

Tech Pulse

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OUTLINE



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

EXECUTIVE SUMMARY



- Current Technology Usage Trend
 - Language
 - Database
 - Platform
 - Web frame
- Future Technology Trend
 - Language
 - Database
 - Platform
 - Web frame
- Demographics Survey
- Country & Gender Difference

INTRODUCTION



- Analyze technology trend in software and web development among developers around the world
- Purpose of this Analysis
 - Identify the top programming languages, database, platform and web frame skills in demand
 - Identify skill requirements for future
 - Identify human resource gap in the industry
- Audience for this Presentation
 - Programmers
 - IT industry leaders
 - Computer science students

METHODOLOGY



- Data Collection (Sources)
 - Stack overflow developer survey
 - GitHub job postings
 - Programming languages annual salary
- Data Wrangling
- Data Exploration
- Data Cleaning
- Data Visualization
 - Python matplotlib & turtle
 - IBM Cognos
- Presentation



RESULTS



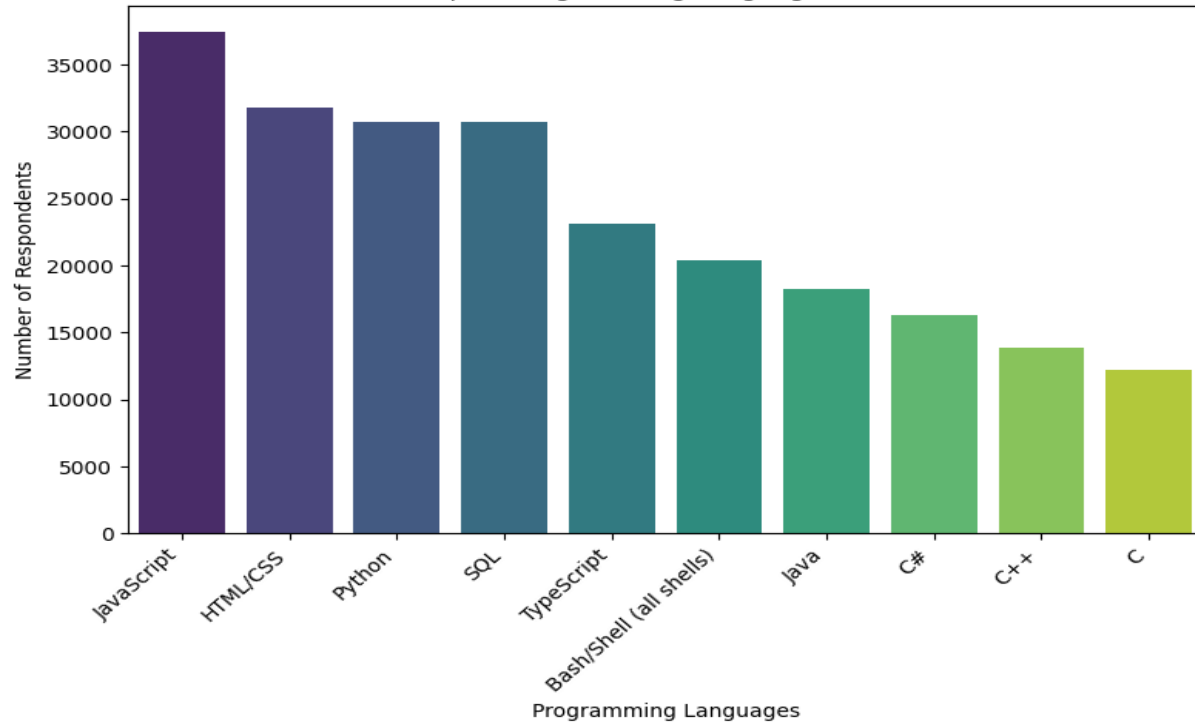
	ResponseId	LanguageHaveWorkedWith	LanguageWantToWorkWith	DatabaseHaveWorkedWith	DatabaseWantToWorkWith	PlatformHaveWorkedWith
0	1	NaN	NaN	NaN	NaN	NaN
1	2	Bash/Shell (all shells);Go;HTML/CSS;Java;JavaS...	Bash/Shell (all shells);Go;HTML/CSS;Java;JavaS...	Dynamodb;MongoDB;PostgreSQL	PostgreSQL	Amazon Web Services (AWS);Heroku;Netlify
2	3	C#	C#	Firebase Realtime Database	Firebase Realtime Database	Google Cloud
3	4	C;C++;HTML/CSS;Java;JavaScript;PHP;PowerShell;...	HTML/CSS;Java;JavaScript;PowerShell;Python;SQL...	MongoDB;MySQL;PostgreSQL;SQLite	MongoDB;MySQL;PostgreSQL	Amazon Web Services (AWS);Fly.io;Heroku
4	5	C++;HTML/CSS;JavaScript;Lua;Python;Rust	C++;HTML/CSS;JavaScript;Lua;Python	PostgreSQL;SQLite	PostgreSQL;SQLite	NaN
65432	65433	NaN	NaN	NaN	NaN	NaN
65433	65434	NaN	NaN	NaN	NaN	NaN
65434	65435	NaN	NaN	NaN	NaN	NaN
65435	65436	C;C++;Go;Lua;Objective-C;Python;Rust;SQL	Rust;SQL	PostgreSQL;SQLite	PostgreSQL;SQLite	NaN
65436	65437	C;HTML/CSS;Java;JavaScript;PHP;Python;TypeScript	JavaScript;Python;TypeScript	MongoDB;MySQL;Oracle;PostgreSQL	MongoDB;MySQL;PostgreSQL	Amazon Web Services (AWS);Cloudflare;Google Cl...



