



IBM Data Analyst Capstone Project: Most demanded and desired Tech skills

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OUTLINE



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EXECUTIVE SUMMARY



- Relevant skills required in IT field are constantly changing and evolving.
- Some new solutions on IT field like AI require competitive and trained professionals to keep pace with global technologies.
- This report will show relevant information related to current and future trends in programming languages, databases, platforms and webframes.
- Also this report will show the gender gap in IT jobs.

INTRODUCTION



- This report has been created for stakeholders within the global IT and business consulting services to help identify current and future skills in relation with IT solutions.
- Through all the data collected from surveys, job postings and training portals we will be able to analyze the data and identify trends.
- Some techniques are applied in relation with ETL process to finally give the best conclusion to the point.
- Insights and recommendations will be stated based on the analysis.

METHODOLOGY



- Data Collection
 - Using APIs
 - Using Webscraping
 - Exploring Data
- Data Wrangling
 - Missing values
 - Duplicates
 - Normalizing Data
- Exploratory Data Analysis
 - Distribution
 - Outliers
 - Correlation
- Data Visualization
 - Visualizing distribution of data, relationship, composition, comparison.
- Dashboard creation

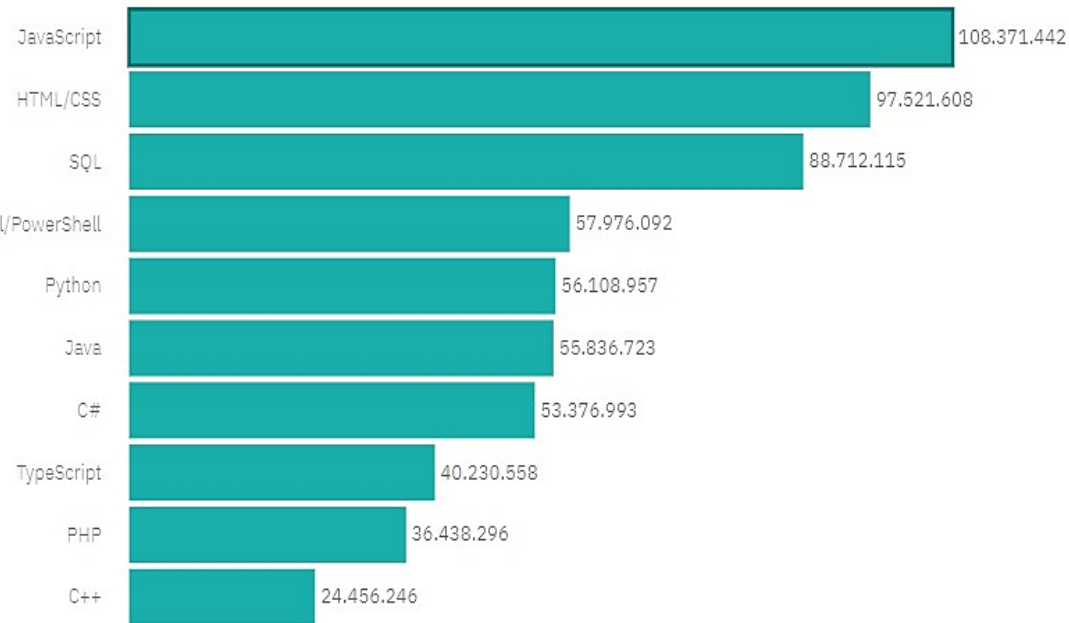
RESULTS



PROGRAMMING LANGUAGE TRENDS

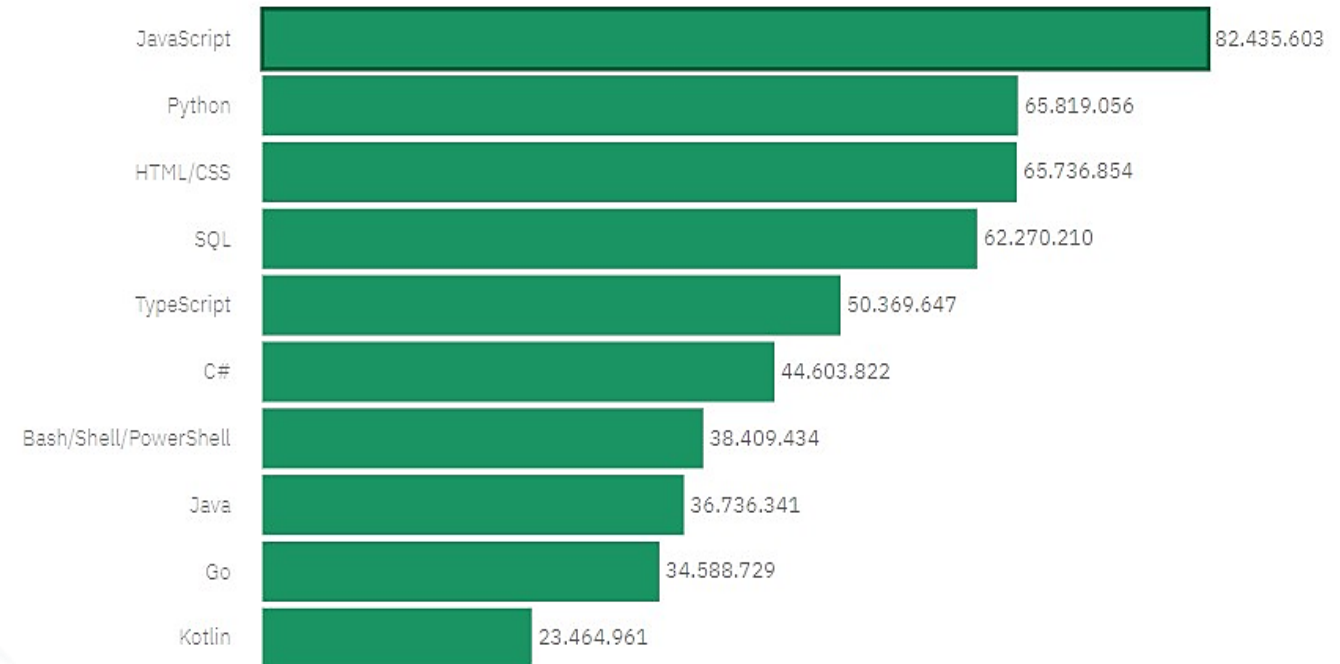
Current Year

Top 10 Language Worked With



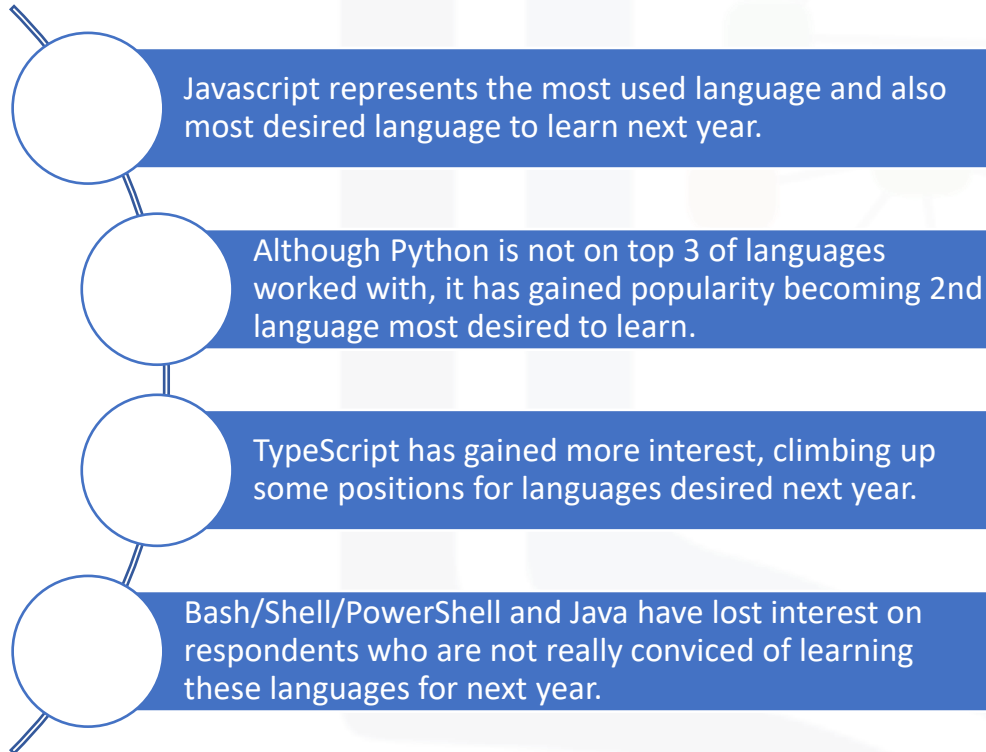
Next Year

Top 10 Language Desire Next Year

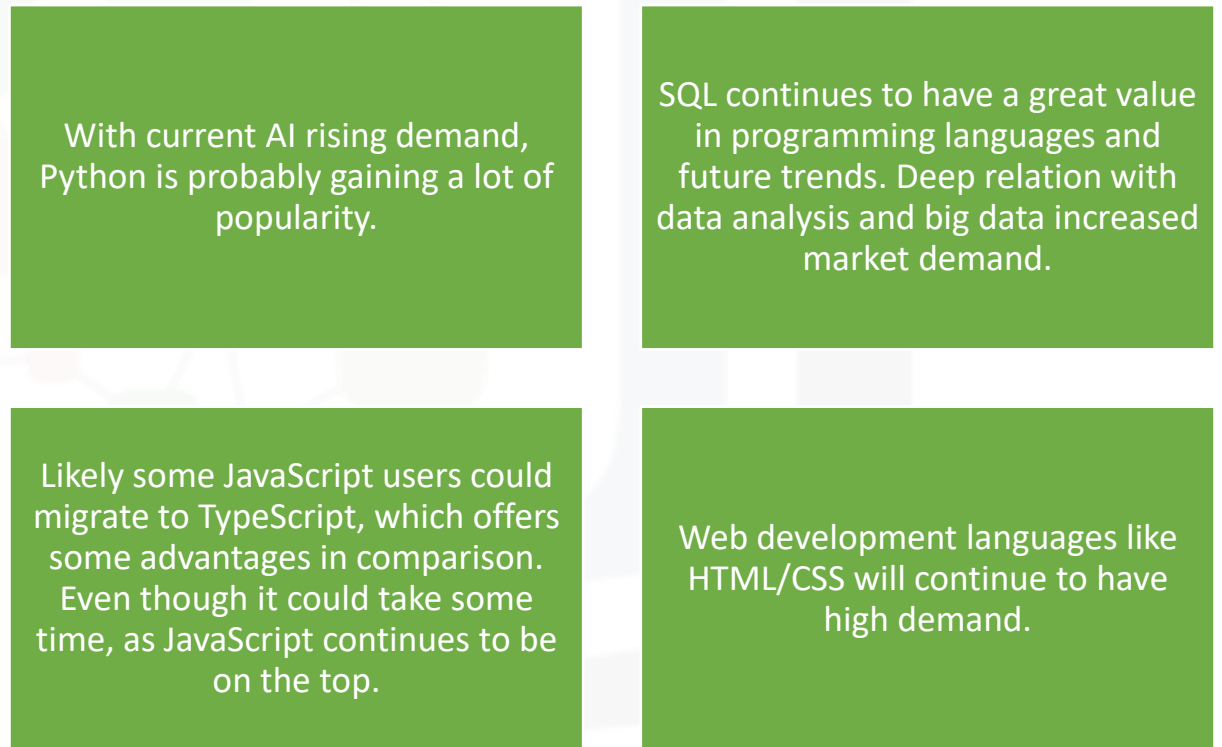


PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings



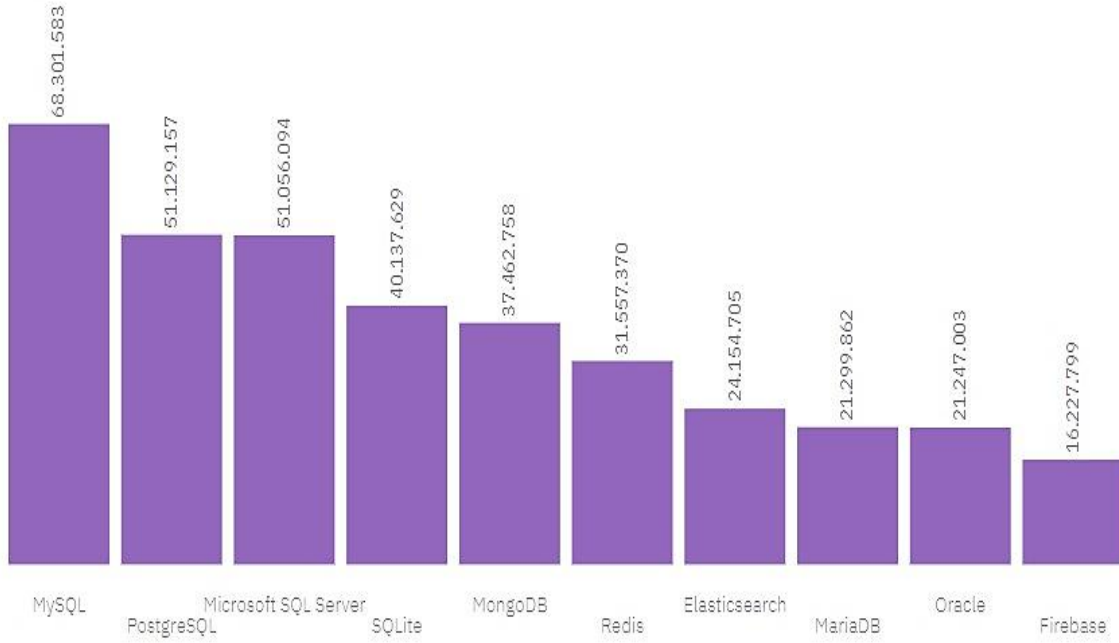
Implications



DATABASE TRENDS

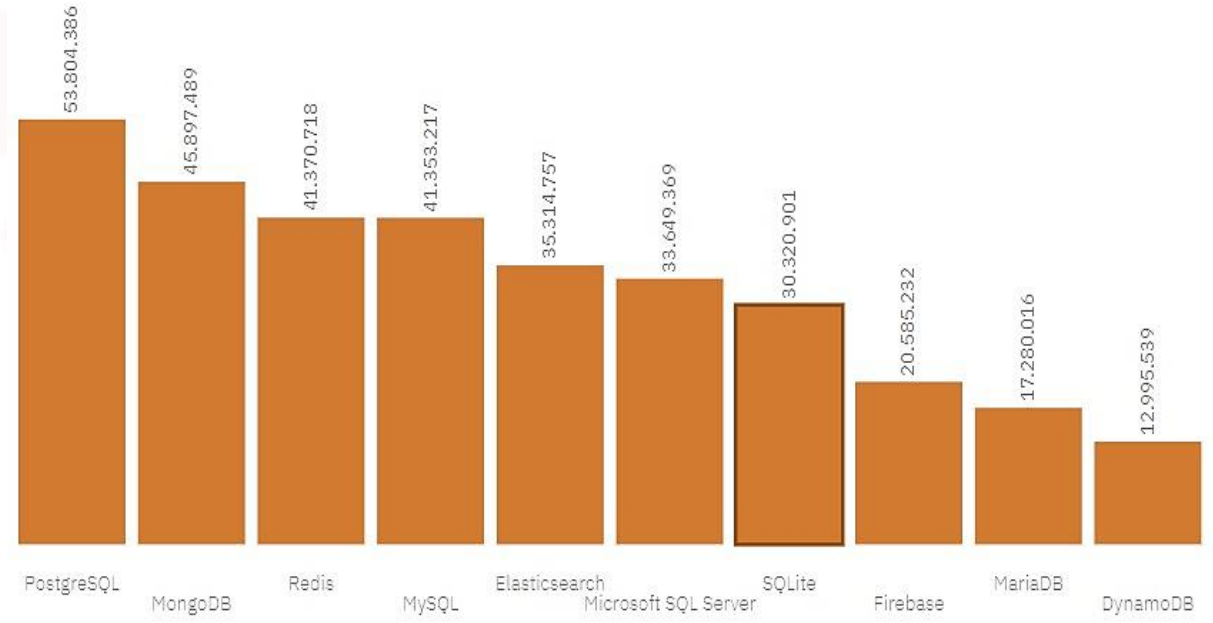
Current Year

Top 10 Database Worked With



Next Year

Top 10 Database Desire Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Although MySQL and Microsoft SQL Server are two of the most worked with databases, respondents have lost interest to learn these databases for next year.
- PostgreSQL maintains its position being one of the most used and desired databases.
- Oracle has disappeared from databases demanded for next year and instead, respondents see DynamoDB with higher interest to learn.
- MongoDB has gained popularity for databases desired next year.

Implications

It seems that MySQL will lose popularity and it won't be demanded in the future as it is now.

We see that NoSQL databases are gaining strenght compared to relational databases, like MongoDB and Redis, two databases not really used nowadays but desired in the future.

Open-source databases are still preferable and most used nowadays like MySQL, PostgreSQL, SQLite and Redis.

