

The process of data analysis

IBM DATA ANALYST CAPSTONE PROJECT



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OUTLINE



Executive Summary

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EXECUTIVE SUMMARY



Technology is infused into every industry and its dependency will only grow. To keep pace with the changing technologies and skills needed we will analyse current trends compared with expected future trends in the field.

We will identify emerging trends in the IT industry, such as:

Programming languages

Databases

Web Frames

INTRODUCTION



- Which Technology is most in past and present ?
- Recent every year we have seen a change in the technological trends.
- It is important for both, future and current employees to know the tools that will be most needed.
- Based on the thousands of devolving programming technologies, and it can be hard to choose the best one for you.

METHODOLOGY



- **DATA COLLENTION – WEB SCRAPPING SOURCES**
 - Stack Overflow Developer 2019 Survey
 - GitHub job positions
 - Programming Languages Annual Salary
- **DATA WRANGLING (CLEANING) – JUPYTER NOTEBOOK**
- **DATA EXPLORATION – JUPYTER NOTEBOOK**
- **DATA VISUALIZATION – JUPYTER NOTEBOOK & COGNOS**
- **PRESENTATION – POWERPOINT**

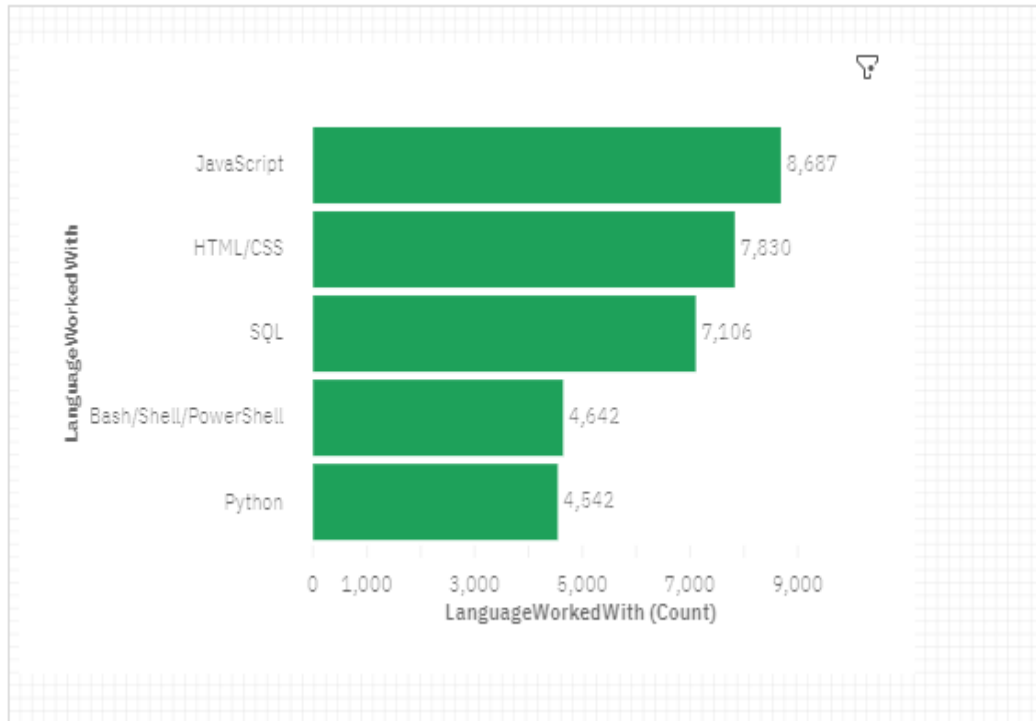
RESULTS

Results based on use and Trends

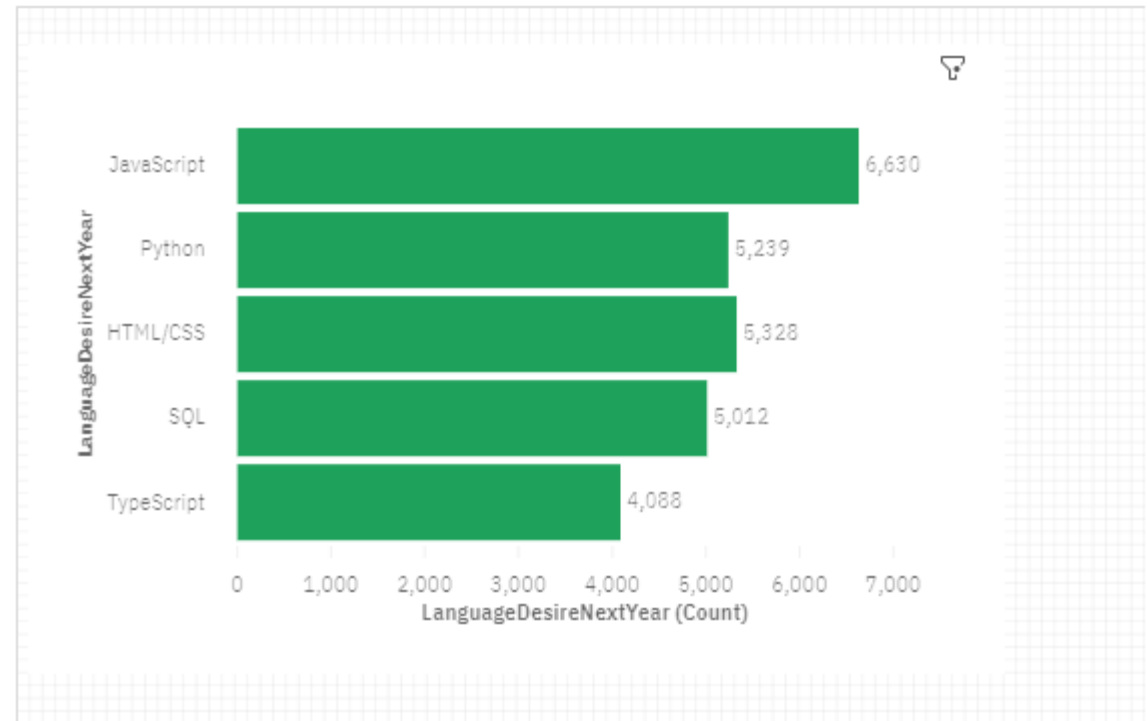
- Charts for programming languages most used and desired
- Bar chart for databases used and desired next year
- Dashboards for technology used and future trend
- Bar charts for GitHub jobs, based on popular language and salary

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

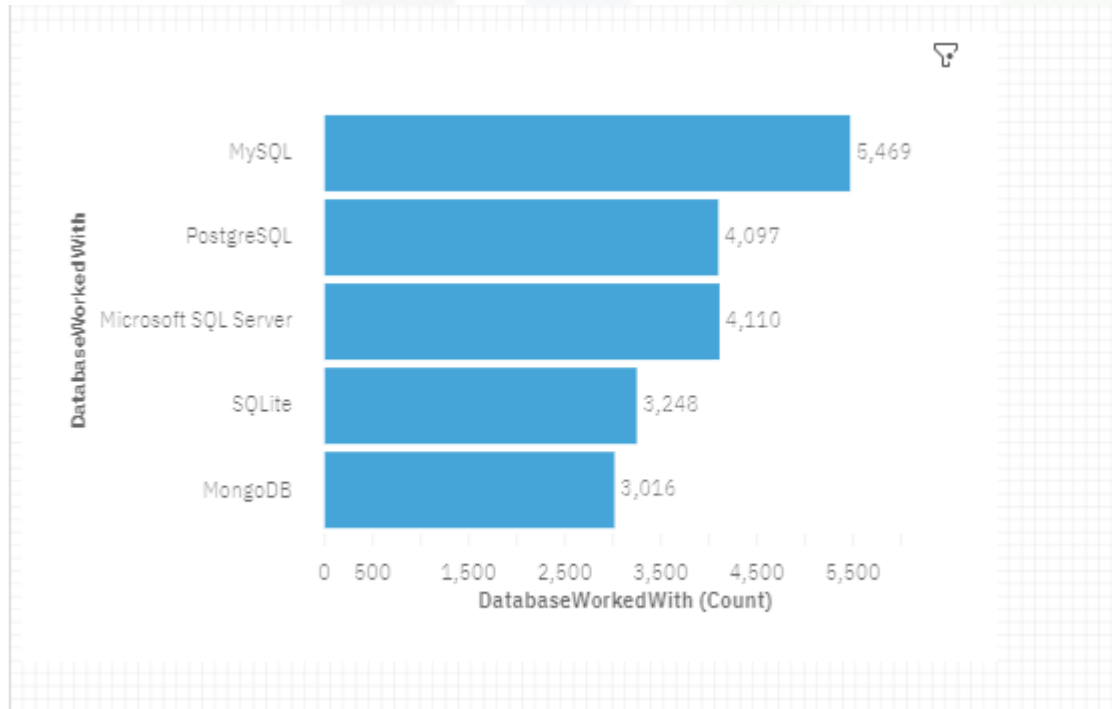
- JavaScript and HTML/CSS are the programming languages most in demand in the current year and next year
- Python and TypeScript are in increasing demand for next year