PROGRAMMING LANGUAGE TRENDS

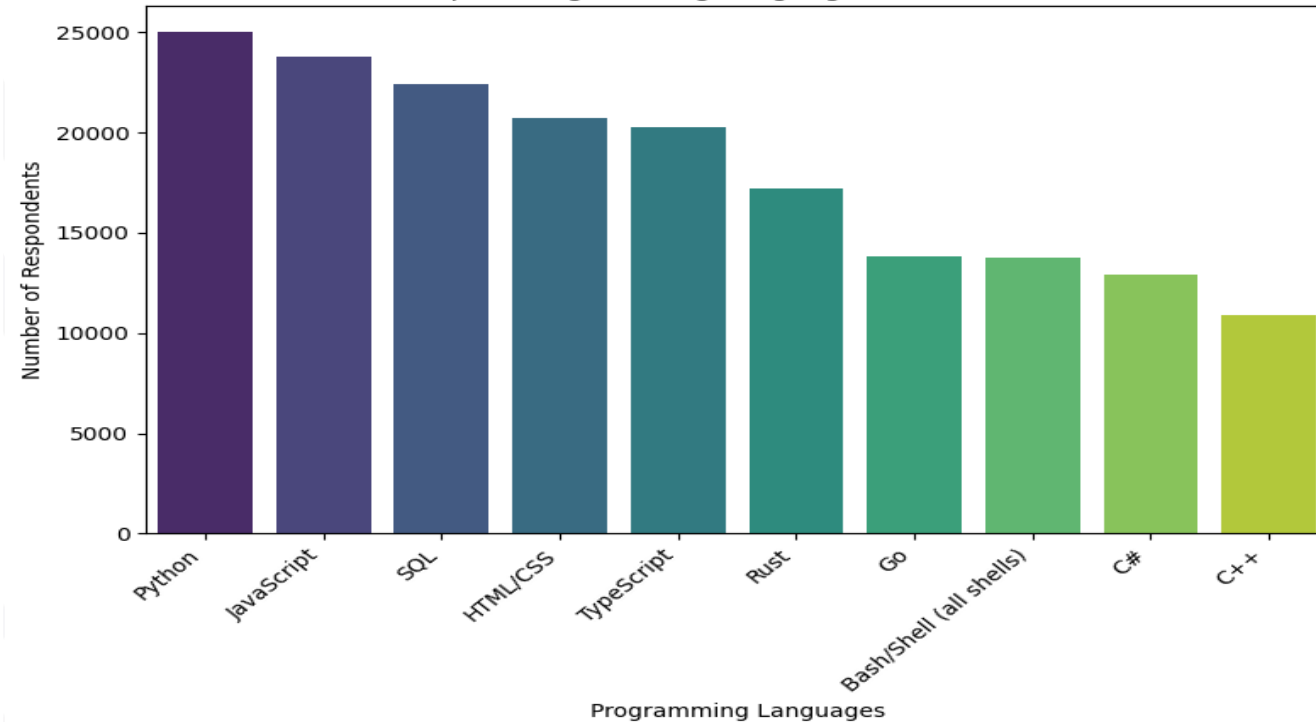
Current Year

Top 10 Programming Languages Used



Next Year

Top 10 Programming Languages will be Used



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript is top trending language in the world
- Python and TypeScript are becoming more and more popular