DASHBOARD



Click [here](#) to view the Dashboard

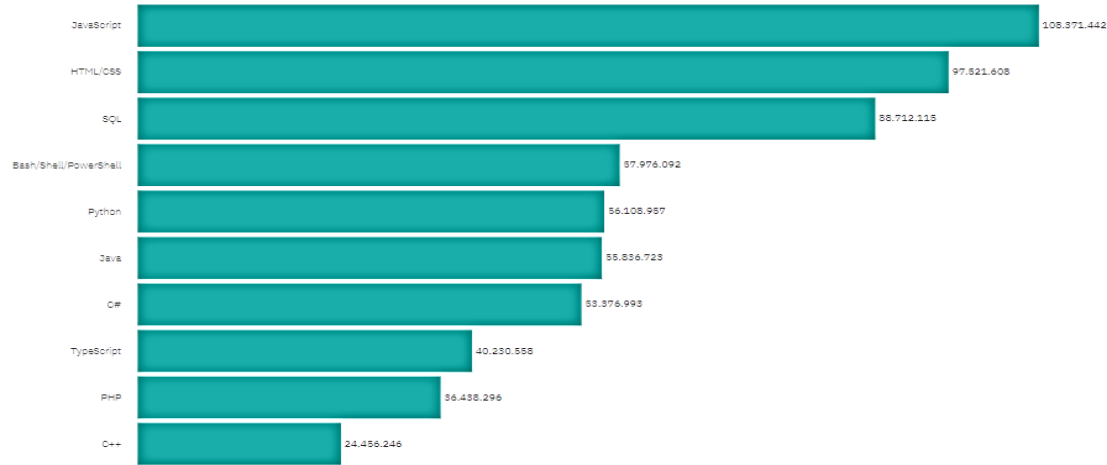
DASHBOARD TAB 1

Current Technology Usage

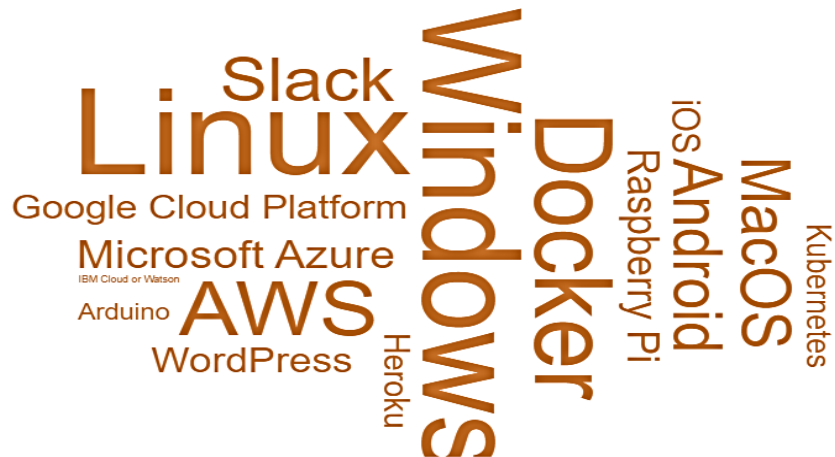
Future Technology Trend

Demographics

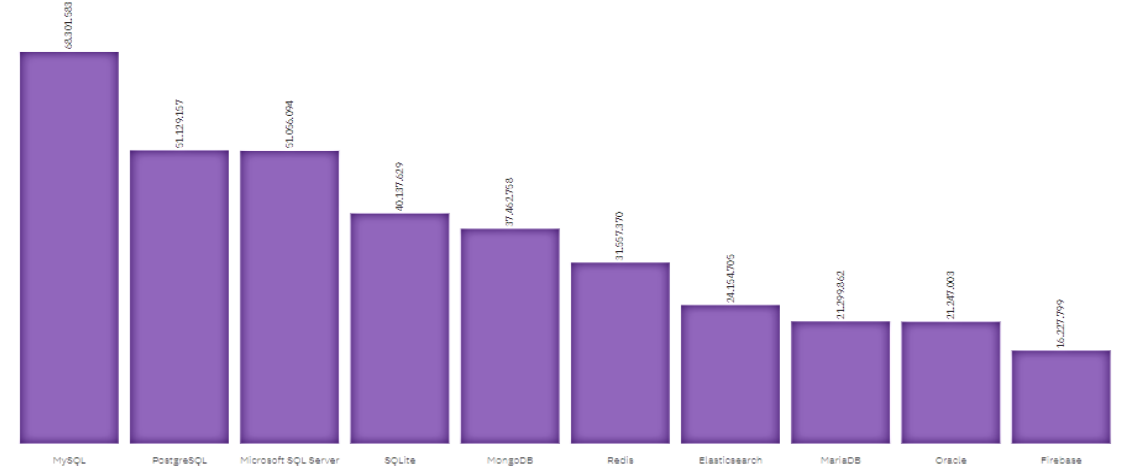
Top 10 Language Worked With