Implications

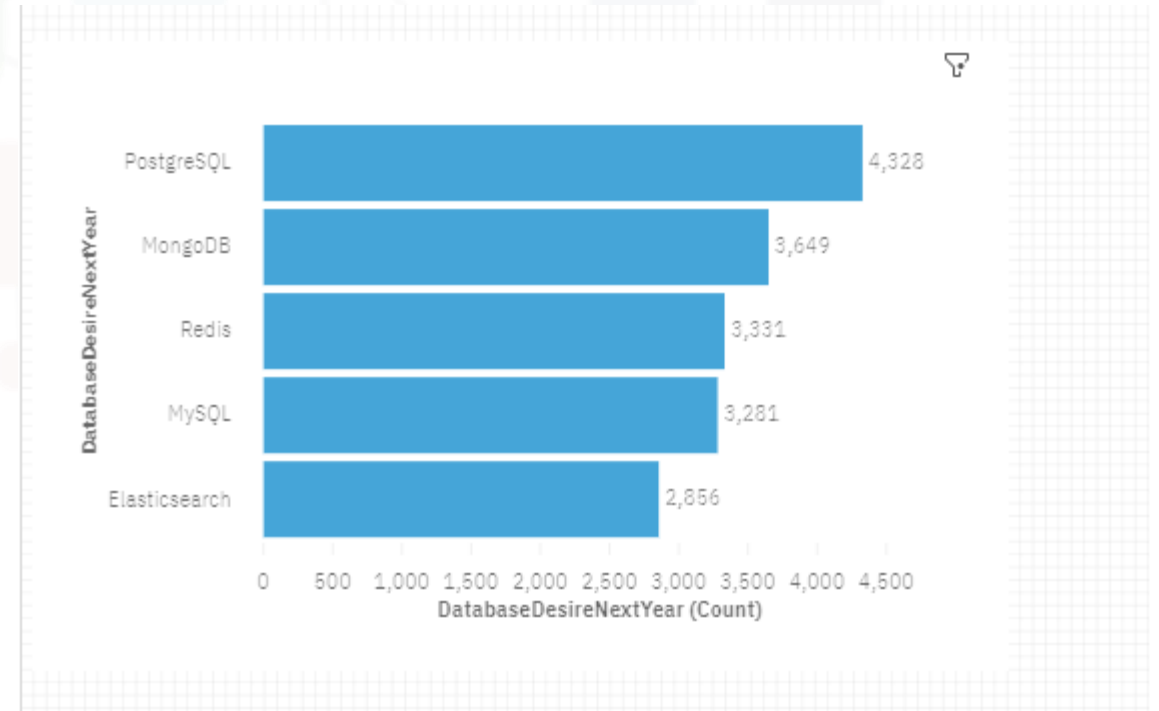
- JavaScript and HTML/CSS are a top priority
- Trends are leaning towards Python and TypeScript