- HTML/CSS and SQL still has great portion in language usage trend

Implications

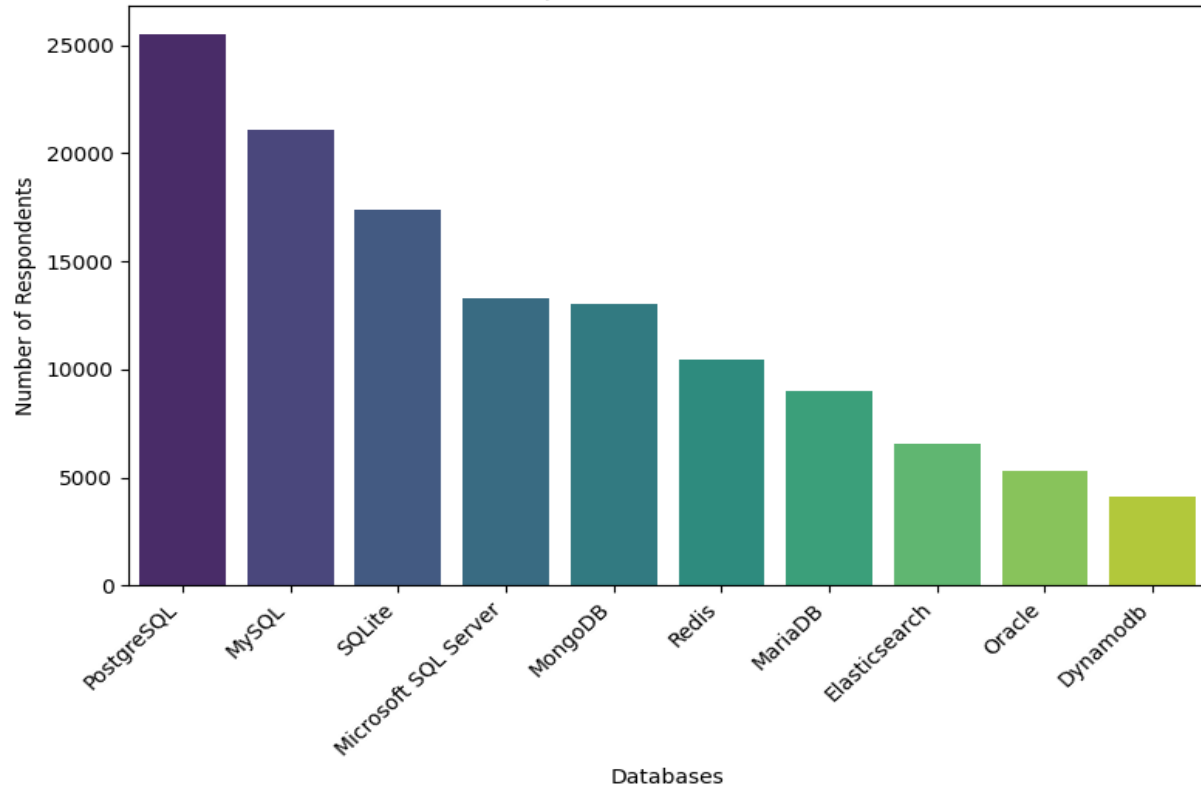
- Web developments and Web developers are still in high demands
- JavaScript and TypeScript are crucial to learn for developers
- Python is the new trending language, especially popular in AI fields



