



Technology Trends Analysis

Nishchay Joshi

11 Jan 2022

OUTLINE



- Executive Summary
- Introduction
- Methodology
- Results
 - Visualization – Charts
 - Dashboard
- Discussion
 - Findings & Implications
- Conclusion
- Appendix

EXECUTIVE SUMMARY



➤ Current Technology Usage

- Language
- Database
- Platform
- Web frame

➤ Future Technology Trend

- Language
- Database
- Platform
- Web frame

➤ Demographics

- Gender
- Country
- Age
- Education Level

➤ Implications of findings.

INTRODUCTION



Aim:

Analysing the trends in software and web development around the world.

Purpose:

1. Identify the top programming languages, database, platform and web frame skills in demand.
2. Identify skill requirements in the future.
3. Understanding industry demographics.

Audience:

1. Industry leaders
2. Human Resources
3. Developers
4. IT Aspirants

METHODOLOGY



- Data Sources (Data collection through API & web scrapping)
 - Stack overflow developer 2019 survey
 - GitHub job postings
 - Programming languages annual salary
- Data Wrangling
- Exploratory Data Analysis
- Data Visualization (IBM Cognos Dashboard)
- Presentation

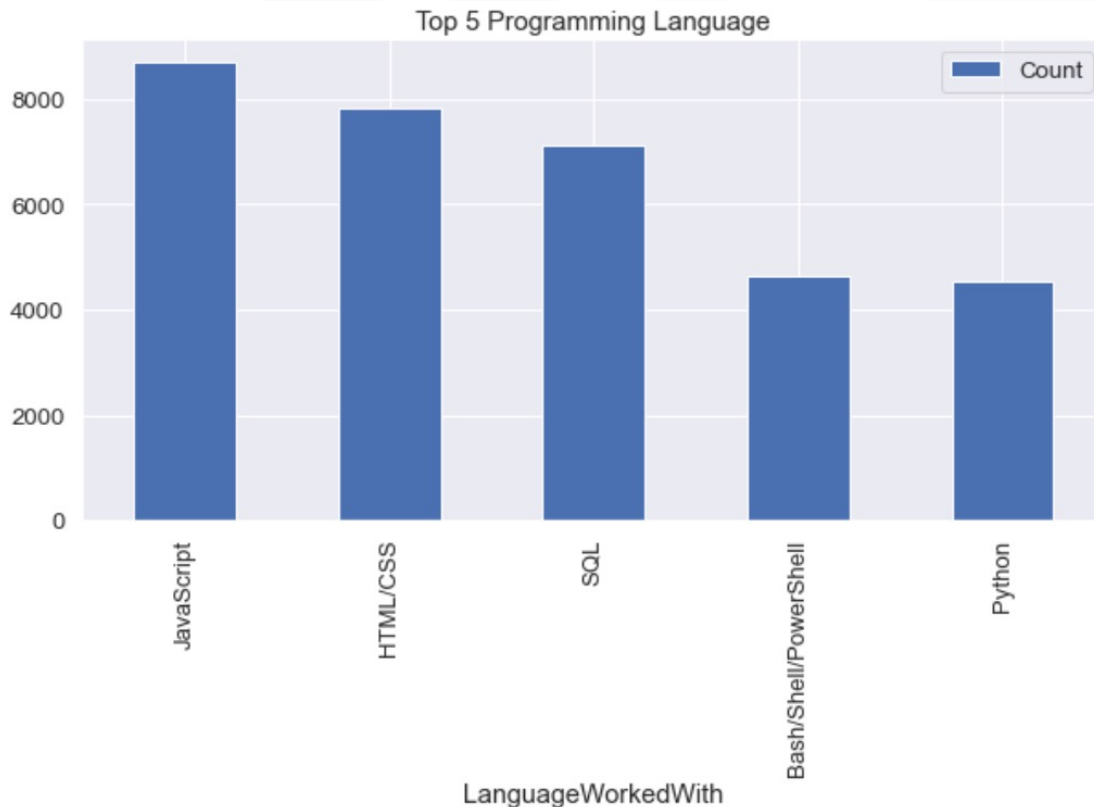
RESULTS

Screenshot of Source Data

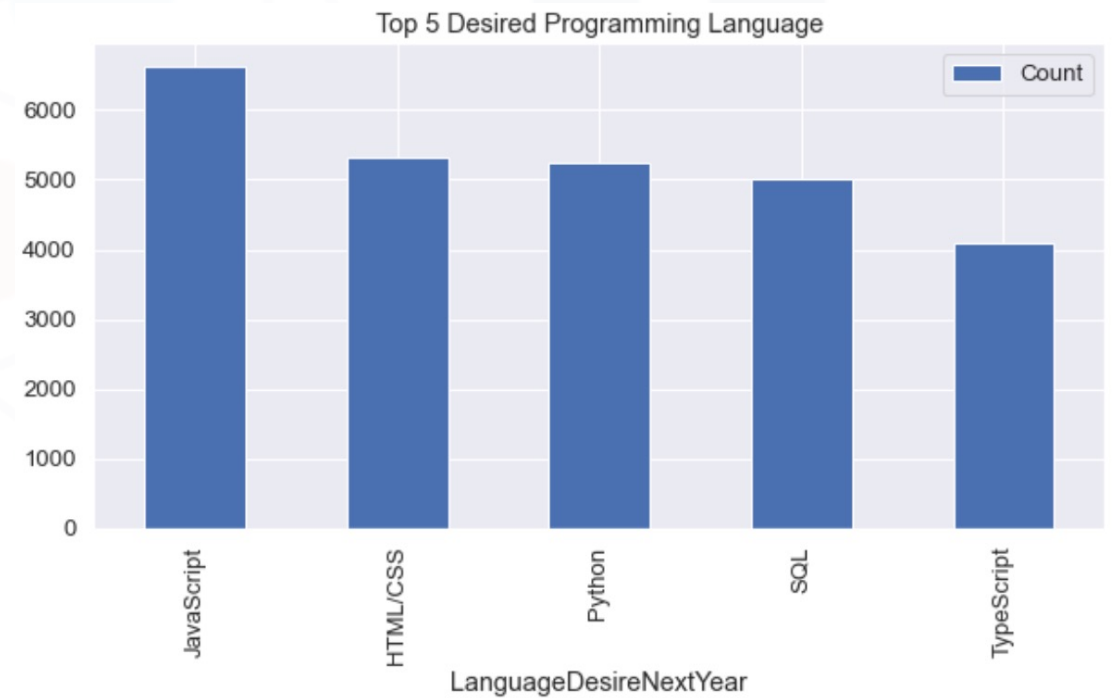
	Respondent	LanguageWorkedWith	LanguageDesireNextYear	DatabaseWorkedWith	DatabaseDesireNextYear	PlatformWorkedWith
0	4	C	C	MySQL	MySQL	Linux
1	4	C++	C#	SQLite	SQLite	Windows
2	4	C#	JavaScript	NaN	NaN	NaN
3	4	Python	SQL	NaN	NaN	NaN
4	4	SQL	NaN	NaN	NaN	NaN
...
74584	25142	Go	Python	NaN	NaN	NaN
74585	25142	HTML/CSS	R	NaN	NaN	NaN
74586	25142	PHP	NaN	NaN	NaN	NaN
74587	25142	Python	NaN	NaN	NaN	NaN
74588	25142	R	NaN	NaN	NaN	NaN

