



IBM Data Analyst Capstone: A Look Into Technological Skills

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OUTLINE



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EXECUTIVE SUMMARY



- In order to keep pace with changing technologies and remain competitive, data is regularly analyzed to help identify future skill requirements.
- Data was collected through surveys, job postings & training portals, and then was analyzed and visualized through dashboards.
- Findings have shown multiple trends, including the outstanding popularity of Javascript, SQL dialects in general and that young males are the predominant demographic in the tech field

INTRODUCTION



- This project investigates the technologies and skills in the tech field, and answer the following questions:
 - What are the top programming languages in demand?
 - What are the top database skills in demand?
 - What are the popular IDEs?
- This research is targeted towards people working in or interested in the tech field

METHODOLOGY

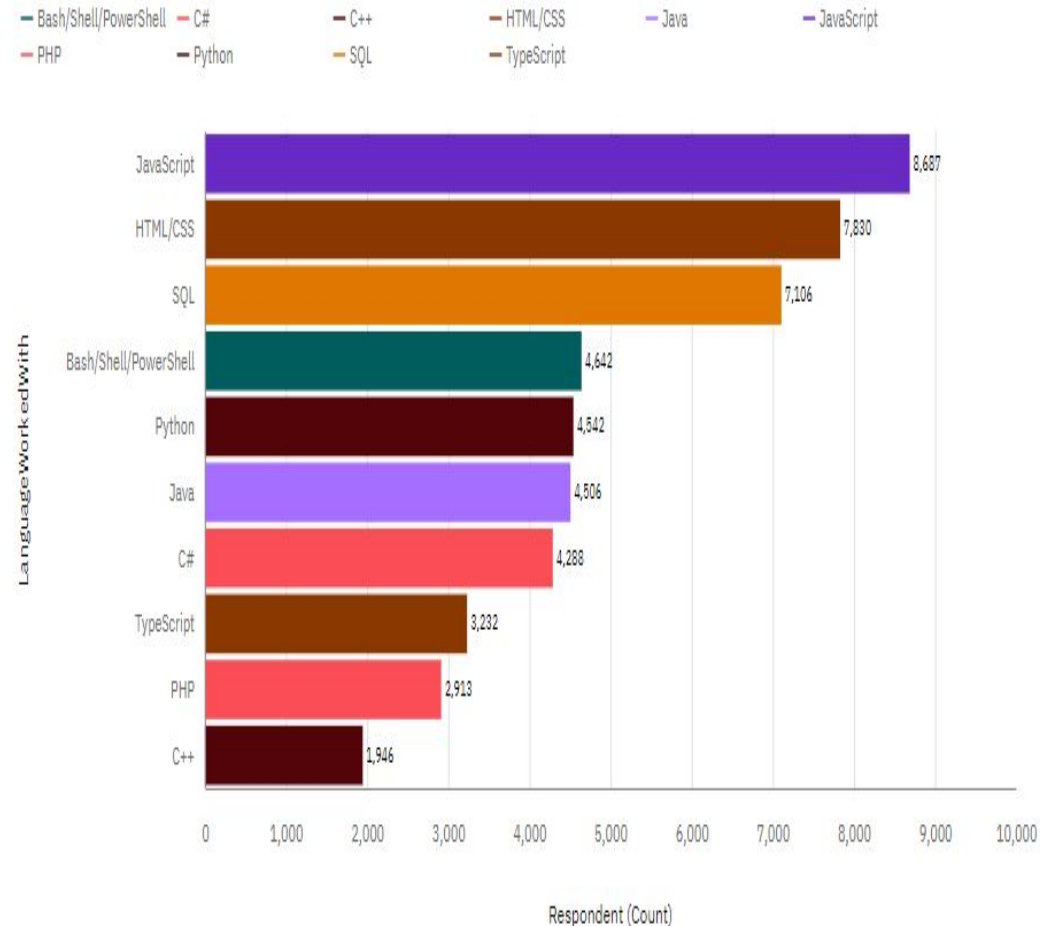


- Data Collecting was done from multiple sources namely: Surveys, Job Postings & Training Portals
- Data was imported by:
 - API's
 - Web Scraping
- The main programming languages used: Python and SQL through sqlite3
- Data cleaning and wrangling was done through python libraries
- EDA (Exploratory Data Analysis) was also carried out.
- Visualizations were created using Python, and the final dashboards were created through IBM Cognos