DATABASE TRENDS

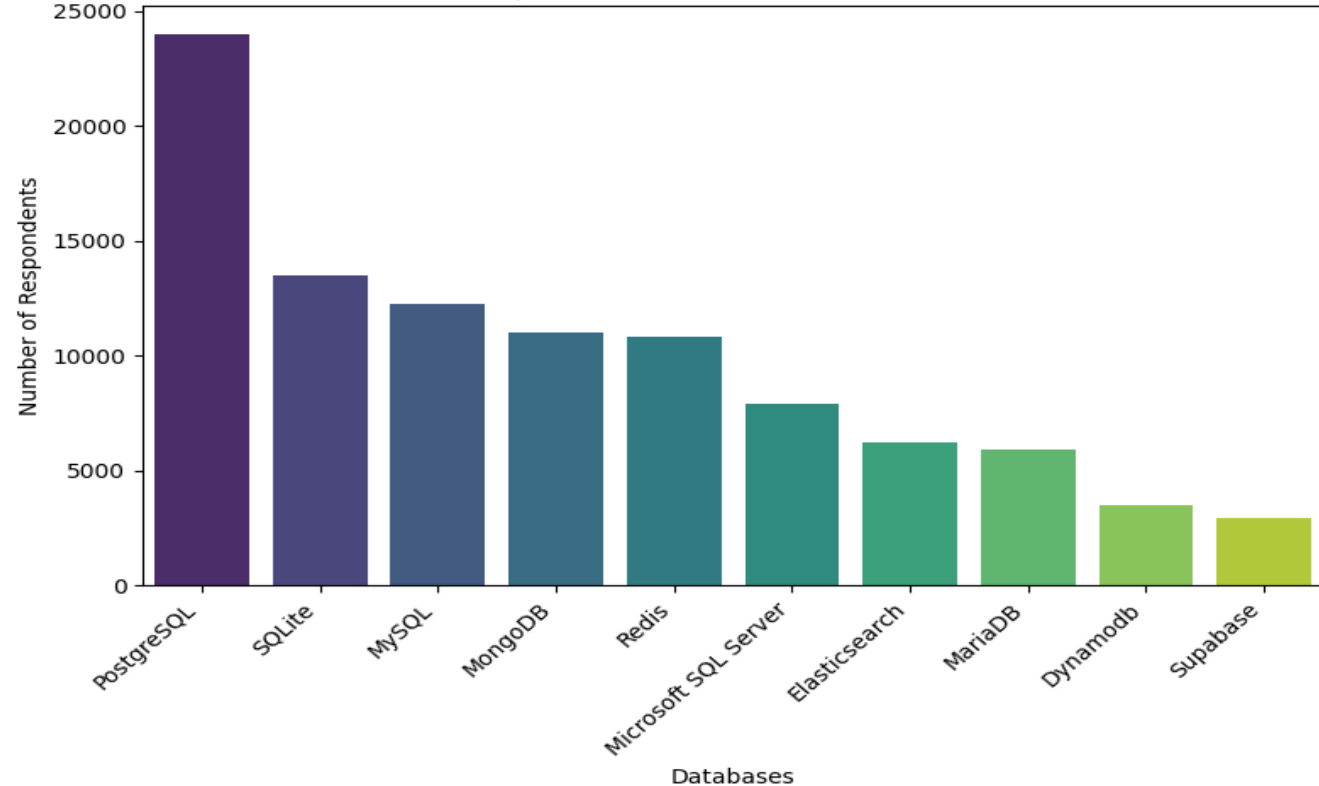
Current Year

Top 10 Databases Used



Next Year

Top 10 Databases for the Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- PostgreSQL is consistently a top choice.
- NoSQL databases are gaining significant traction.
- Open-source databases are favored across both current and predicted usage.

