IT Skills Trends

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EXECUTIVE SUMMARY

- Trends in programming languages and databases from:
  - Job Postings;
  - Training Portals;
  - Surveys.
- Demographics analysis including age, gender, education and country.
- Analysis of jobs posted according with the programming languages.
- Salary evaluation between programming languages.

INTRODUCTION

- Identifying required skills for the future.
- Display top programming languages in demand.
- Display top database skills in demand.
- Present the most popular IDEs.

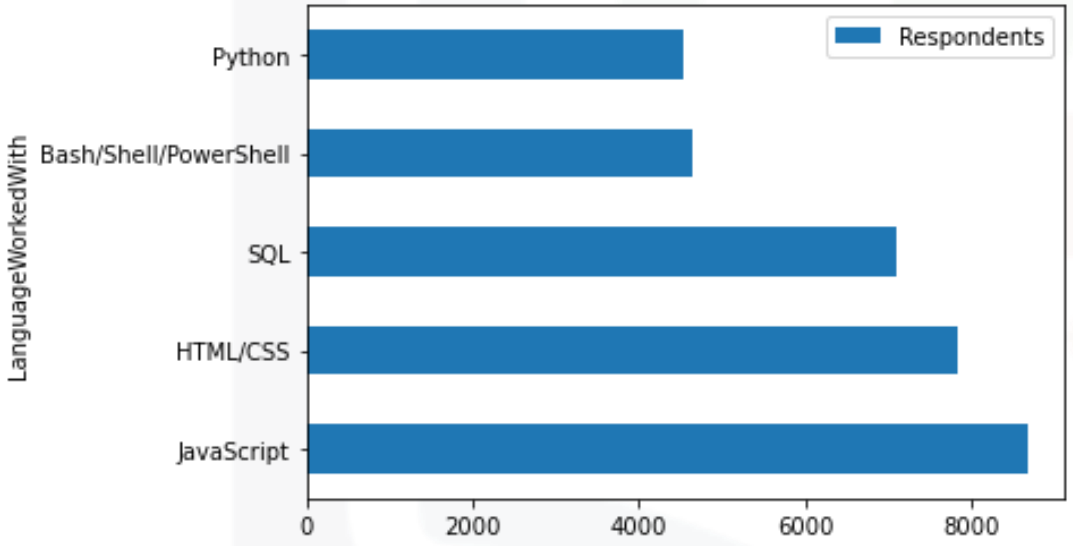
METHODOLOGY

- Data Collection:
  - Collect Jobs Data Using Jobs API
  - Use WebScraping to Collect Data of Salaries
  - Stack Overflow Developer Survey
- Data Exploration
- Data Wrangling and Data Cleaning
- Data Visualization
- Presentation