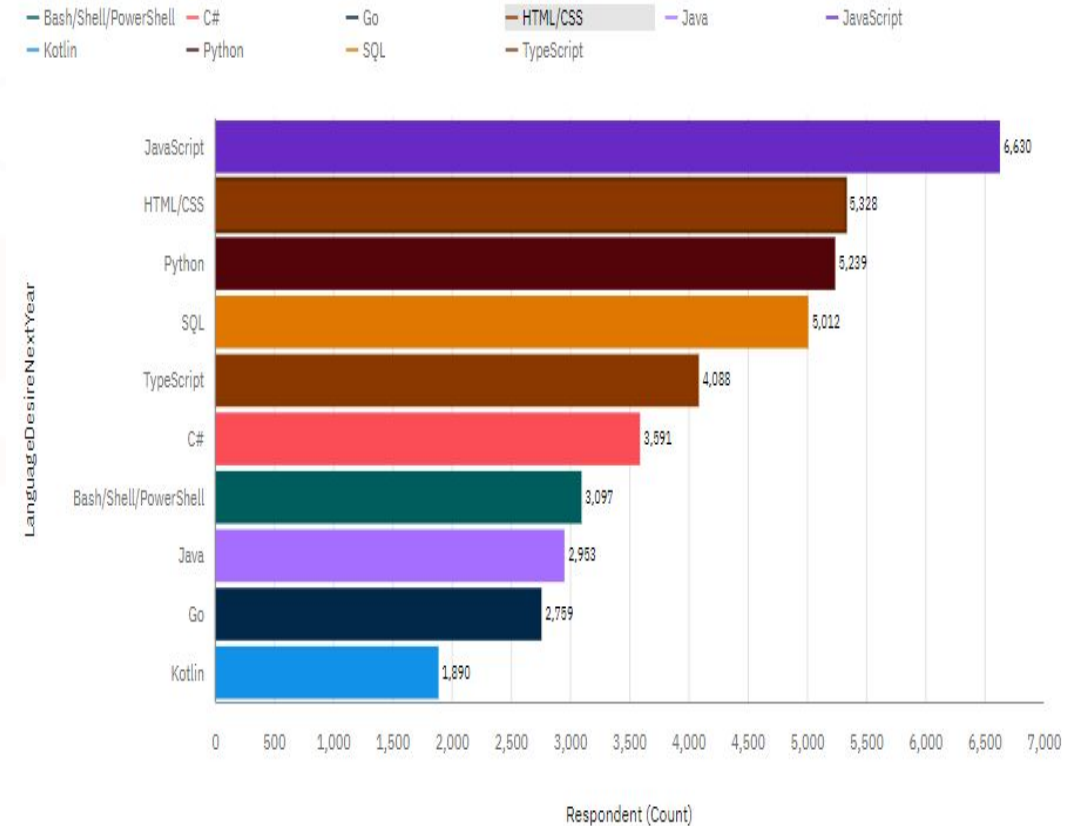
RESULTS

PROGRAMMING LANGUAGE TRENDS

Top 10 Languages Worked With



Top 10 Languages Desired



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

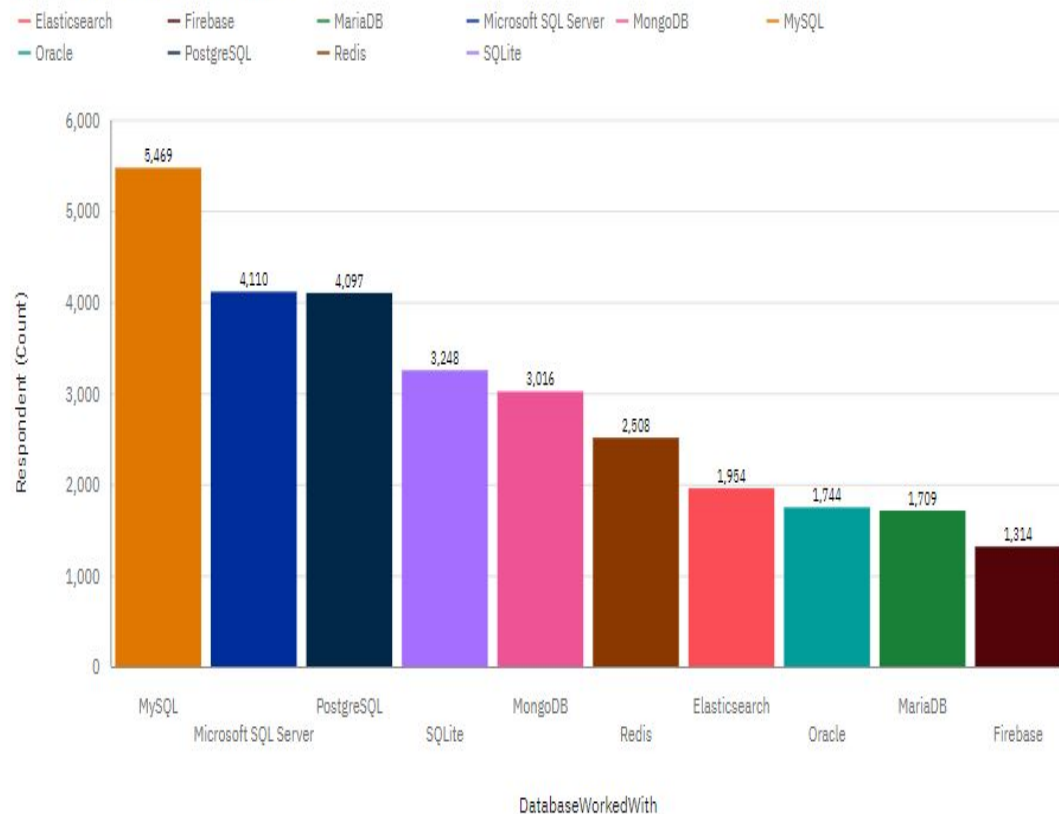
- Javascript & HTML/CSS are and will remain popular
- Python & Typescript are expected to increase in popularity
- Languages like Go & Kotlin might witness a great rise too.