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MY SQL drops from the most frequently used to the fourth most
- PostgreSQL and MongoDB are quickly increasing in the number of professionals that want to work with these databases

Implications

- Hiring and training in MYSQL will remain relevant because it's still one of the most well-known and used
- Training in PostgreSQL and MongoDB will increase because of where the databases are trending

DASHBOARD

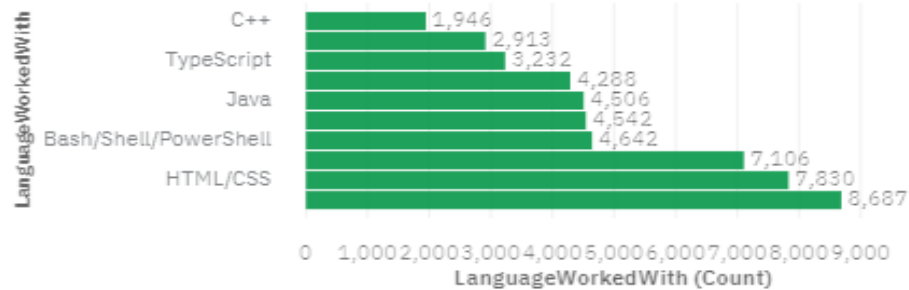


Here a link for a Dashboard

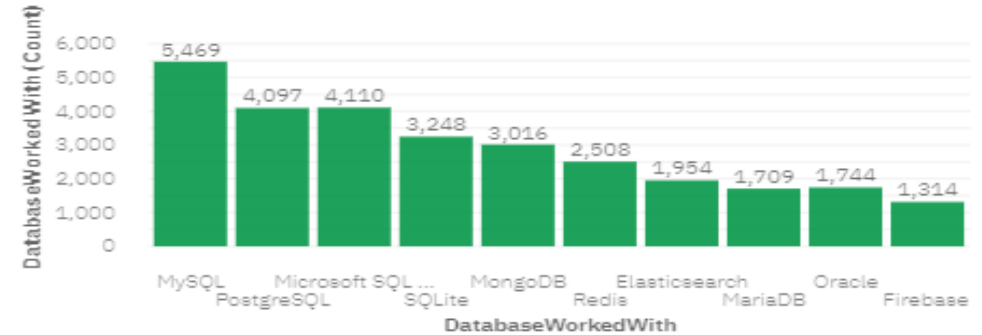
<https://eu-gb.dataplatform.cloud.ibm.com/dashboards/171d45b8-32c3-415d-9865-996e57d5be49/view/1d04e57f3daf6fee57c3e6e4079b7a05753f235de1bb8602808c7b495c317197a8614093c82a1a538e180236a1ed100d9c>