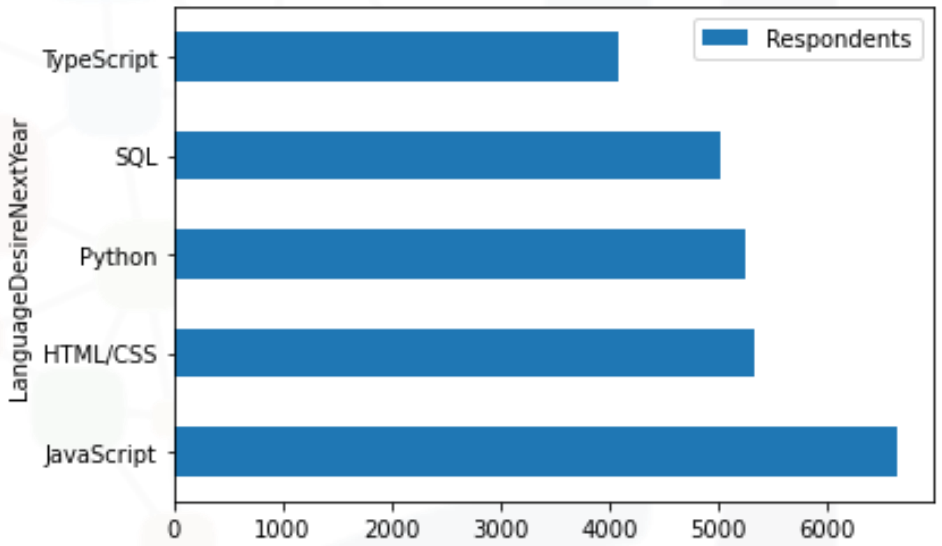
RESULTS

PROGRAMMING LANGUAGE TRENDS

Top 5 Languages Current Year



Top 5 Languages Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

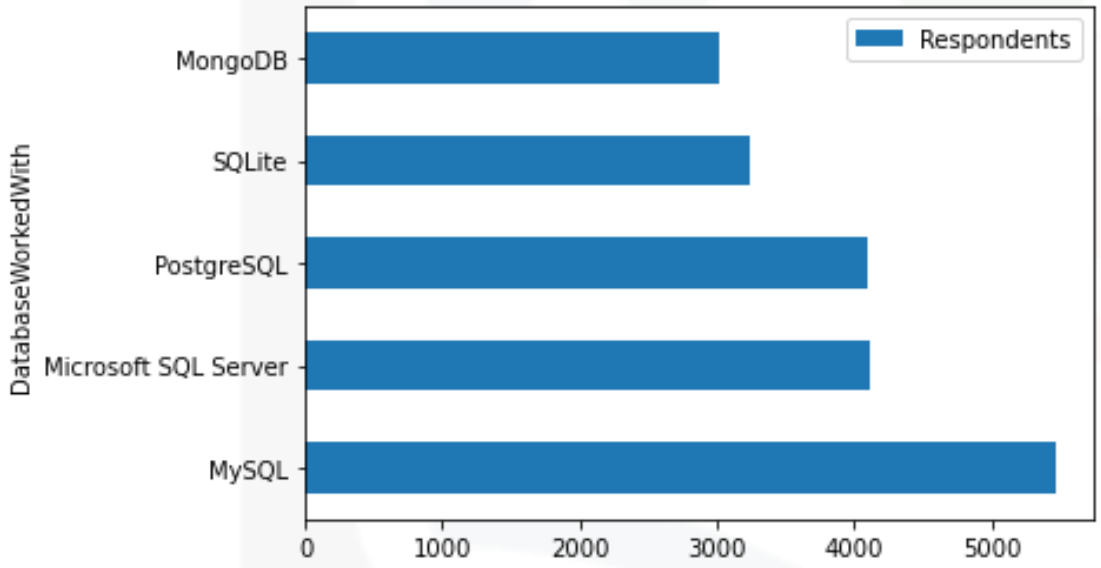
- 4 out of 5 Top Languages are the same for the current/next year
- Bash/Shell/PowerShell is present as Top 5 for the current year, but not for the next year.
- Typescript enters the Top 5 for the desired languages for the next year.

Implications

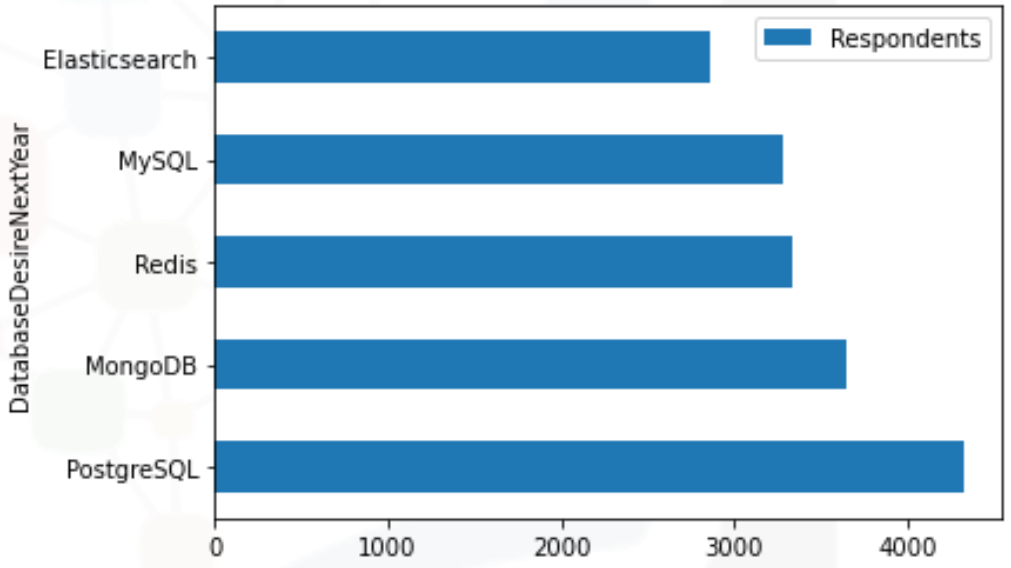
- Python, SQL, HTML/CSS and JavaScript prove to be important languages to learn as IT Skill
- JavaScript is the top Language to learn as IT Skill for the near future.
- TypeScript can raise as a valuable language to learn, attracting more users next year.