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

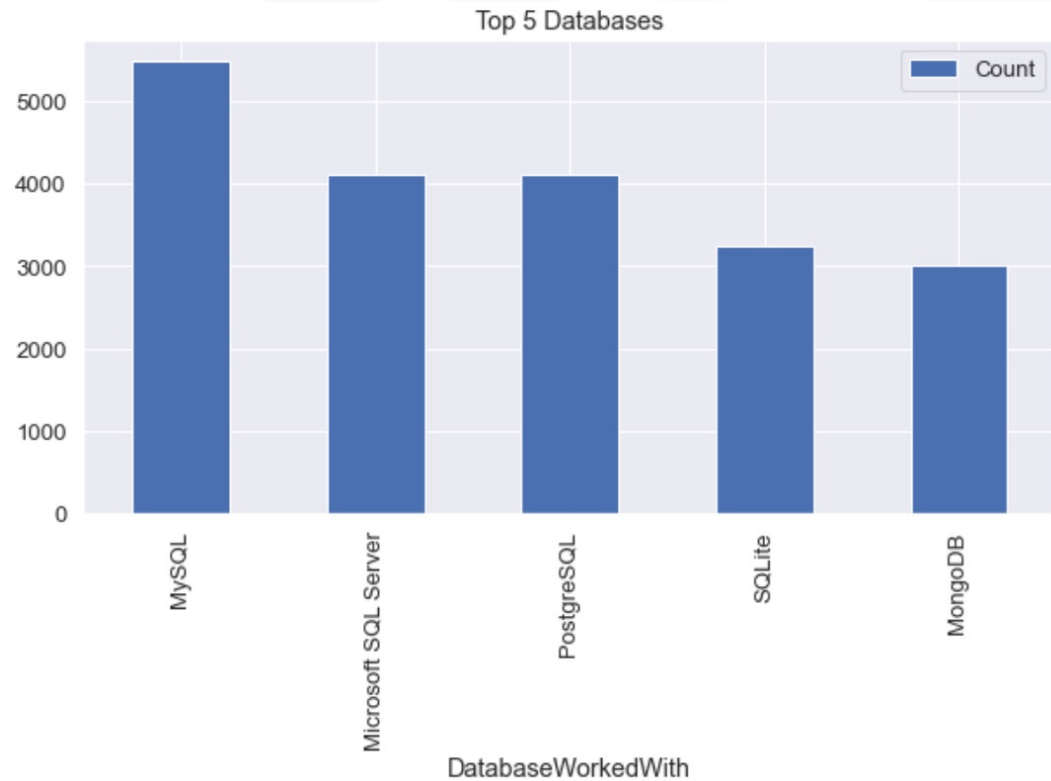
1. JavaScript, HTML/CSS & SQL are top 3 languages this year.
2. Python and TypeScript are gaining popularity.
3. Bash/Shell/Power Shell are becoming less popular.

Implications

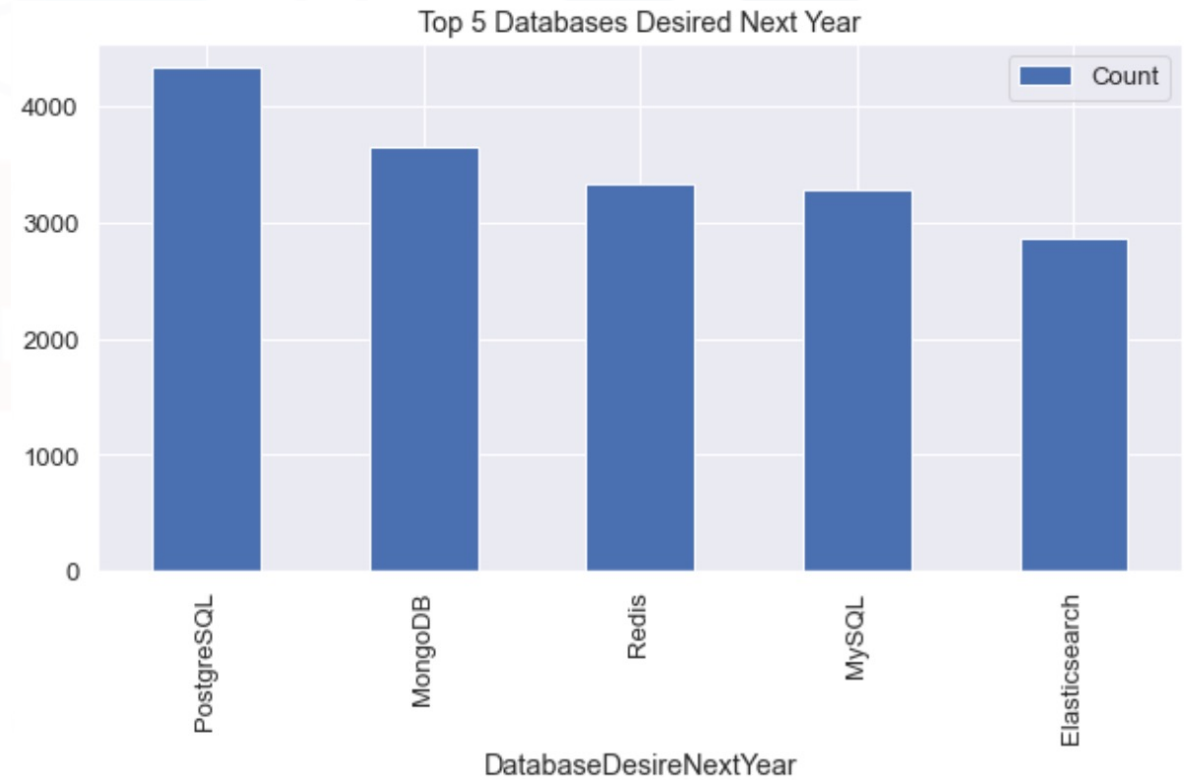
1. JavaScript & HTML/CSS are in high demand.
2. Python is the new trending language.
3. SQL retains its popularity in field of Big Data.

