Trends in IT Jobs

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OUTLINE

- Executive Summary
- Introduction
- Methodology
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  - Dashboard
- Discussion
  - Findings & Implications
- Conclusion
- Appendix

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EXECUTIVE SUMMARY

▶ Trend in programming languages

▶ Trend in database

▶ More popular development platforms

▶ Demographics data of the respondents

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INTRODUCTION

- What are the more popular programming languages used to wok with, what are the trends to the next year and what this means?

- Are SQL more popular than No-SQL technologies?

- What are the more popular development platforms?

- What are the impact of the women in the field?

- Does this data represent a global trend?

METHODOLOGY

▶ The data was collected from:

  ▶ The 2019 Stack Overflow Developer Survey Results Are In https://stackoverflow.blog/2019/04/09/the-2019-stack-overflow-developer-survey-results-are-in/

  ▶ Jobs On Naukri.com https://www.kaggle.com/datasets/promptcloud/jobs-on-naukricom

▶ The data was preprocessed using **Python** language and the following libraries:

  ▶ **Pandas** for handling dataframes

  ▶ **Requests** to communicate with the API

  ▶ **BeatifulSoup** for perform web scrapping in html files.

▶ The data from Slack Overflow Survey is used to analyze the demographics, platforms, programming languages and databases trends. The data from Nukuru-Kaggle is used to explore trends in salary and analyze jobs postings.

▶ The analysis is performed primary using data visualizations and first order descriptive statistics.

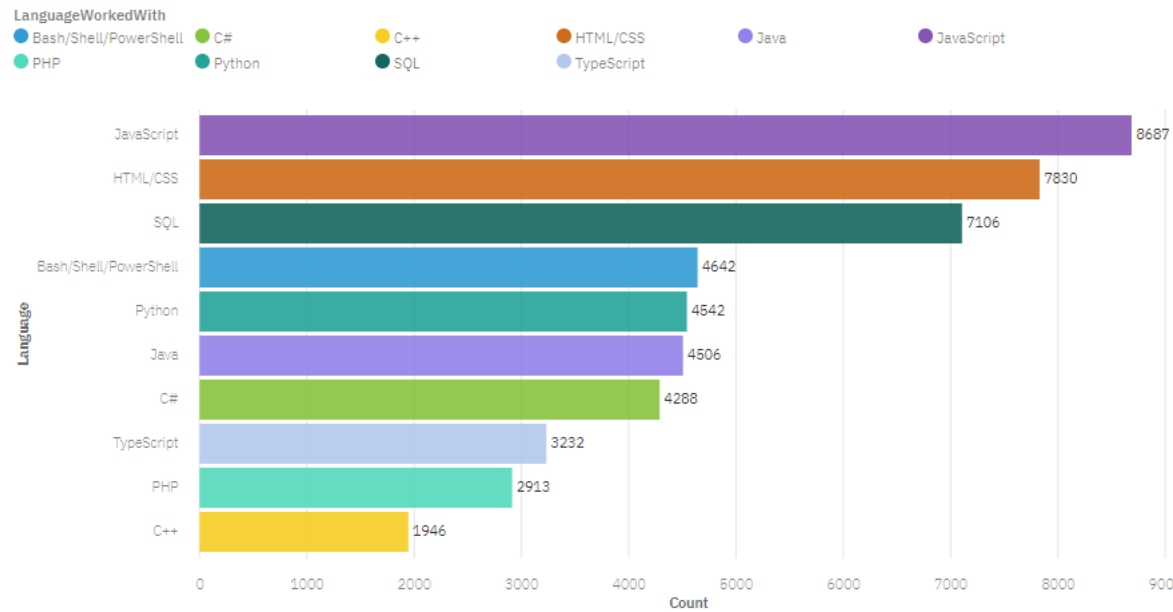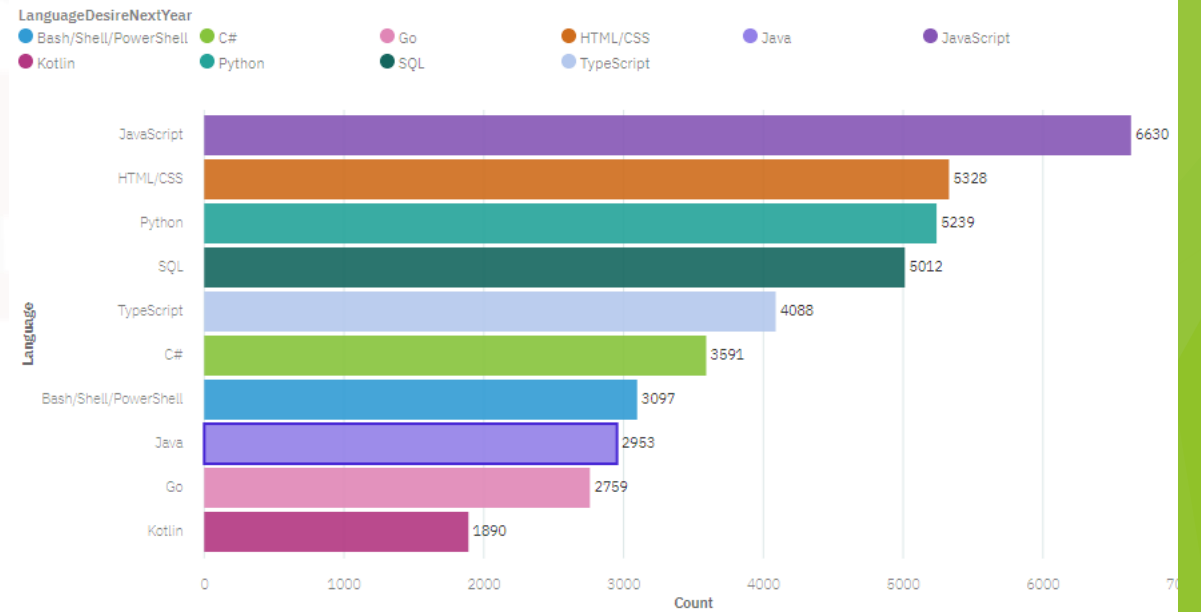▶ The term "current year" or similar refers to 2019 and "next year" to 2020.