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL, PostgreSQL, MongoDB are among the top 5 Databases for the current year that are also among the top 5 Databases desired for the next year.
- PostgreSQL is the most desired Database for the next year.
- MS SQL Server and SQLite are the two Databases from the top 5 now that are out of the top 5 desired for the next year. Elasticsearch and Redis get their spots on top 5.

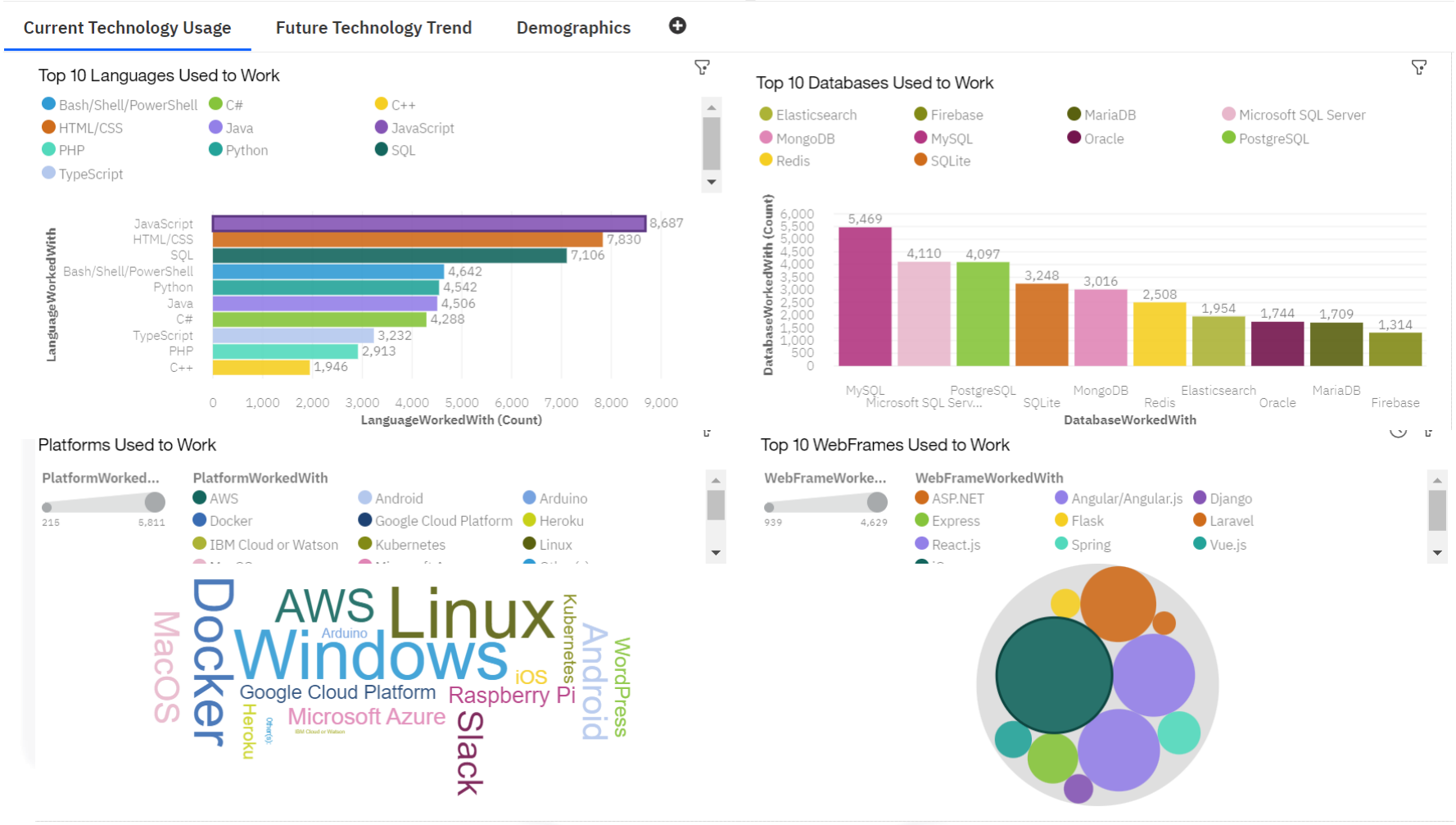
Implications

- Elasticsearch and Redis can be important Databases to learn in the next year.
- Considering the respondents, next year the number of users of PostgreSQL can be the first on the list of Databases used.
- Maybe MS SQL Server and SQLite can lose popularity next year.