Implications

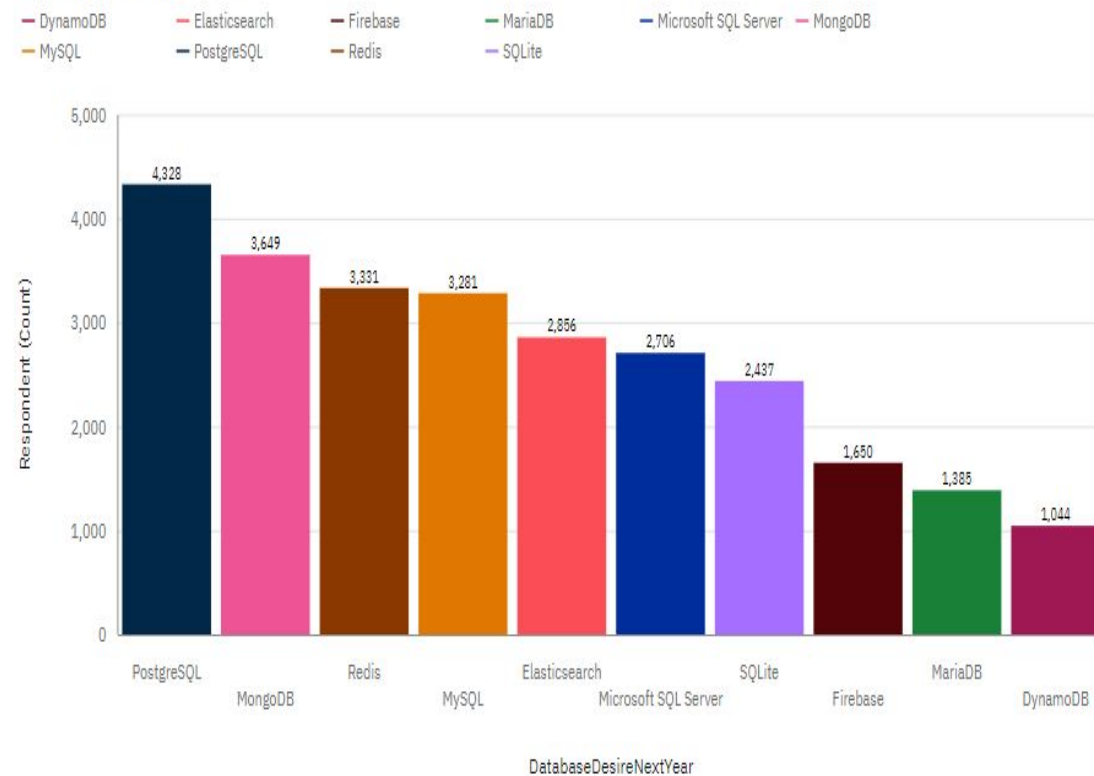
- The essentiality of python and typescript in the future job market.

DATABASE TRENDS

Top 10 Databases Worked With



Top 10 Databases Desired



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Current popularity of MySQL might be overtaken by PostGRE
- Redis is also experiencing a popularity rise as well as MongoDB
- Finding 3

Implications

- Microsoft SQL and mySQL will eventually lose demand in the market
- Whereas MongoDB and Redis will become cornerstones of the market

