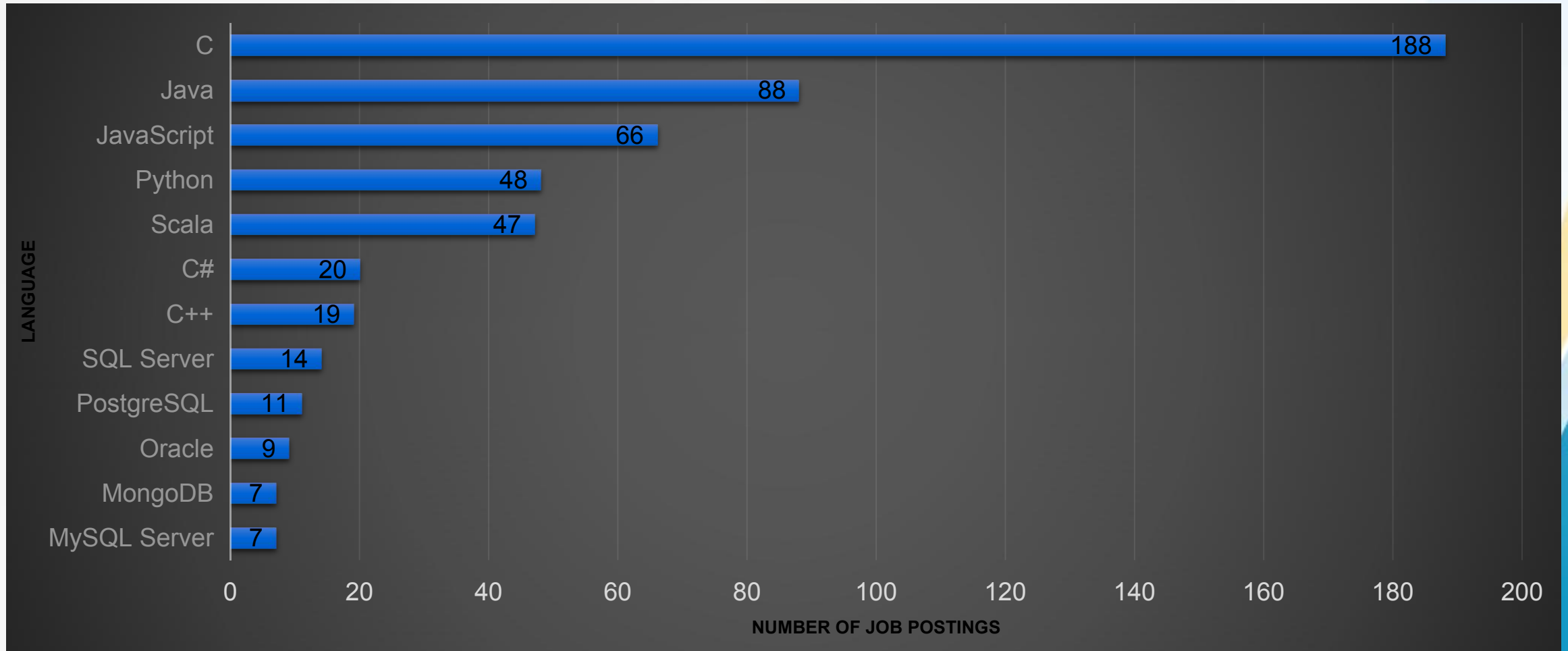


- Carve out budget in order to hire additional staff with skills needed to fill any gaps.
- Set aside budget or put a program in place to upskill those already employed.
- Make adjustments in staff for those skills no longer in demand.

# APPENDIX



# JOB POSTINGS BY LANGUAGE



# POPULAR LANGUAGES BY AVERAGE SALARY