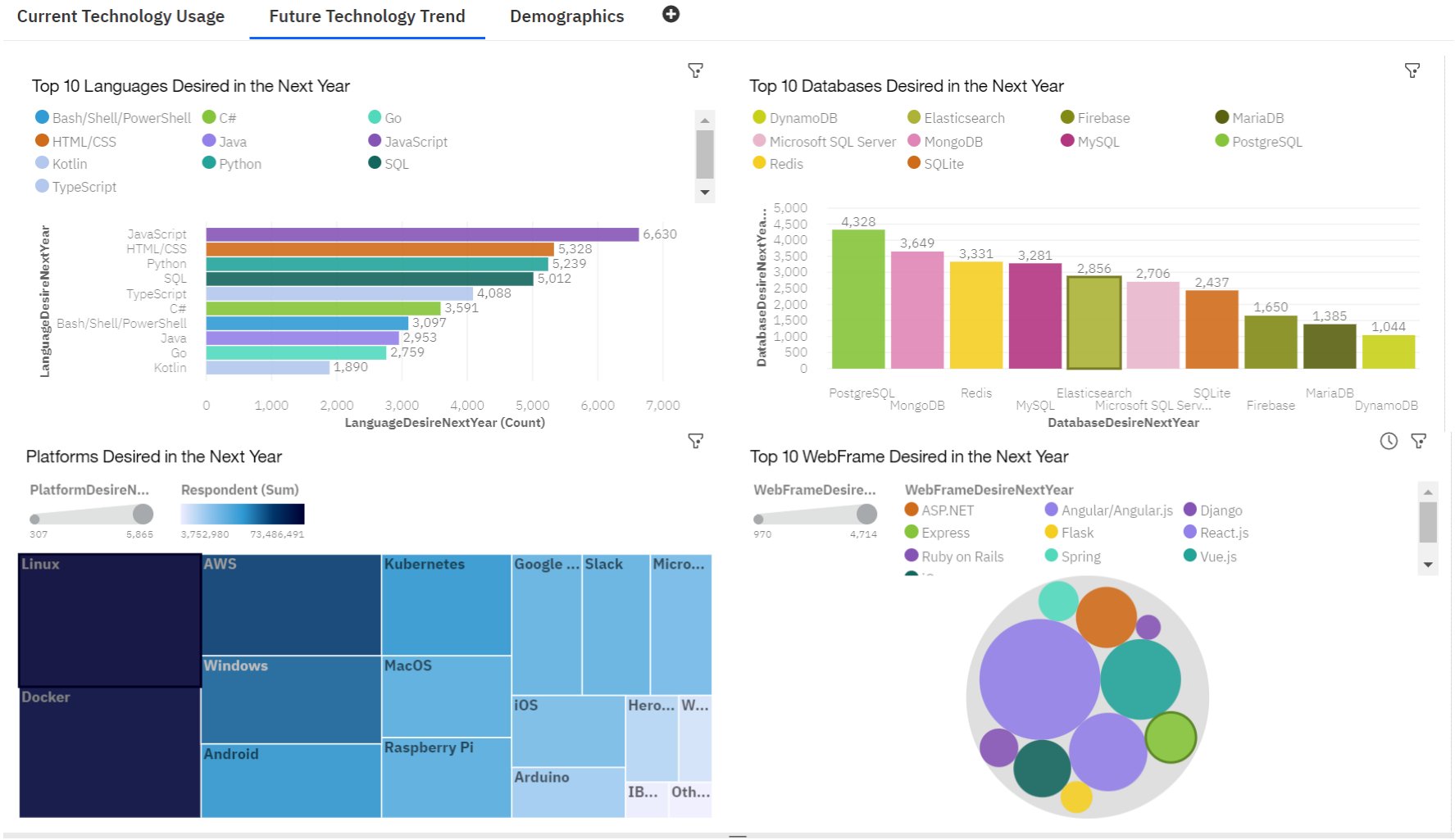
DASHBOARD

Read-only view of the Cognos Dashboard.