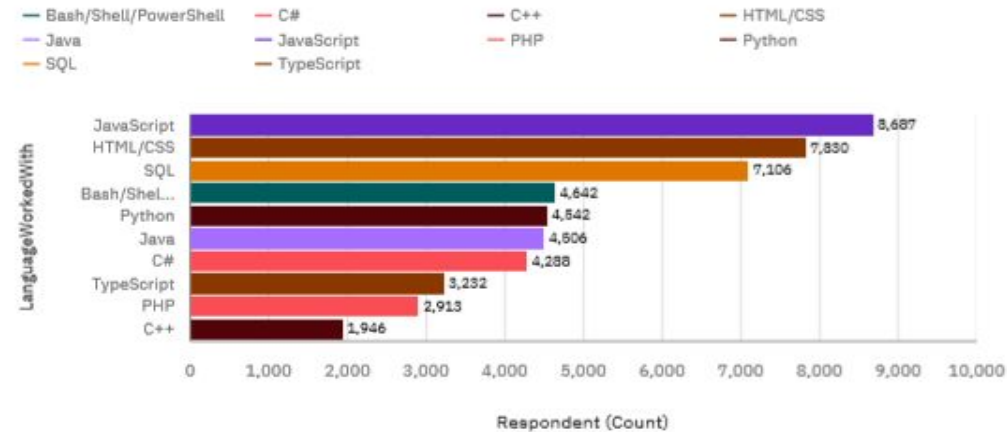
DASHBOARD



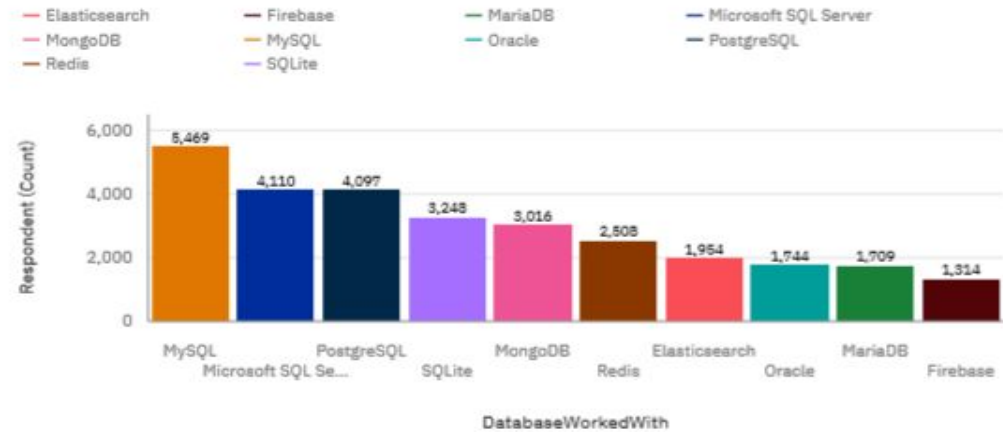
<https://github.com/tamirwaleed/IBM-Data-Analyst-Capstone/blob/main/7.%20Dashboards.pdf>

DASHBOARD TAB (Current)