Implications

- PostgreSQL is a strong and versatile option for various database needs.
- NoSQL solutions will play an increasingly important role in data management.
- Open-source databases will continue to dominate the market.

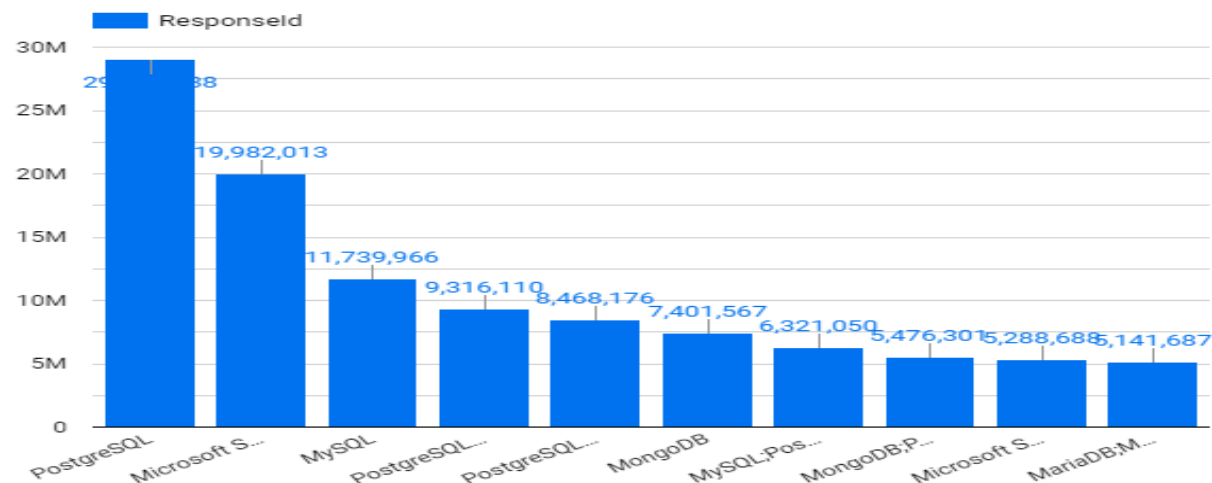
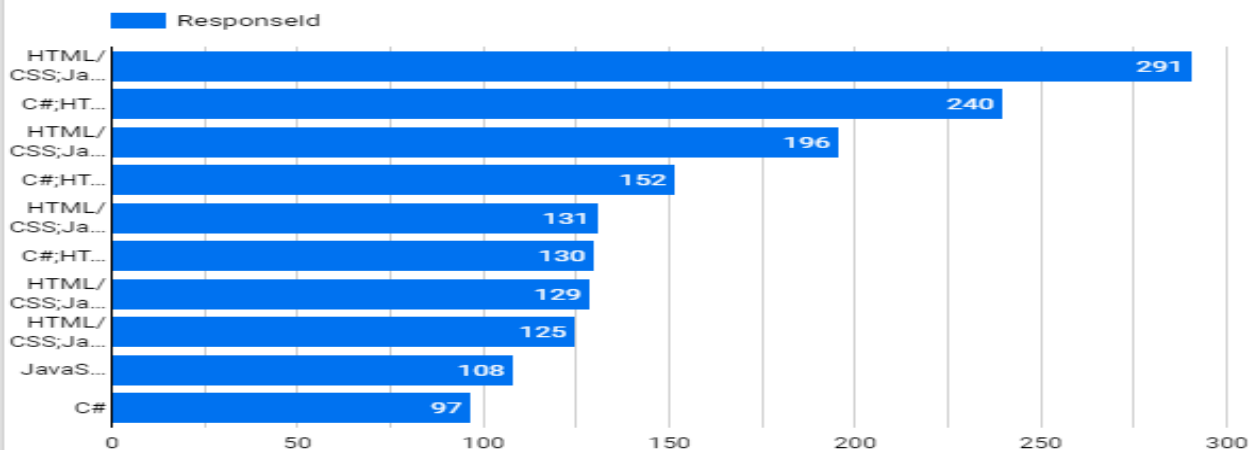