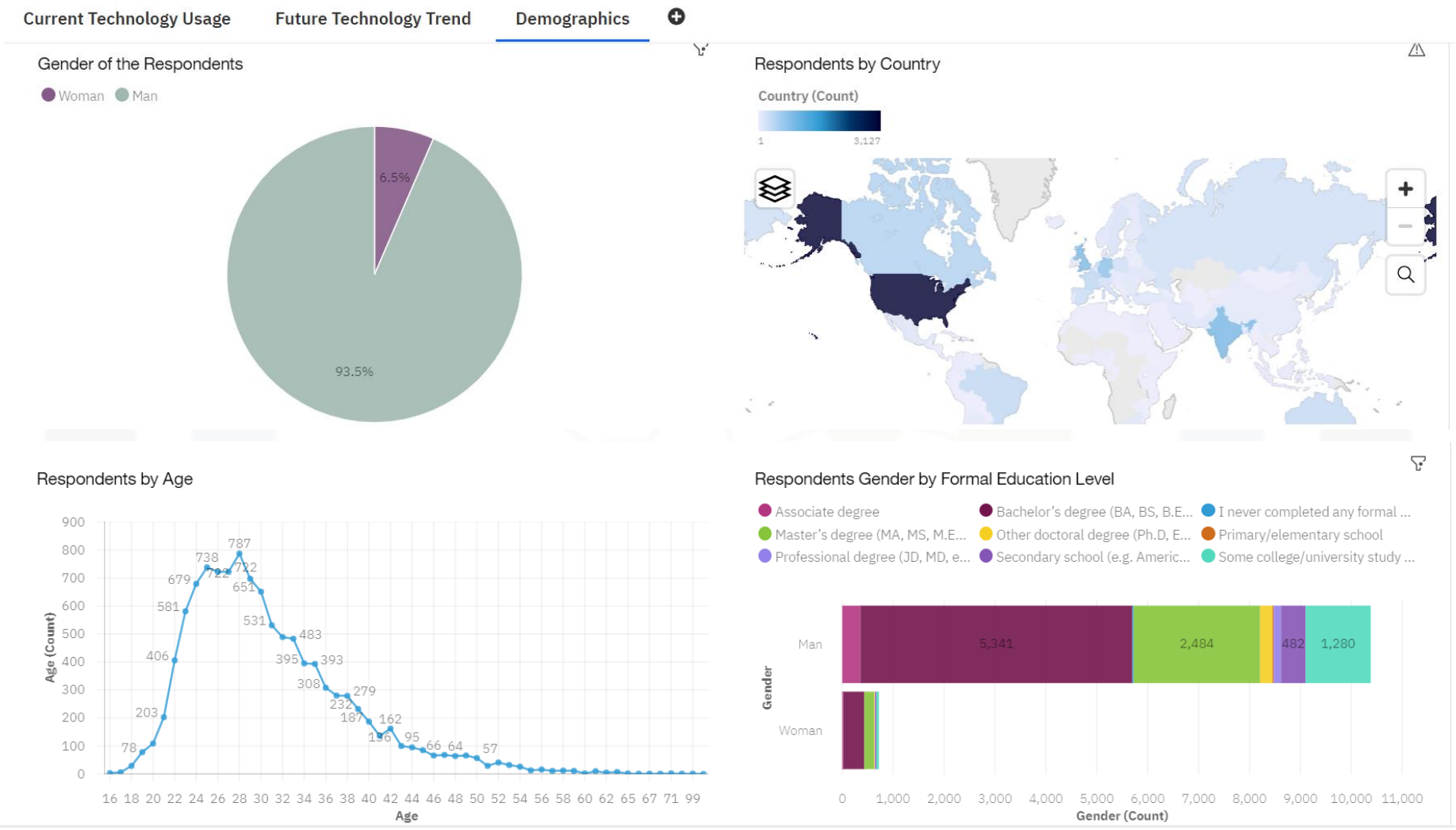
DASHBOARD TAB 1



DASHBOARD TAB 2



DASHBOARD TAB 3



DISCUSSION

- The men represent the majority of the respondents, raising an important question: are they not get interested to get into the field, or is there still a barrier for qualified women to get recognized as capable of working with technology? More studies should be conducted to find this answer.

DISCUSSION

- The salary gap between different programming languages is caused by the difficult to get the knowledge and the application, or is it because the languages are used in specific roles that can cause more impact in the profits and decisions, thus does receive a better payment? This also should be better evaluated using more data.

DISCUSSION

- Most respondents are aged from 20 to 40, meaning that the newest technologies are dominated by the young adults to the early middle-aged.