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS – FINDINGS & IMPLICATIONS

Findings

1. MySQL most popular.
2. MongoDB and Redis are gaining popularity.
3. Elasticsearch is upcoming favourite.
4. Sqlite losing popularity.

Implications

1. Open-source databases are still preferable in companies.
2. NoSQL databases are gaining popularity.
3. Elasticsearch is a document oriented database predicted to become a favourite.

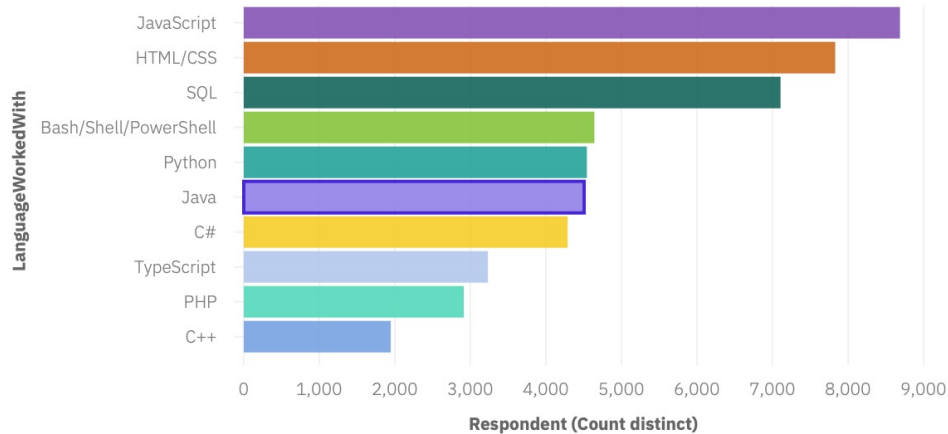
DASHBOARD

Link to Cognos Dashboard-

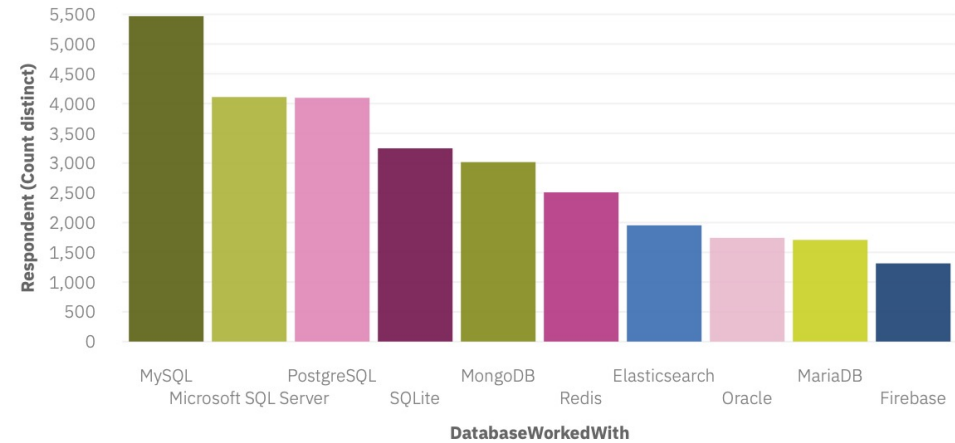
<https://eu-gb.datapatform.cloud.ibm.com/dashboards/41490f46-12b7-41ba-899c-0d877b8c88b3/view/6409a41600ab10d46ce3f2e4079925532833250fb3bb845088857b495c687397a83a40c2c82b1d5fdf170235f4bf4708ce>