CURRENT TECHNOLOGY USAGE

Top 10 Language Worked With



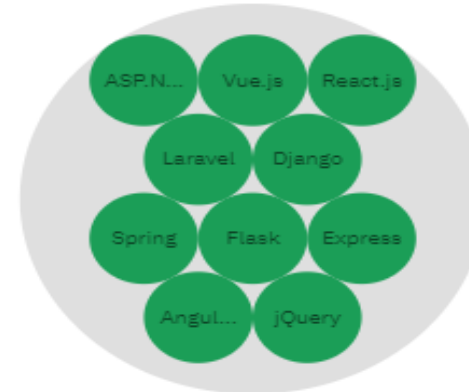
Top 10 Databases



Platform Worked With

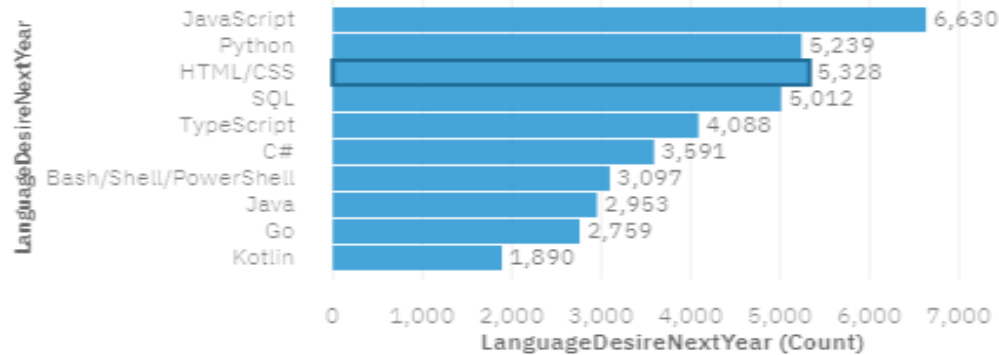
Raspberry Pi
AWS
MacOS
Kubernetes
Linux
Google Cloud Platform
Docker
Windows
Android
Slack