- Most people involved in the survey has a Bachelor’s Degree as maximum education level.
- The majority of respondents are from well developed countries in the field of technology.

OVERALL FINDINGS & IMPLICATIONS

Findings

- The technology does evolve/change at a rapid pace.
- There is a concentration of technology in the United States, as a country that leads this field.
- There is a vast gender gap into the field.

Implications

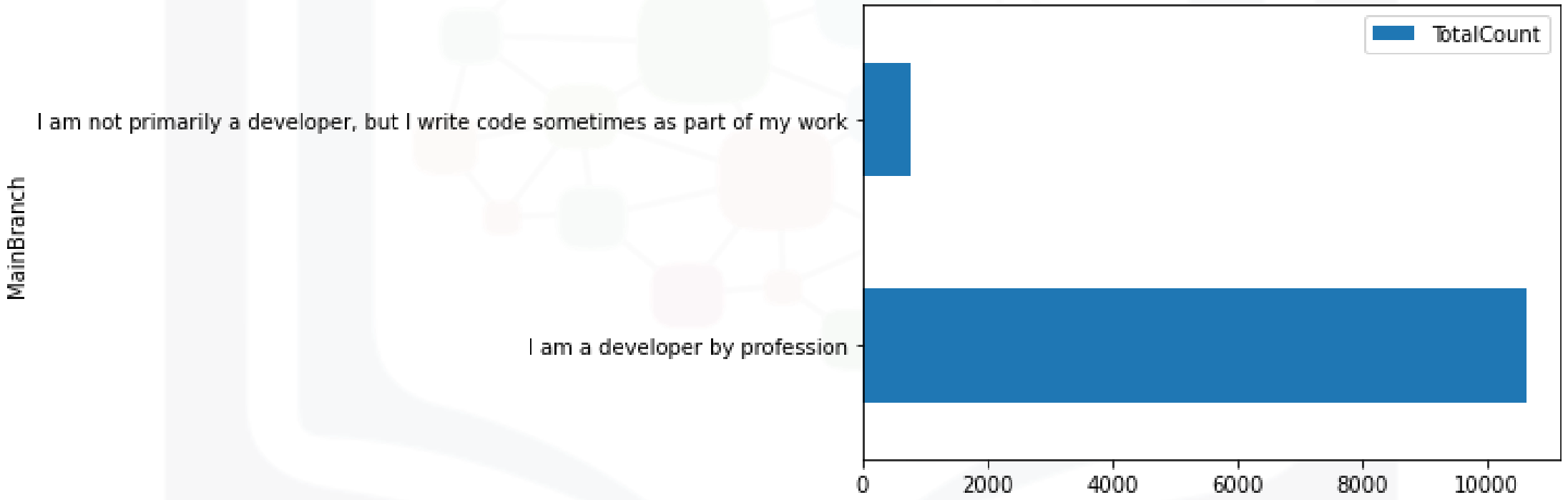
- To stay relevant, one should be updated to new trends and continuously learning.
- The United States is still the center of technology worldwide, but Canada, India, and some European countries are improving and probably will develop more in few years.
- More opportunities should be offered to skilled women to reduce the gender gap in case discrimination is the sole reason for causation.