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RESULTS

PROGRAMMING LANGUAGE TRENDS

Current Year

Next Year

Top 10 programming languages use to work with

LanguageWorkedWith
- Bash/Shell/PowerShell
- C#
- C++
- HTML/CSS
- Java
- JavaScript
- PHP
- Python
- SQL
- TypeScript

Language	Count
JavaScript	8687
HTML/CSS	7830
SQL	7106
Bash/Shell/PowerShell	4642
Python	4542
Java	4506
C#	4288
TypeScript	3232
PHP	2913
C++	1946

Top 10 programming languages desired to learn next year

LanguageDesireNextYear
- Bash/Shell/PowerShell
- C#
- Go
- HTML/CSS
- Java
- JavaScript
- Kotlin
- Python
- SQL
- TypeScript

Language	Count
JavaScript	6630
HTML/CSS	5328
Python	5239
SQL	5012
TypeScript	4088
C#	3591
Bash/Shell/PowerShell	3097
Java	2953
Go	2759
Kotlin	1890

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PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- The three more used languages to work with are JavaScript, HTML/CSS and SQL

- The three more desired languages to learn next year are JavaScript, HTML/CSS and Python

- C++ and PHP are in the top ten languages used to work with but they are not present in desired languages to learn the next year. In Other hand, the Go and Kotlin are in top ten languages desired to learn the next year by respondents.
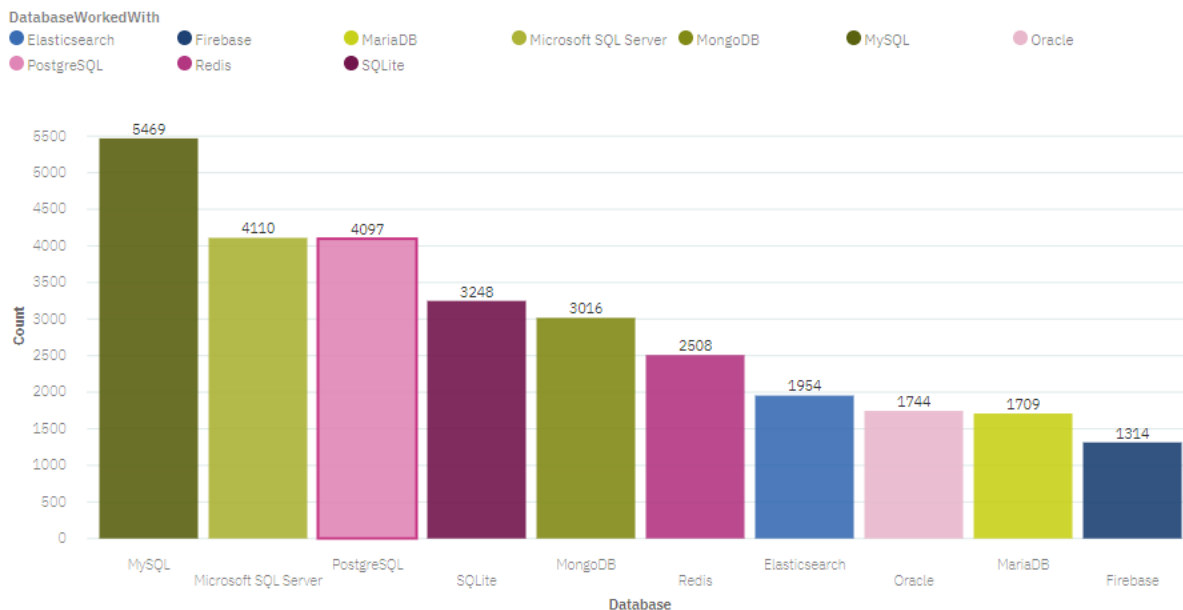
Implications