Top 10 Languages Worked With



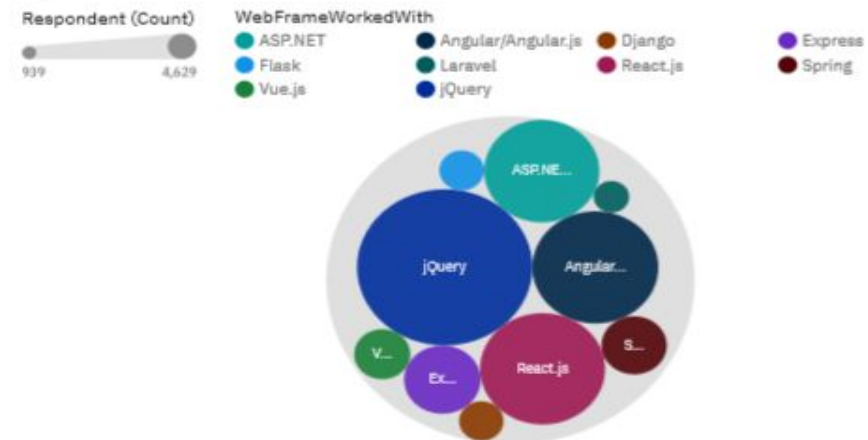
Top 10 Databases Worked With



Top Platforms Worked With

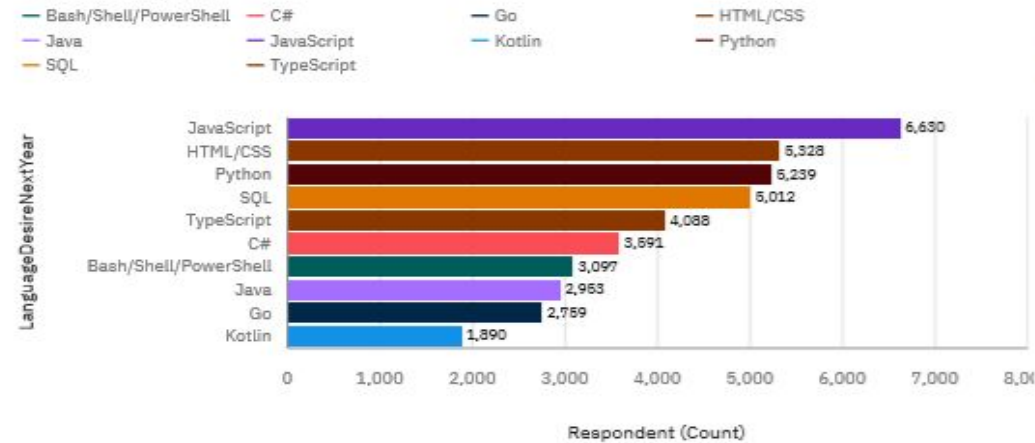


Top 10 Frameworks Worked With

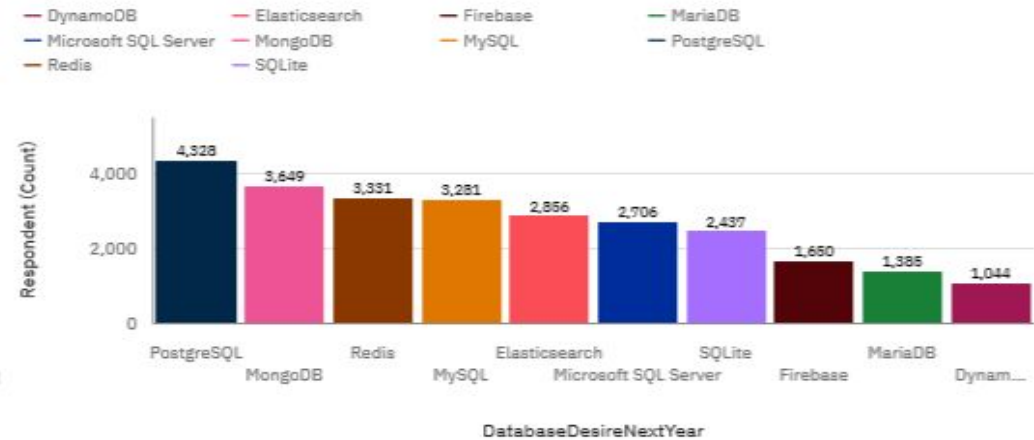


DASHBOARD TAB (Future)