Top 10 Web Frame Worked With

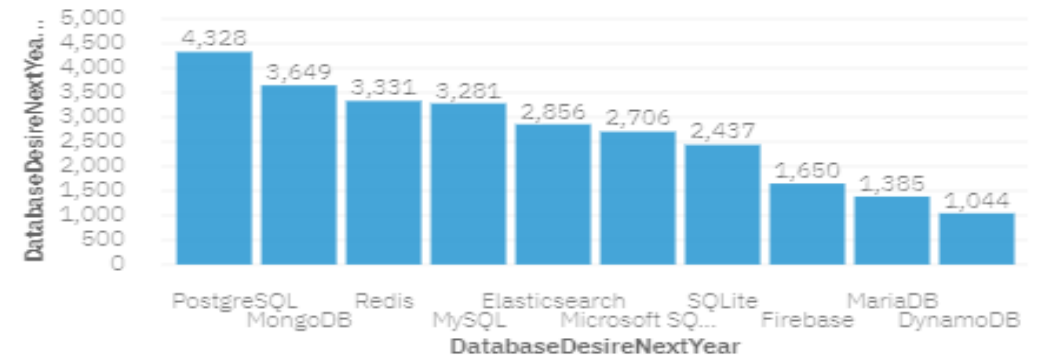


FUTURE TECHNOLOGY TREND

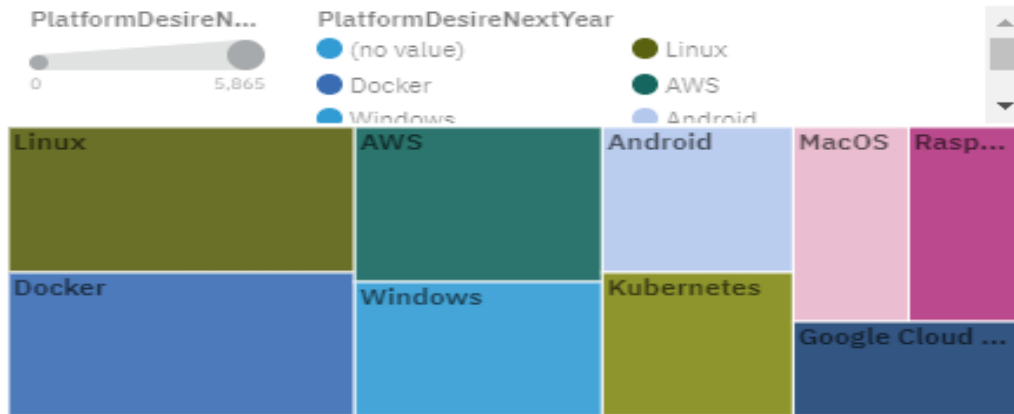
Top 10 Desire Lang



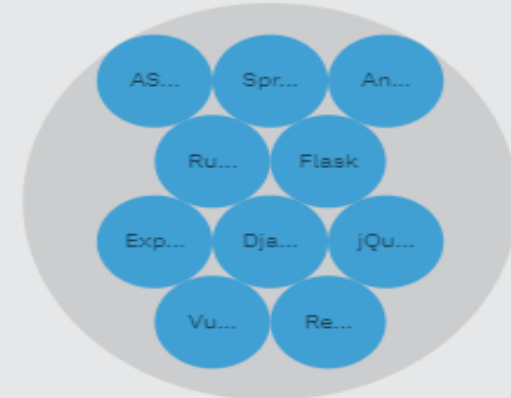
Top 10 Desire DB



Platform Desire Next Yr



WebFrame for next yr

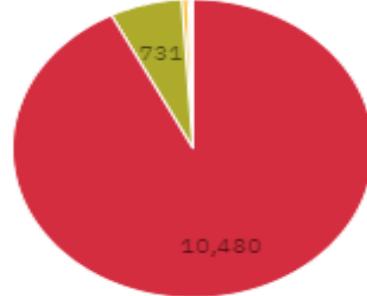


DEMOGRAPHICS