- The three more used languages to work with are regarding web development, JavaScript and HTML/CSS are more used in Front-End development meanwhile SQL is used in RDBMS (Back-end).

- Respondents want to learn the two more languages used to Front-end development (JavaScript and HTML/CSS), also they want to learn Python, the more popular language used in Data Science and AI.

- The majority of respondents use and desire to learn high level languages.

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DATABASE TRENDS

DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- The majority of databases used to work with are for RDBMS.

- The majority of databases desired to learn are for RDBMS.

- The majority of databases are open source projects.

Implications

- The majority of databases currently used to work with are for handling tabular data, being diverse dialects of SQL indeed. This suggest the importance of know SQL.

- The previous implication explains the desire of respondents to learn new SQL dialects. Although there are two No.SQL databases in the top three desired to learn by respondents.

- The respondents currently work and desire to learn Open Source projects, this suggests that the maintenance, continuous development and improvement of these projects will be continue to grow.

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DASHBOARD

https://dataplatform.cloud.ibm.com/dashboards/587af154-2cbb-4589-bb44-2cf5fce84bd9/view/5834c50761e80f9152c3e2e4079979557e36705ce1bbd65686857b490a607997f33d14c3c82f435ed9130063a6bf1b0cce

Current Technology Usage
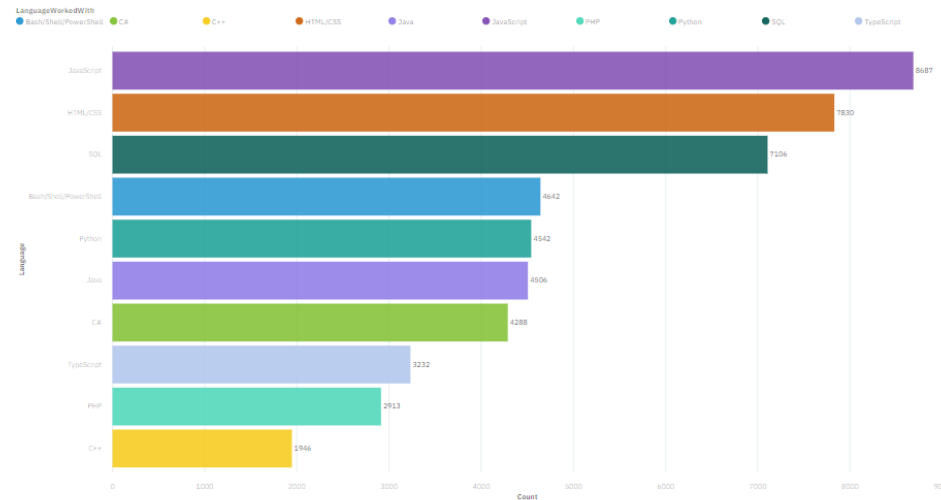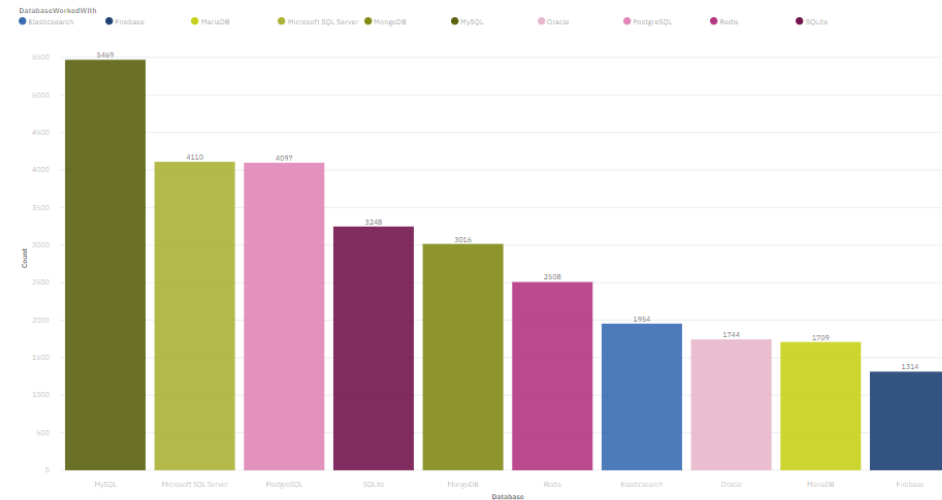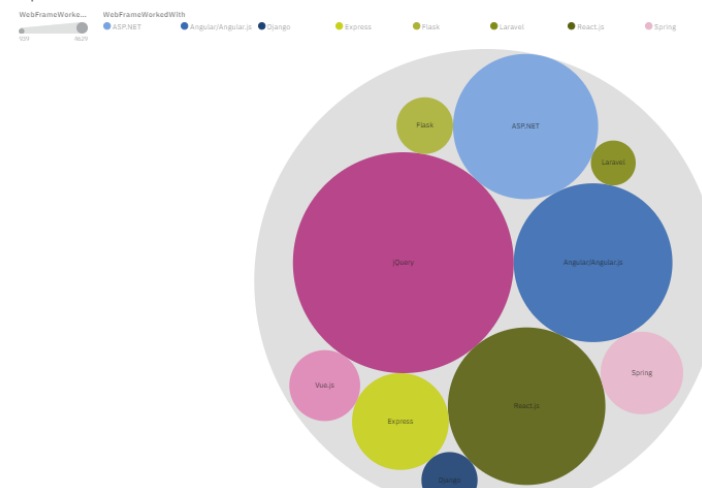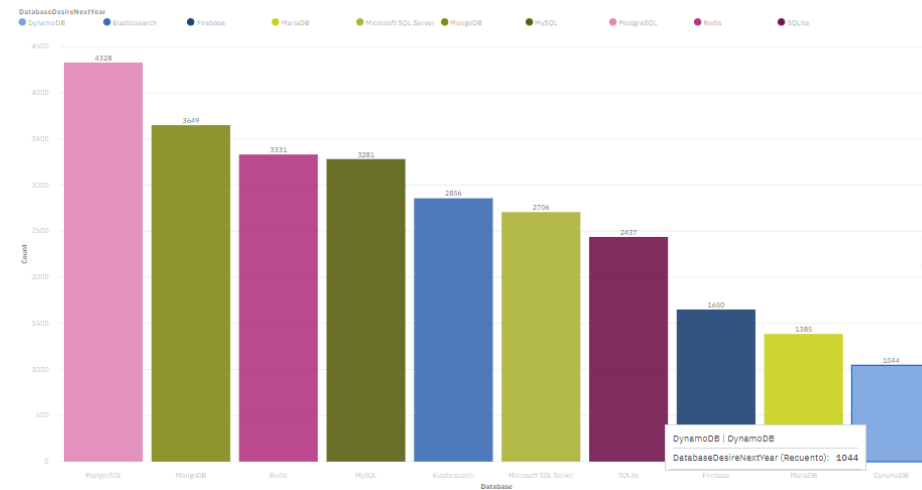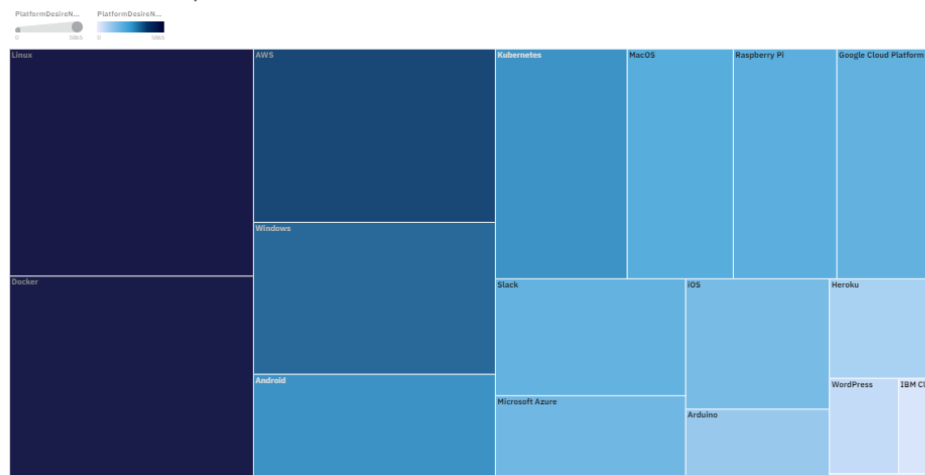
Future Technology Trend