Current Technology Usage

Top 10 Language Worked With



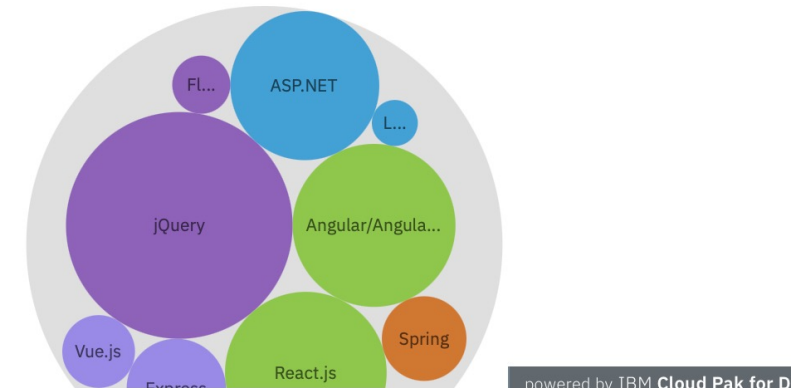
Top 10 Database Worked With



Platform Worked With

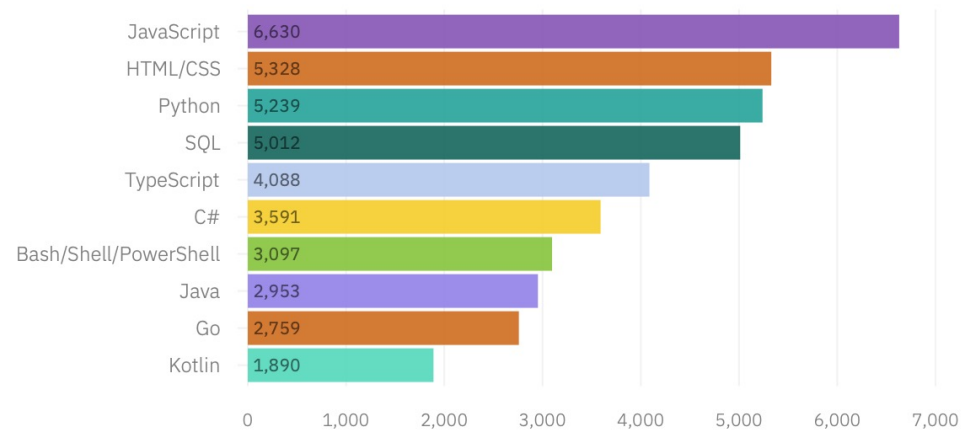


Top 10 Web Frame Worked With

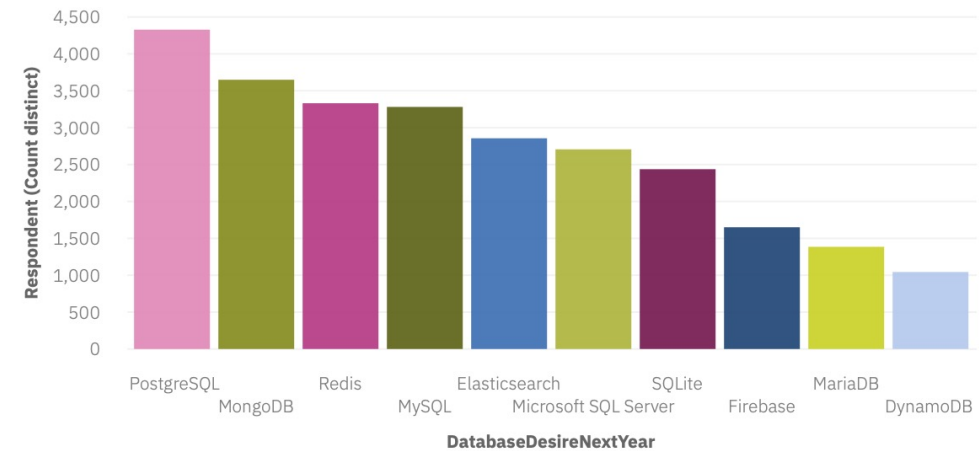


Future Technology Trends

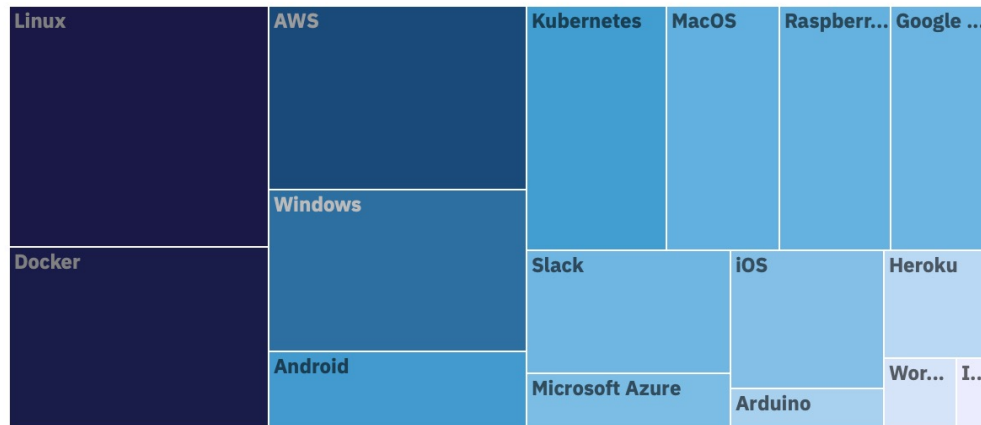
Top 10 Language Desired Next Year



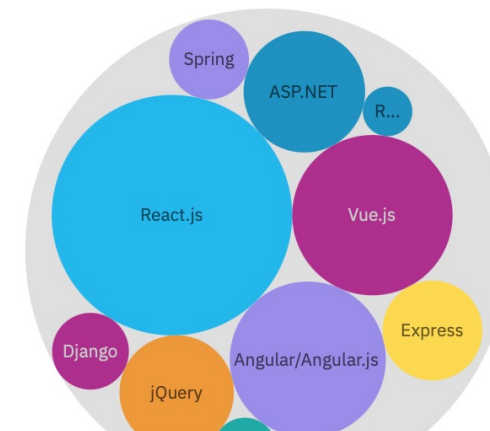
Top 10 Database Desired Next Year



Platform Desired Next Year



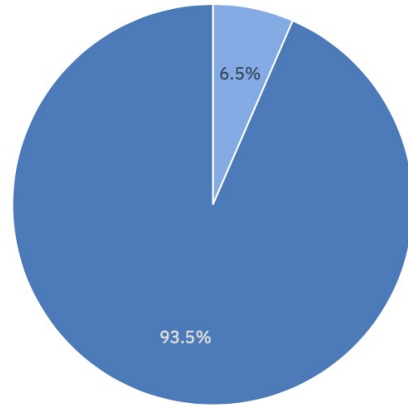
Top 10 Web Frame Desired Next Year