Platform Worked With



Top 10 Database Worked With



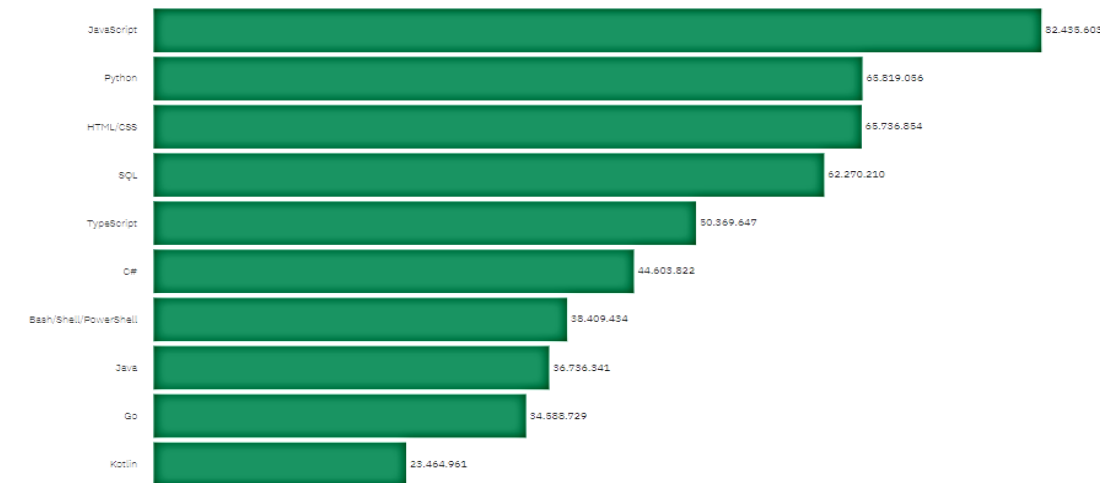
Top 10 WebFrame Worked With



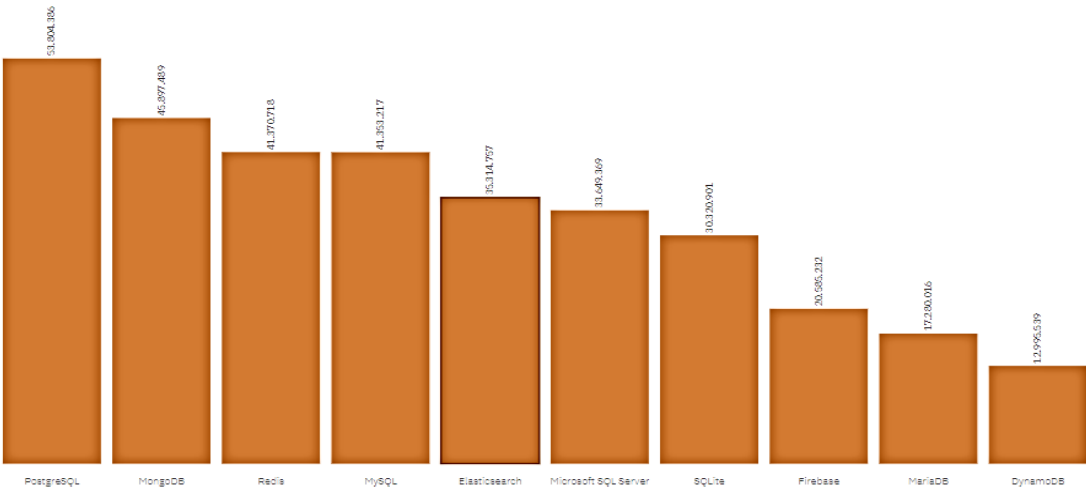
DASHBOARD TAB 2

Current Technology Usage Future Technology Trend Demographics

Top 10 Language Desire Next Year