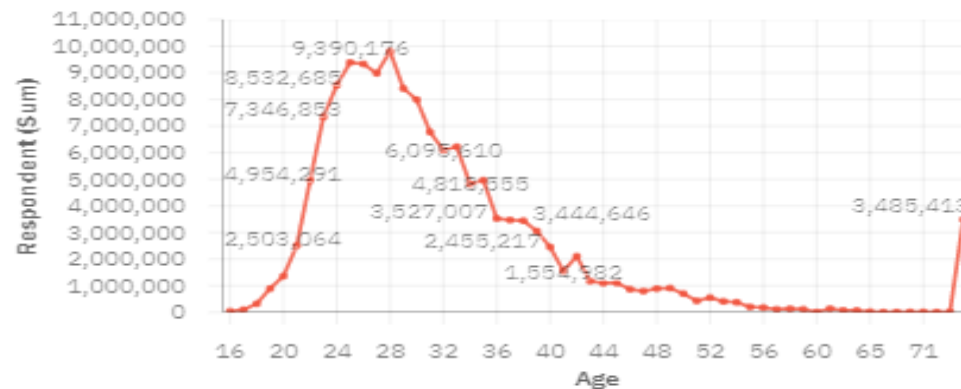
Respondent by Gender

Gender

- Man
- Non-binary, genderqueer, or g...
- Woman
- Man;Non-binary, genderqueer,...
- Woman;Non-binary, genderqueer,...
- Woman;Man

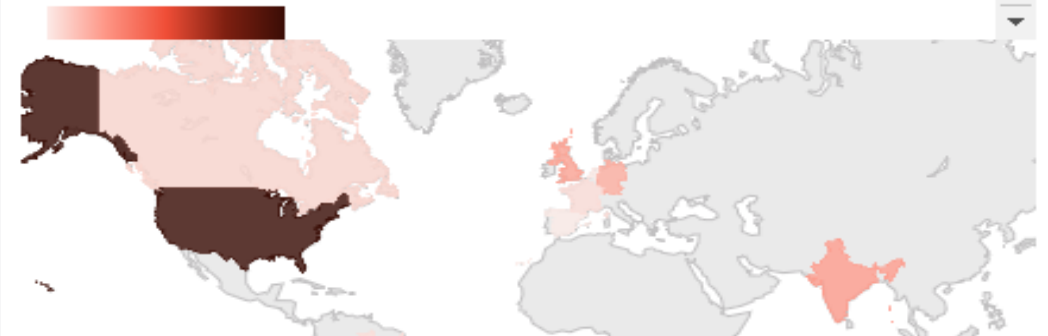


Respondent by age



Respondent by Countries

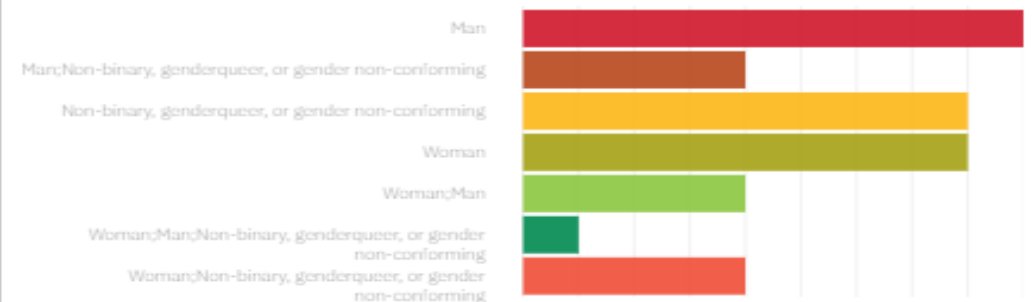
Respondent (Sum)