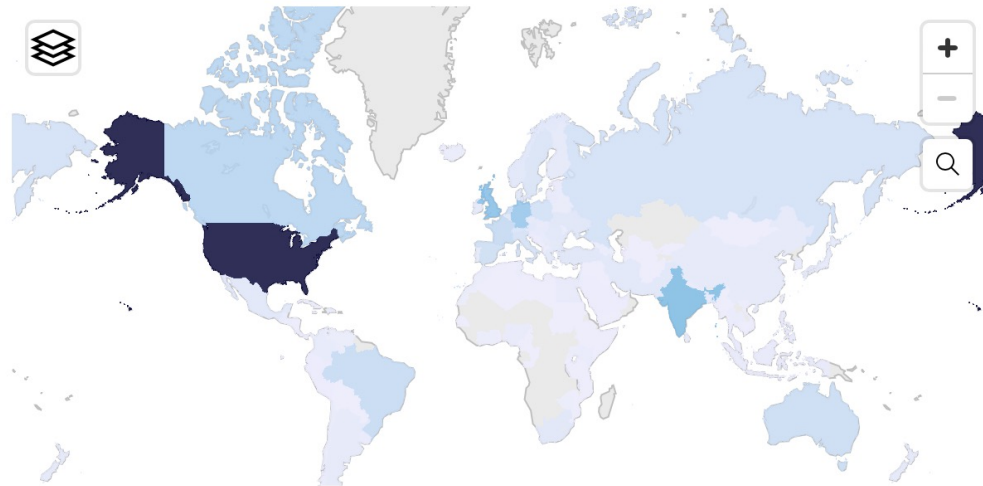
Demographics

Respondent classified by Gender

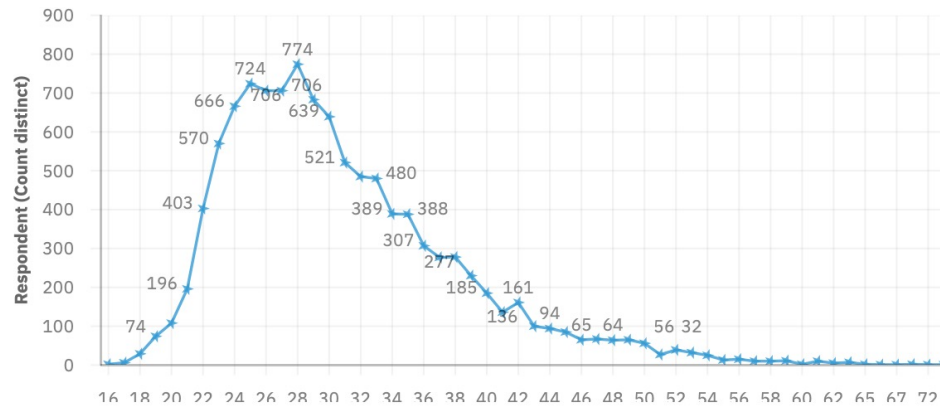
Gender
● Woman ● Man



Respondent Count for Countries



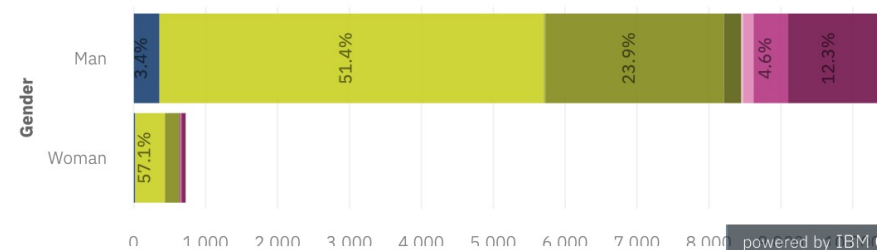
Respondent Count by Age



Respondent Count by Gender
Classified by Formal Education Level

EdLevel

- Associate degree
- Bachelor's degree (BA, BS, B.E...)
- Master's degree (MA, MS, M.E...)
- Other doctoral degree (Ph.D, E...)
- Professional degree (JD, MD, etc.)
- I never completed any formal ...
- Primary/elementary school
- Secondary school (e.g. American ...)
- Some college/university study



DISCUSSION



- ☐ Technology Trends at present and in future.
- ☐ Low female participation in the workforce.

OVERALL FINDINGS & IMPLICATIONS

Findings

- Changing technological trends.
- Concentration of jobs in a few countries like USA and India.
- Gender gap in the work force.
- Platforms like Docker and AWS are growing

Implications

- Companies need to be flexible and adjust to rapid changes
- Need to spread technology out to lagging countries
- Policies to increase female participation.
- Demand for talent in upcoming technologies.