Top 10 Database Desire Next Year



Platform Desire Next Year



Top 10 WebFrame Desire Next Year

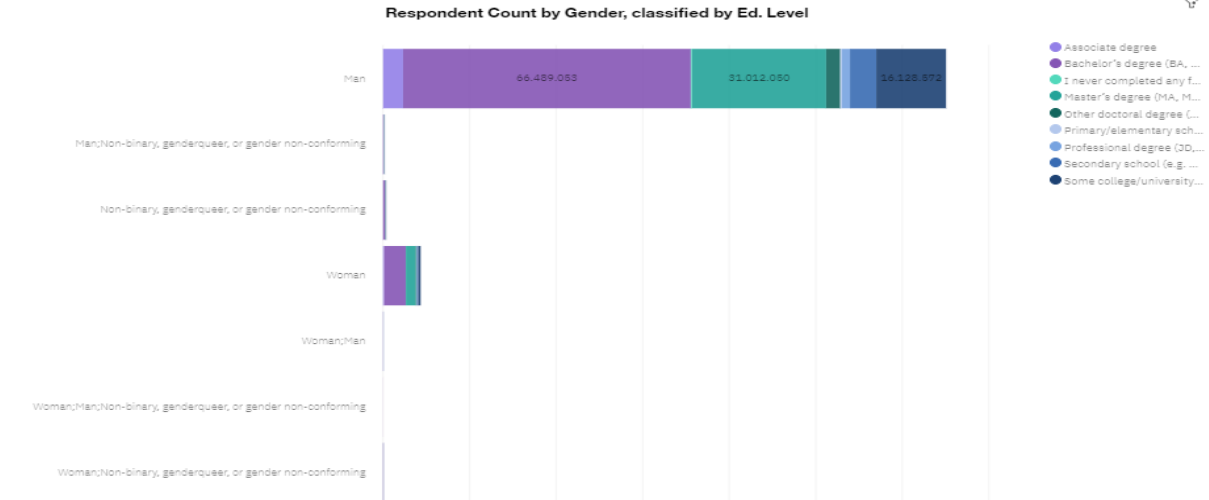
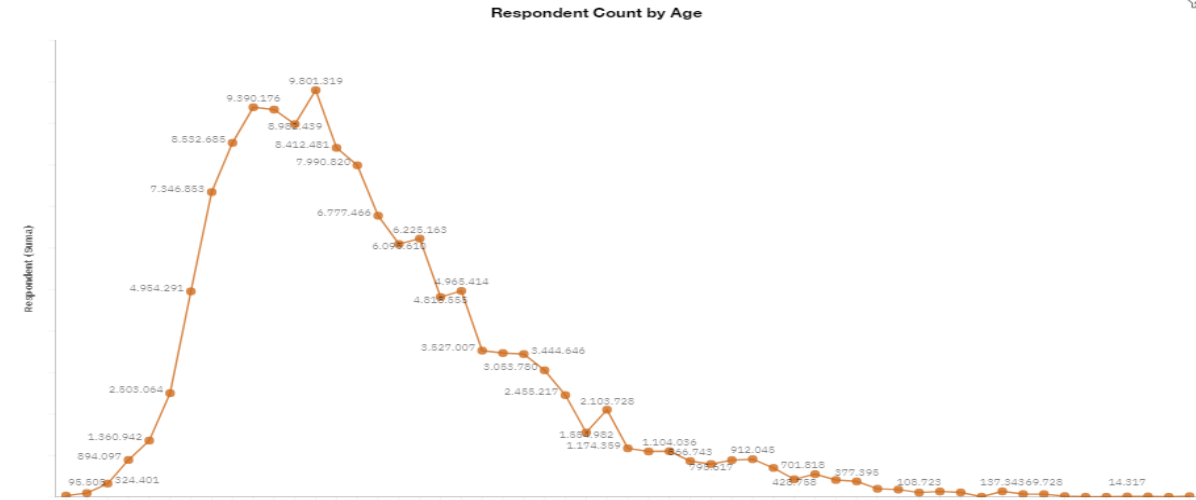
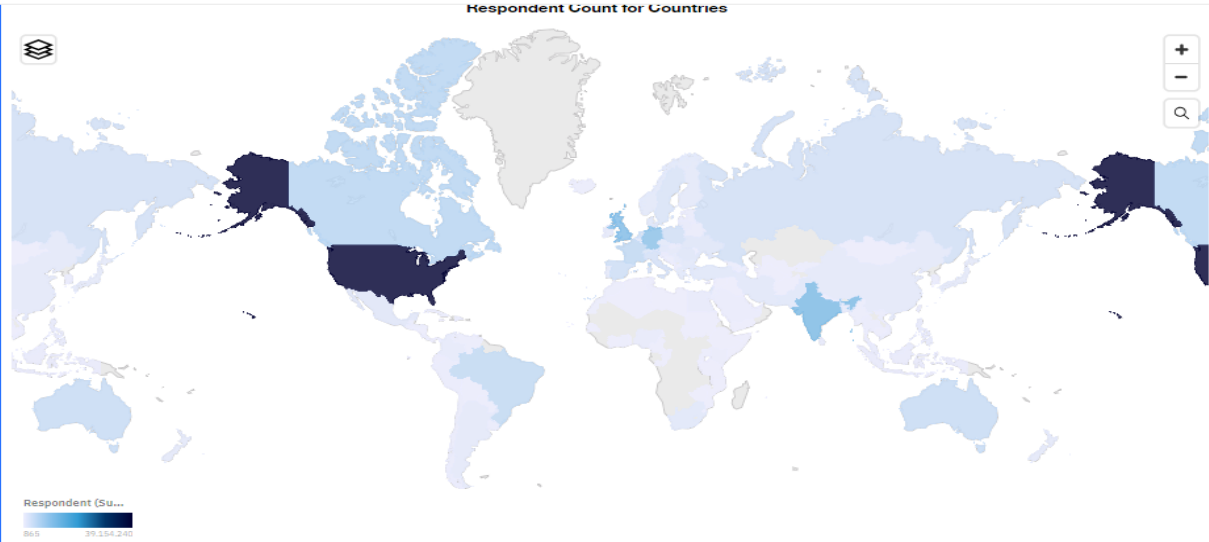
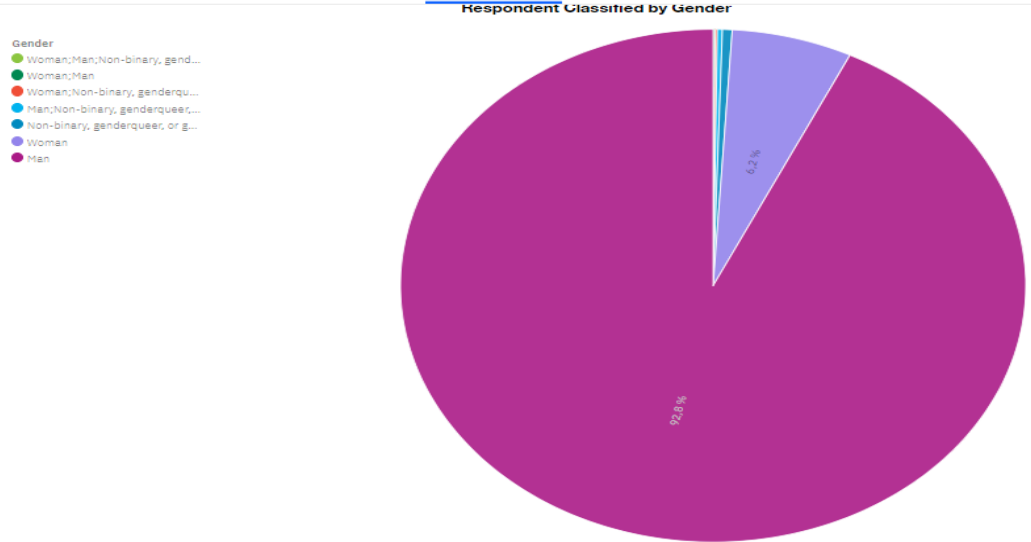