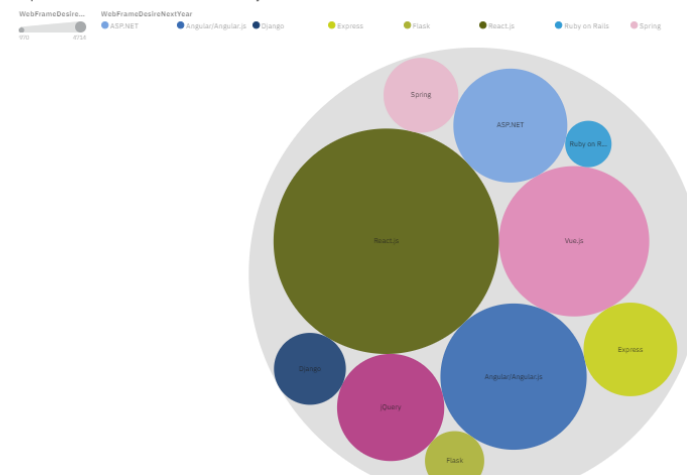Top 10 programming languages desired to learn next year
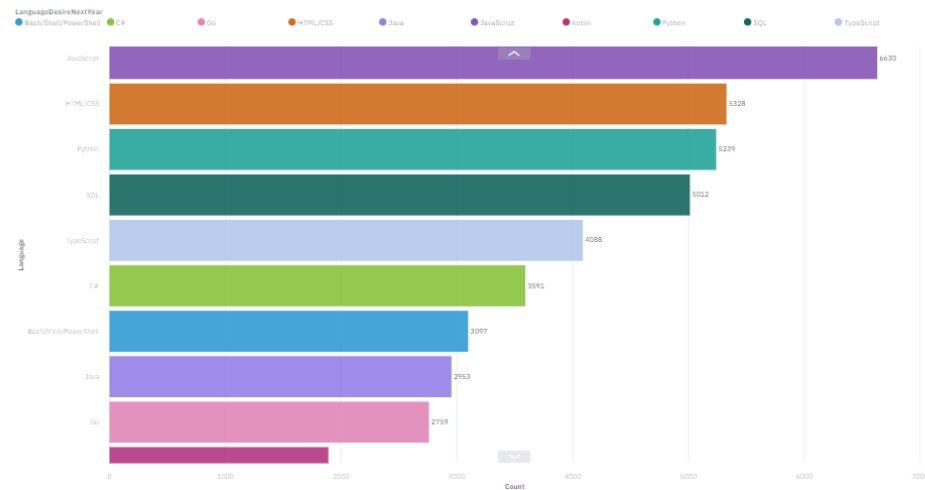
Top 10 databases desired to learn next year