CONCLUSION

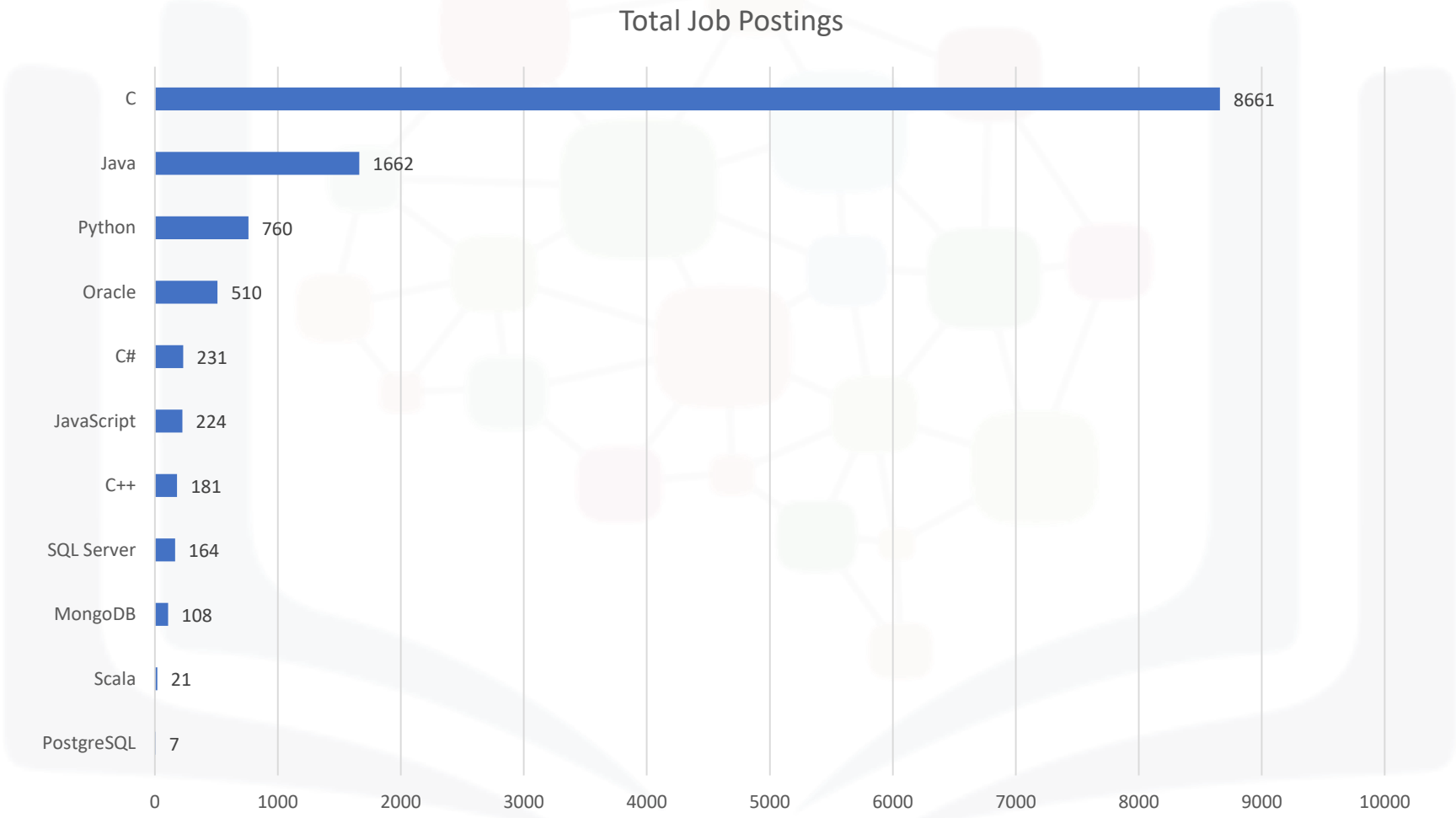
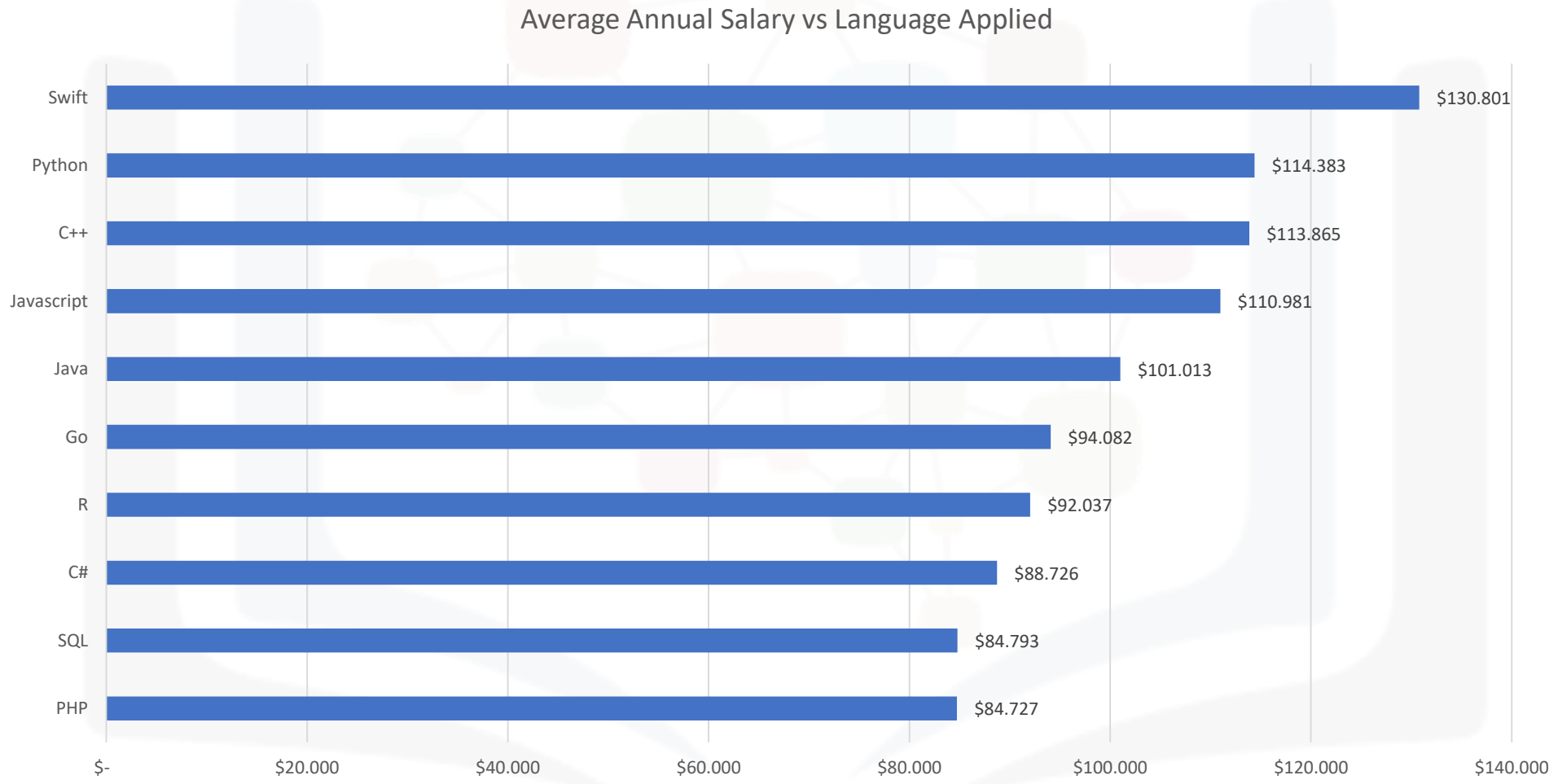
- Different programming languages, can imply a different range of salaries.
- The majority of people that did respond to the survey are men, meaning probably does exist a gap between the entry of women and men in the field of technology.
- Technologies do change constantly, meaning that skills always need to be updated to be a relevant employee.
- Programming languages such as JavaScript, HTML/CSS, SQL and Python probably will stay relevant for the next years.

APPENDIX

Total Number of Respondents as Developers



JOB POSTINGS



POPULAR LANGUAGES