DASHBOARD TAB 3

Current Technology Usage

Future Technology Trend

Demographics



DISCUSSION



OVERALL FINDINGS & IMPLICATIONS

Findings

Important gender gap in technology Jobs, 90% or more of developers are men and most of them only have a bachelors degree. The majority of respondents are young with ages between 25 and 28 and most of the respondents are from United States and India.

Regarding popular languages, Javascript is the number one on current and future trends however it's not the best paid. Python is slightly better paid and it will have significant impact in the future. JavaScript could be replaced by TypeScript in the future.

Regarding databases, we will see more demand in the future with no relational databases, MongoDB and Redis will have strong impact in this field. By the contrary most demanded database currently, MySQL, will lost interest in the future.

On platforms used, Windows is the number one currently but in the future could lost its place by Linux.

Last but not least, jQuery is currently the webframe most used, but in the future will be replace by React.js that will gain so much interest.

Implications

React.js is used currently by popular web apps like Netflix, Instagram, Airbnb, Facebook. This increases the demand for React developers.

Big Data technology will increase in the future therefore it will be necessary NoSQL databases like MongoDB and Redis and programming languages like Python.

Most of respondents have at least a bachelors degree which confirms that although it's not a requirement to learn any programming language, it's better if you have a educational background.

CONCLUSION



- Javascript programmers will continue to be on high demand.
- AI and Big data will require complex and powerful technologies like Python and NoSQL databases.
- Lack of women in IT due to cultural stereotypes and salary gap.
- Important platforms like AWS and Docker are strongly demanded.

APPENDIX



JOB POSTINGS

Number of Jobs Postings



POPULAR LANGUAGES