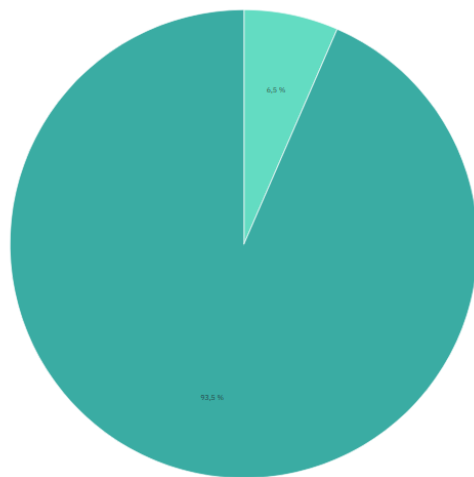Platforms desired to learn next year

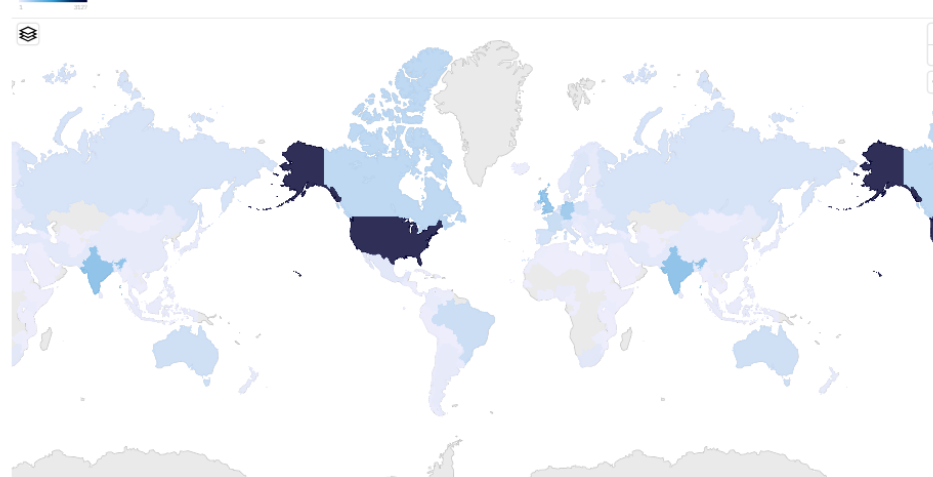Top 10 Web Frames desired to learn next year

Demographics

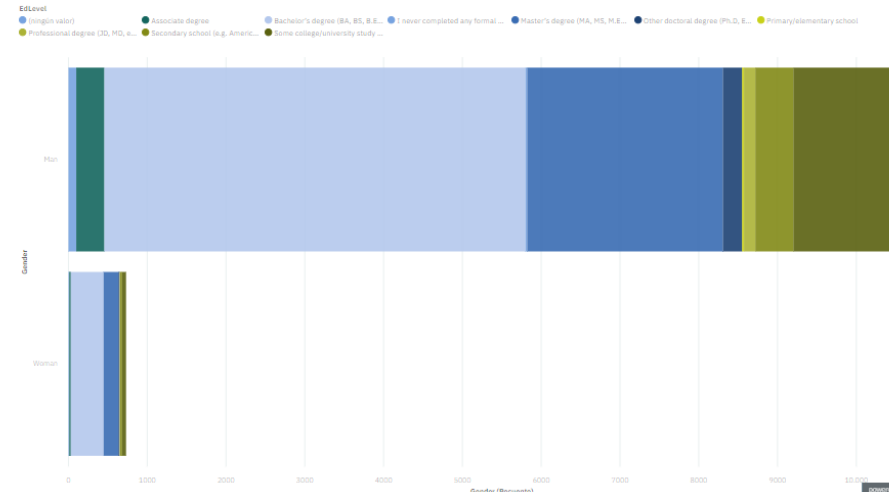# DISCUSSION

OVERALL FINDINGS & IMPLICATIONS

Findings

Implications

- The Three more programming languages used to work with are JavaScript, HTML/CSS and SQL, with Python in the top three desired languages to learn next year.

- The majority of databases used and desired to learn are SQL dialects.

- The Linux, AWS, Windows, Docker and Kubernetes are the more important platforms to work with in the current year and the next year.

- The more popular web frames are regarding JavaScript.

- The vast majority of respondents are men, between 20s and 30s years old, and they don't have formal education or degree.

- The majority of respondents are located in United States of America

- The majority of respondents use programming languages related to Front-end development with interest to learn the most popular language used ot Data Science and AI.

- The databases used and probably used the next year too are some SQL dialect to RDBMS.

- The female gender inclusion in the IT field remains as an issue to fix in the future.