CONCLUSION

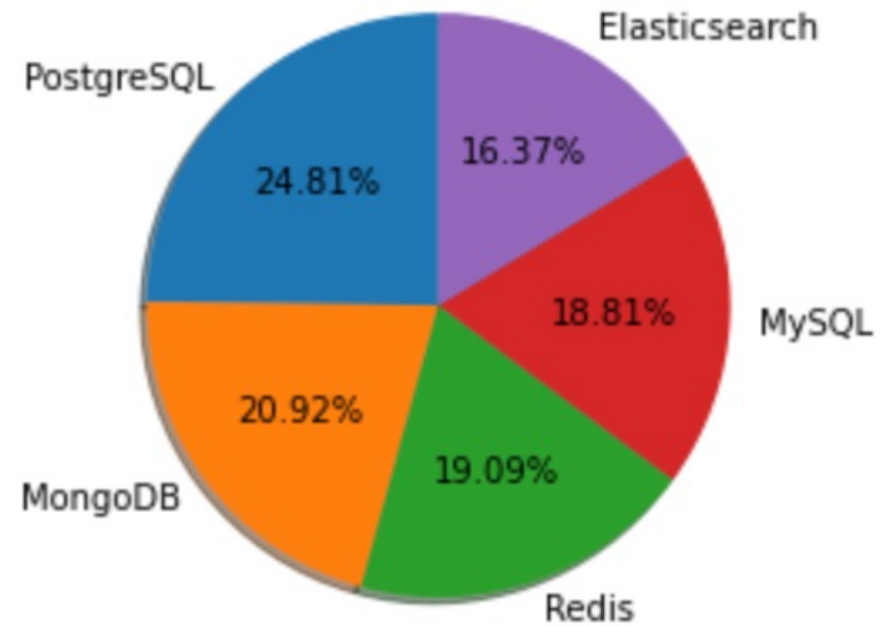


- Technology Trends for current and next year.
- Programming Languages, Database and Platform overview.
- Demographics overview.
- Actions to be taken

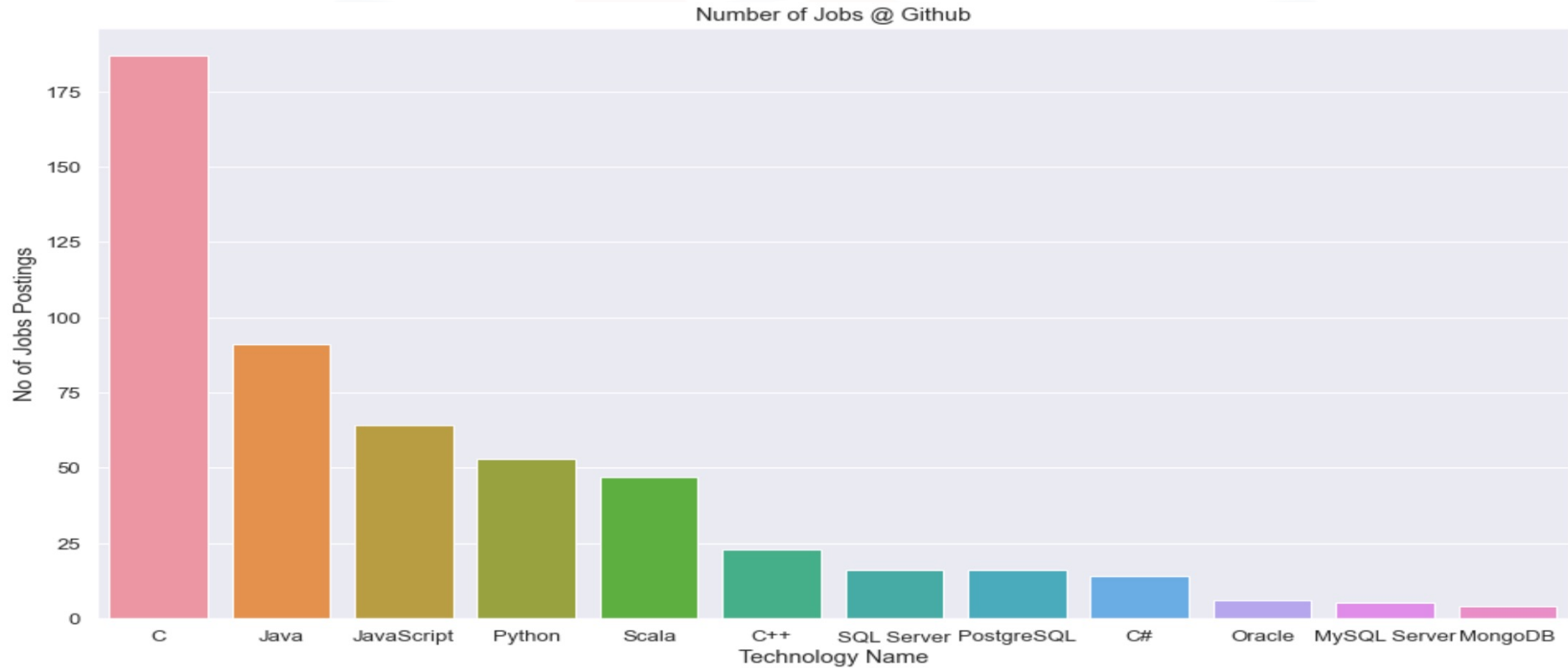
APPENDIX



Top 5 databases



GITHUB JOB POSTINGS



POPULAR LANGUAGES