Gender/Education Level

Gender

- Man
- Non-binary, genderqueer, or g...
- Woman
- Man;Non-binary, genderqueer,...
- Woman;Non-binary, genderqueer,...
- Woman;Man



DISCUSSION



1. Current and expected software trends
2. The results can be used to prepare Current and future employers in JavaScript and Python which are the most used languages

OVERALL FINDINGS & IMPLICATIONS

Findings

- JavaScript and HTML/CSS remain the most relevant tools.
- PostgreSQL and MongoDB will become more Widley used.
- React and Angular are the most popular web frames

Implications

- Hiring and training employees will remain focused on Java and HTML/CSS
- To keep up with Market trends they should also be well versed in PostgreSQL and MongoDB as well as able to use the trending web frames React and Angular

CONCLUSION



THE ANALYSIS POINTS TO THESE SOFTWARE

Applications to be in the most demand

Programming Languages

JavaScript, HTML/CSS, Python

Databases

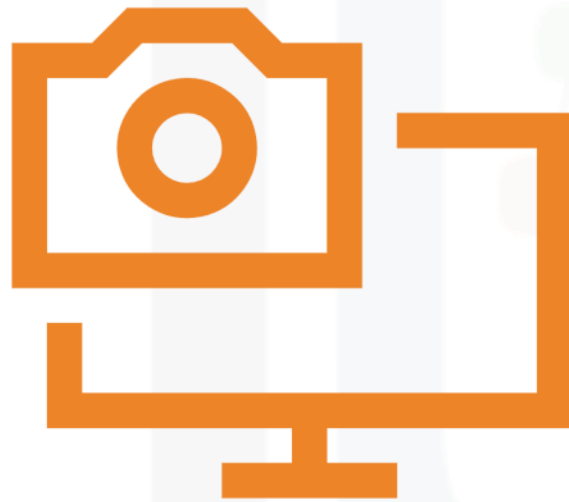
PostgreSQL, MongoDB

Web frames

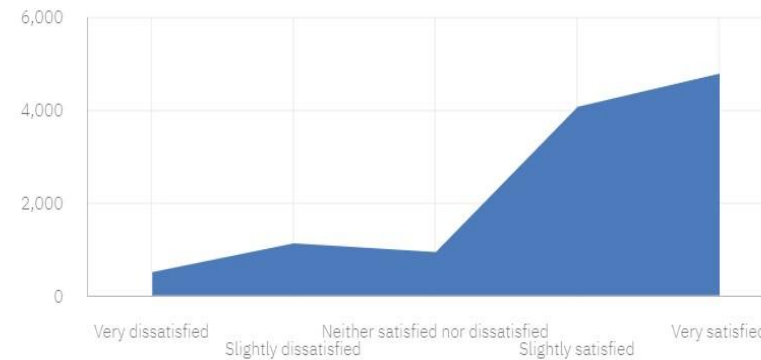
React.JS, Angular

Platforms Linux Docker Windows AWS

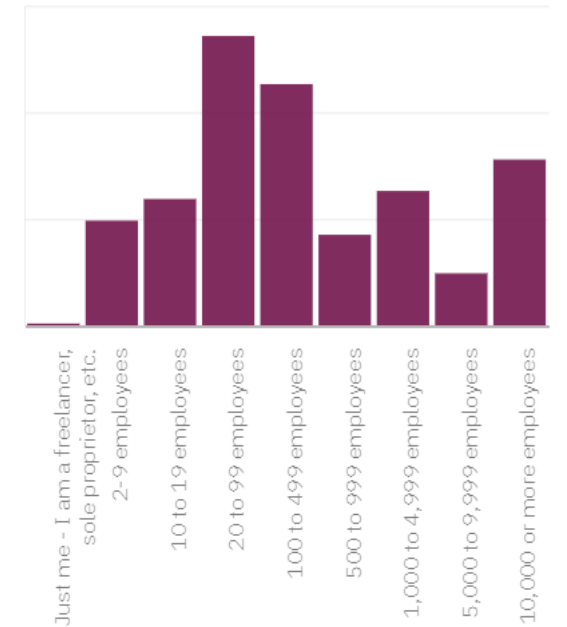
APPENDIX



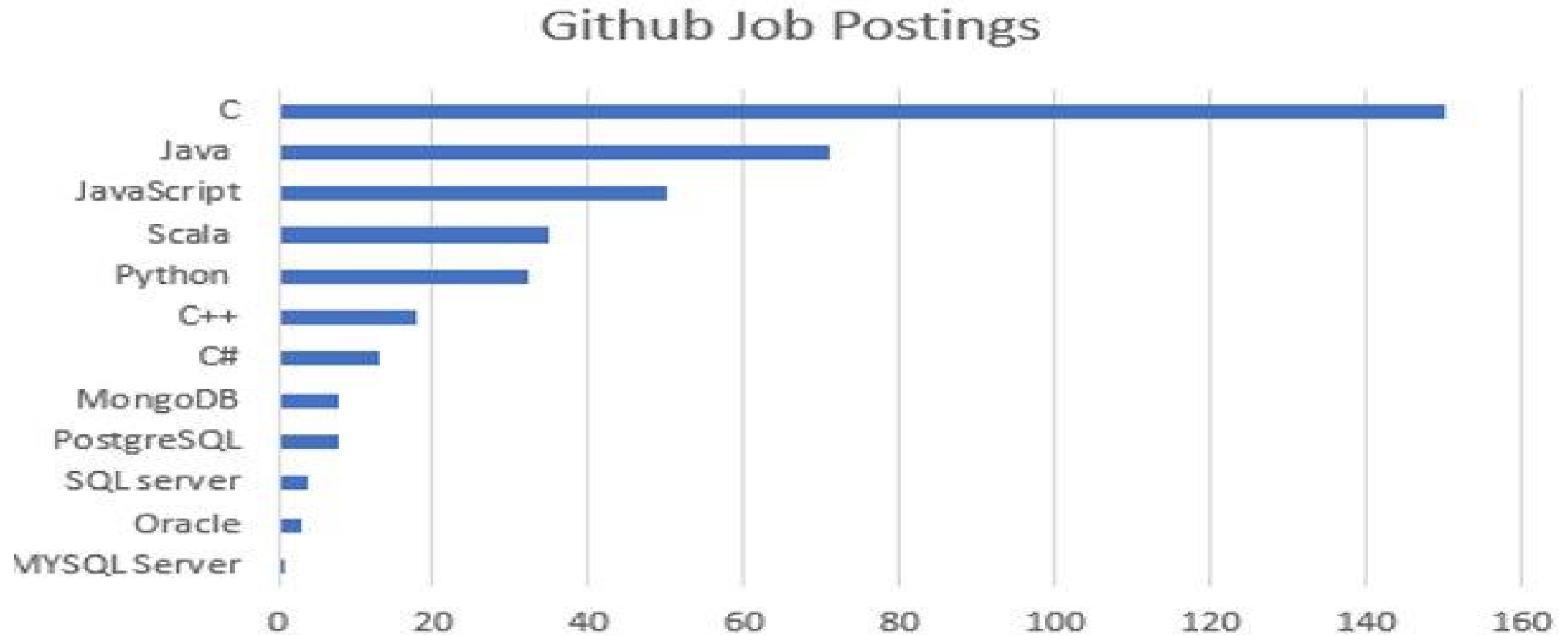
Respondent by Career Satisfaction



Respondent by Organization Size



GITHUB JOB POSTINGS



POPULAR LANGUAGES