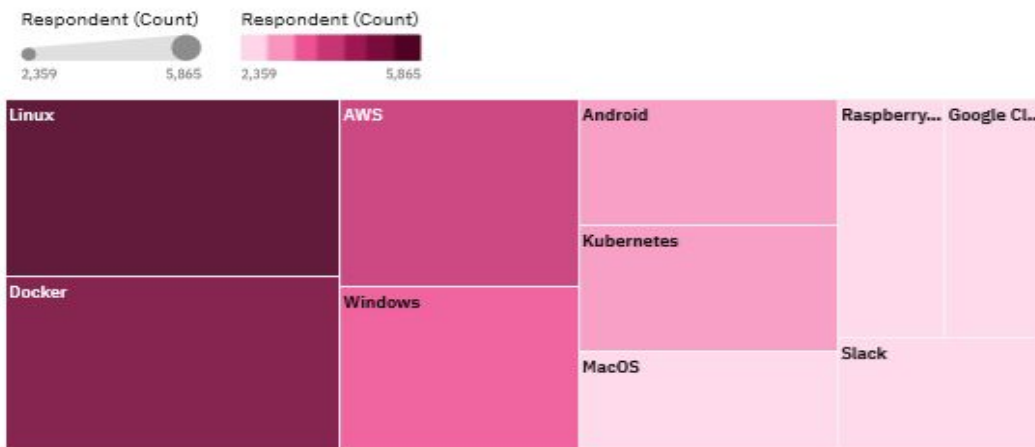
Top 10 Languages Desired



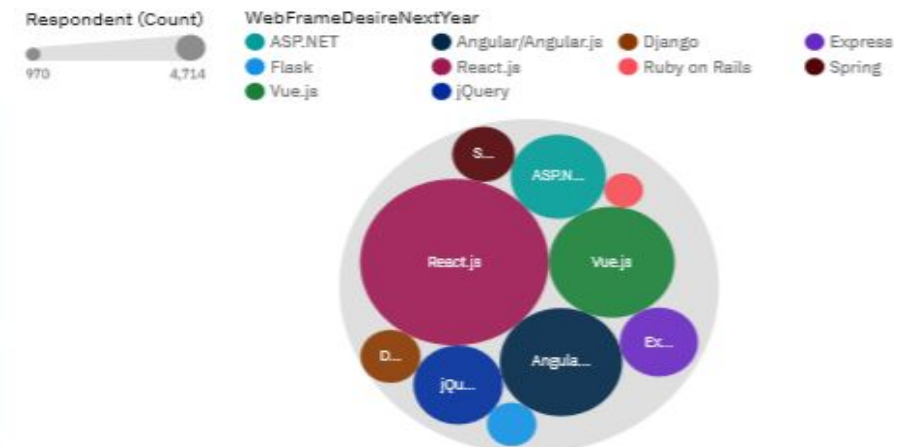
Top 10 Databases Desired



Top 10 Platforms Desired



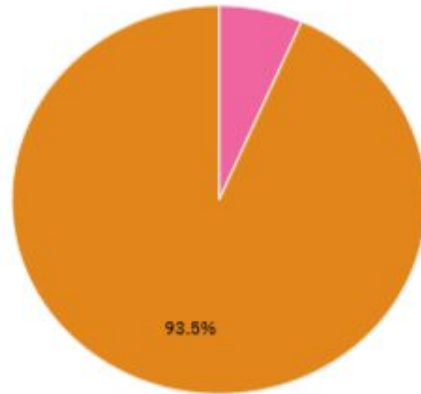
Top 10 Frameworks Desired



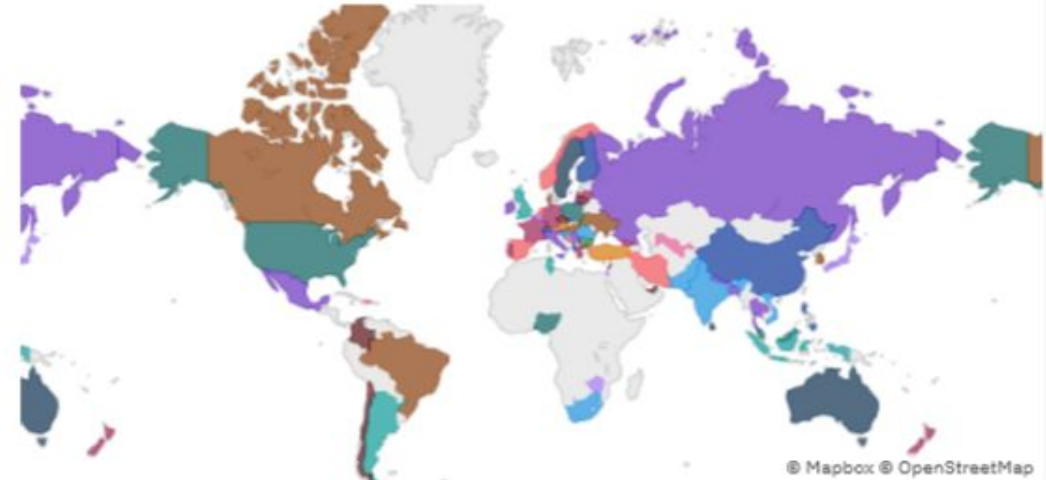
DASHBOARD TAB (Demographics)