- This results are biased because the respondents are located in United States of America, that's why the global trend may be different.
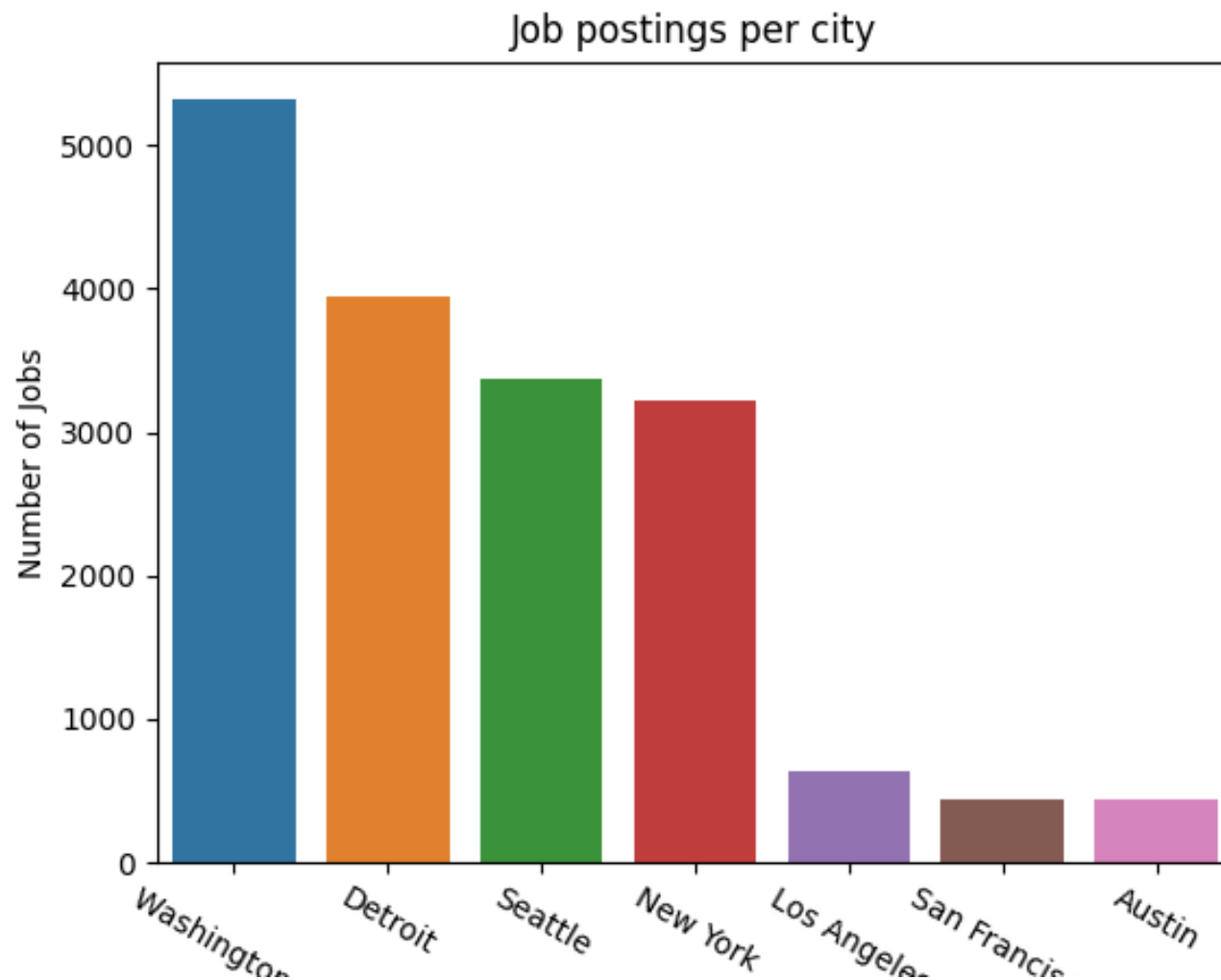
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CONCLUSION

- ▶ Front-end web development technologies are and remain very popular in near future.

- ▶ Python gains interest in the developers community

- ▶ SQL is the most popular language for Databases with Open Source projects being the favorite options by respondents.

- ▶ The majority of community are young men without formal education or degree.

- ▶ There is a big challenge in IT community to improve the female gender inclusion in the field.

- ▶ The data used in this presentation are biased because the majority of respondents are from United States of America. Maybe this suggests that the software development community are concentrated in this country, but more sources of data is needed in order to conclude this.

APPENDIX

▶ According to the charts showed in the next slides, the better salary is for people to know swift in order to develop on iOS, this is striking because the previous source of data (Stack Overflow survey 2019) doesn't suggest relevant interest by the community. Python appears In the second place.

▶ It'ś very significant to see that the city with more job postings are Washington D.C. and not other located in Silicon Valley or another technology or financial hub in the United States of America.

JOB POSTINGS

Job postings per city

POPULAR LANGUAGES

Average Annual Salary per Prgramming Language