Respondents by Gender

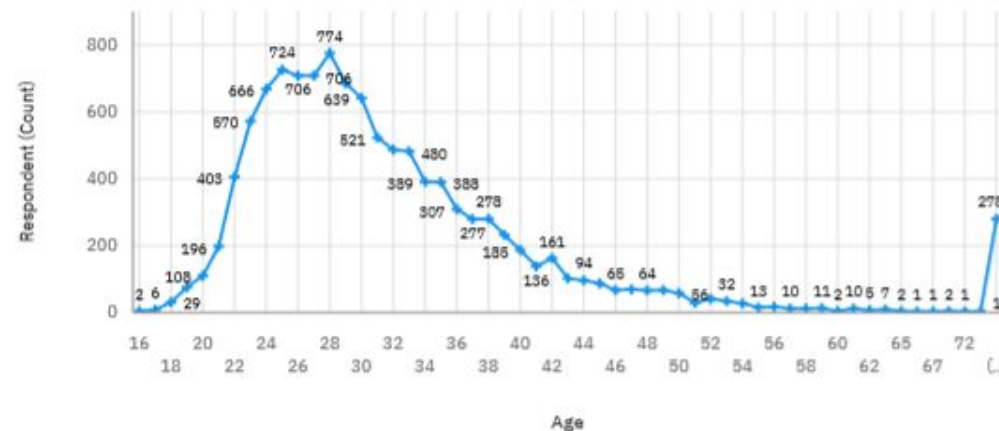
Woman Man



Respondents by Country

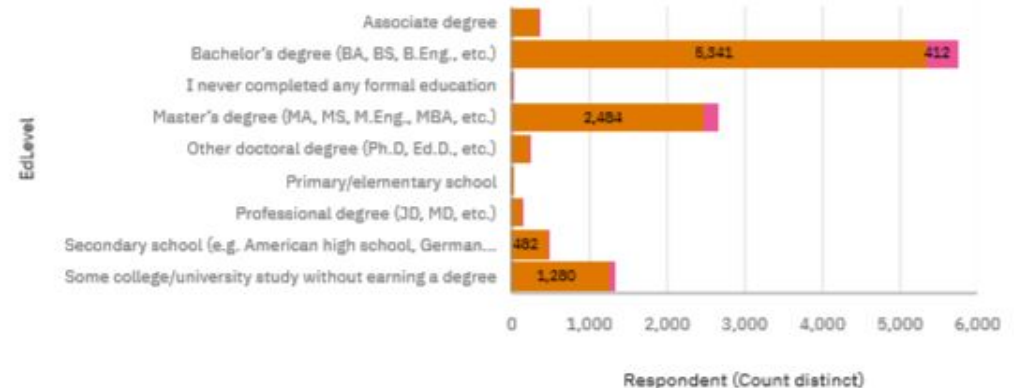


Respondents by Age

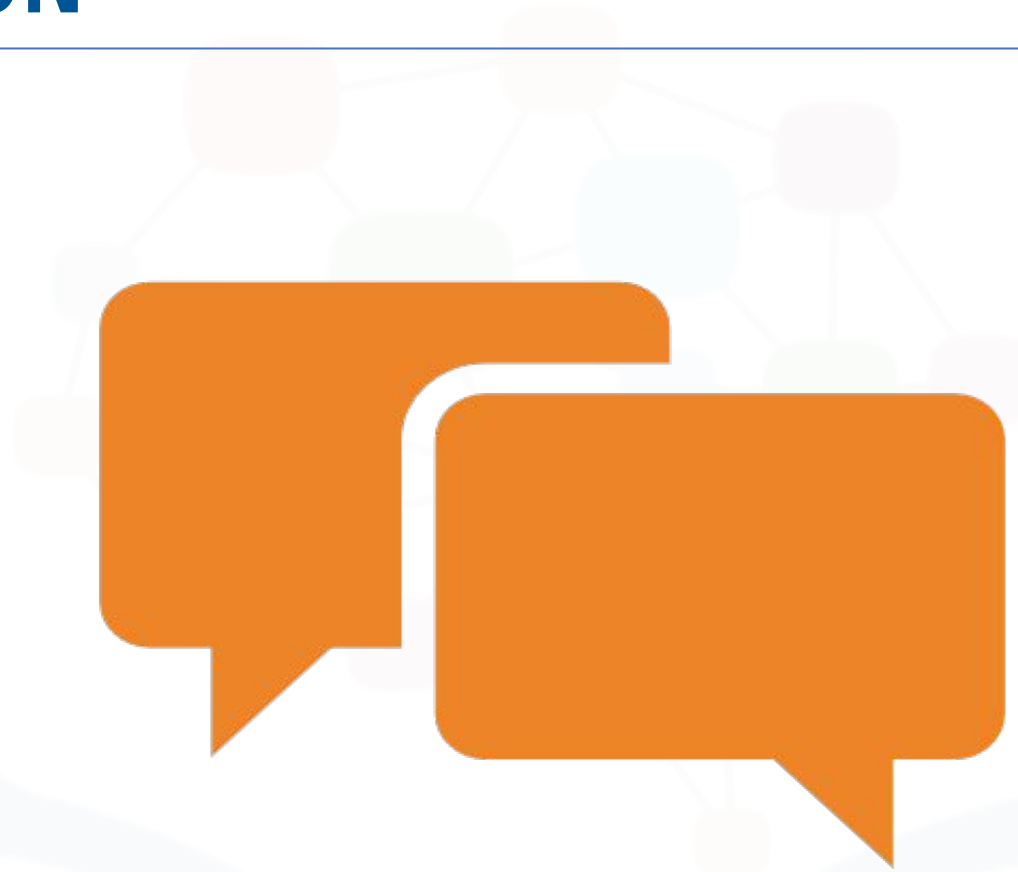


Respondents by Formal Education Level

Man Woman



DISCUSSION



OVERALL FINDINGS & IMPLICATIONS

Findings

- Javascript, HTML/CSS popularity
- Young male predominance of the field
- No post grads usually in the field
- Developed Countries are the main tech-hubs
- Popularity of SQL with its different dialects
- The fast-rise of Python, typescript, Redis and MongoDB

Implications

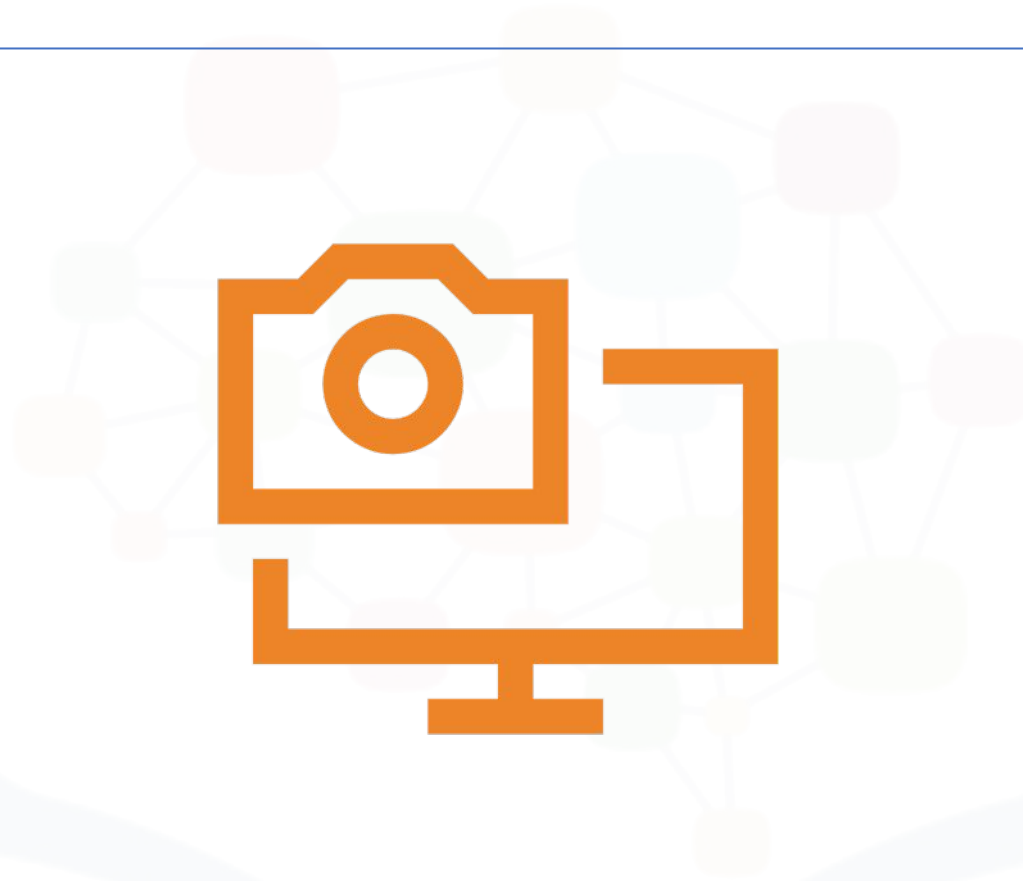
- Less developed countries need more outreach as to be involved in the field
- The Gender gap needs to be reduced

CONCLUSION

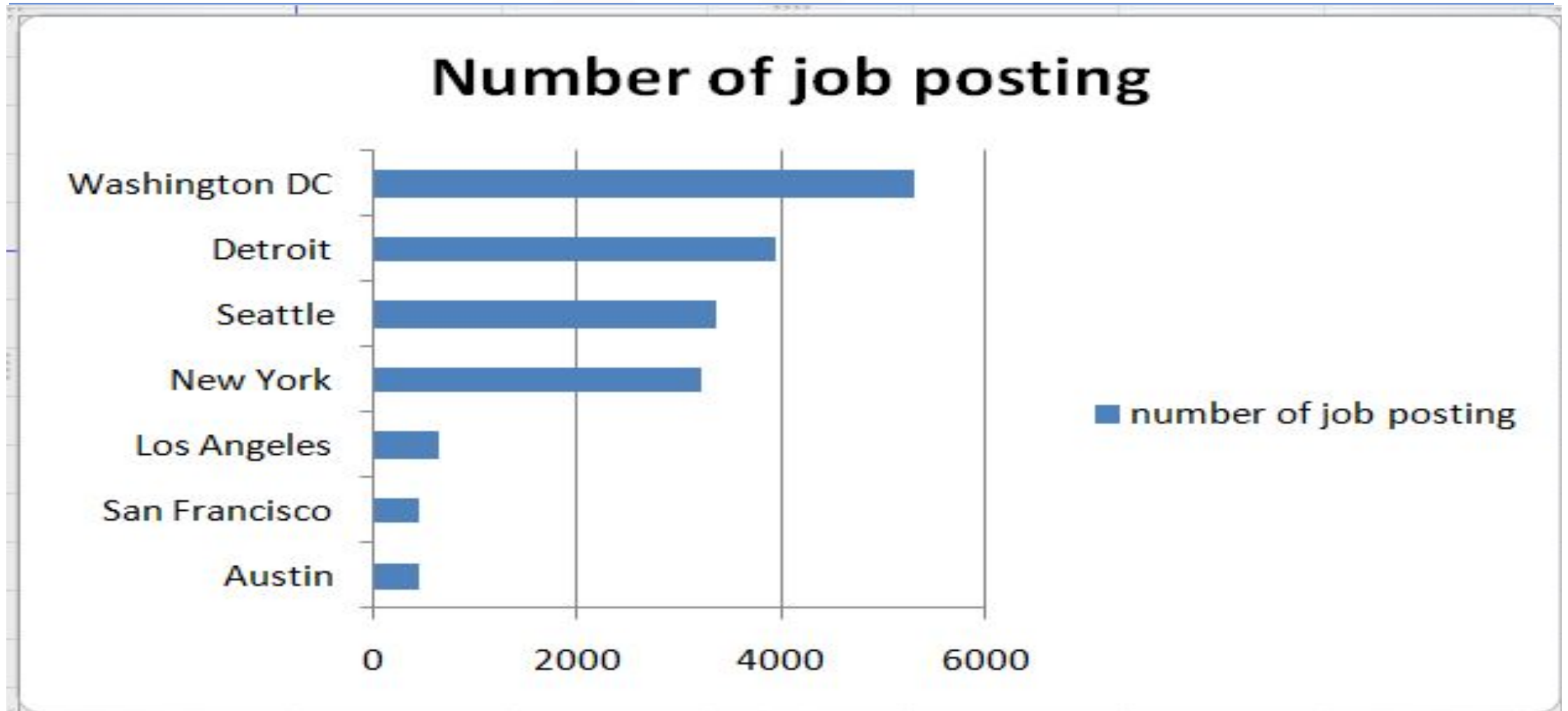


- Focus needs to be shifted towards the growing skills in order to be as up-to-date as possible
- Expanding into the female demographic and less developed countries to find the hidden talents.
- Providing post-grad scholarships will help to attract more developers.

APPENDIX



JOB POSTINGS



POPULAR LANGUAGES