DASHBOARD

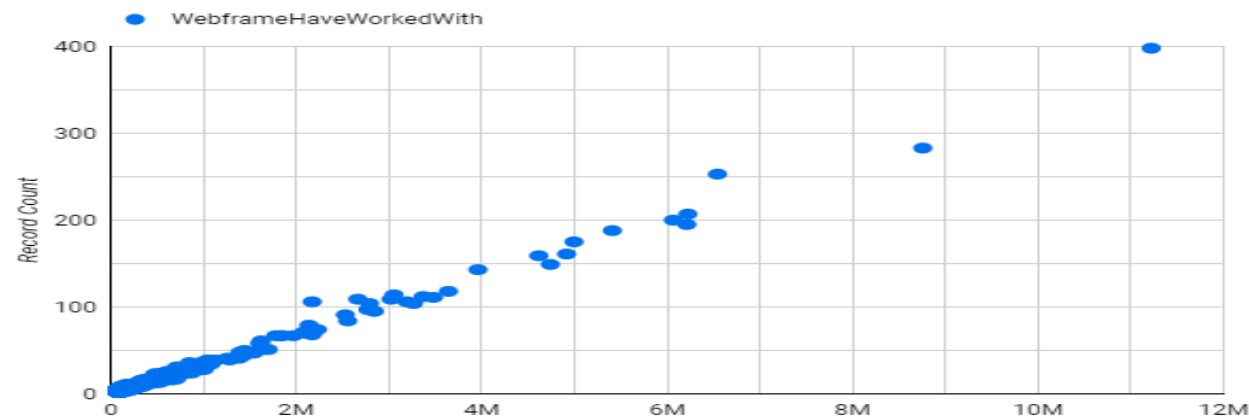


The GitHub link of the Looker Studio dashboard goes here : <https://github.com/Crinklyfoster/capstone.git>

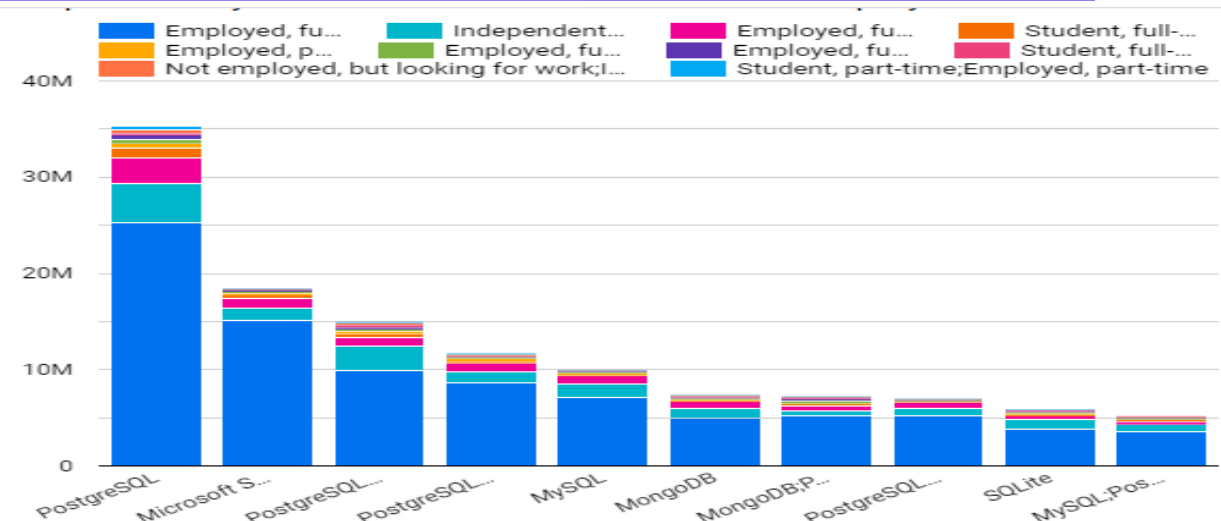
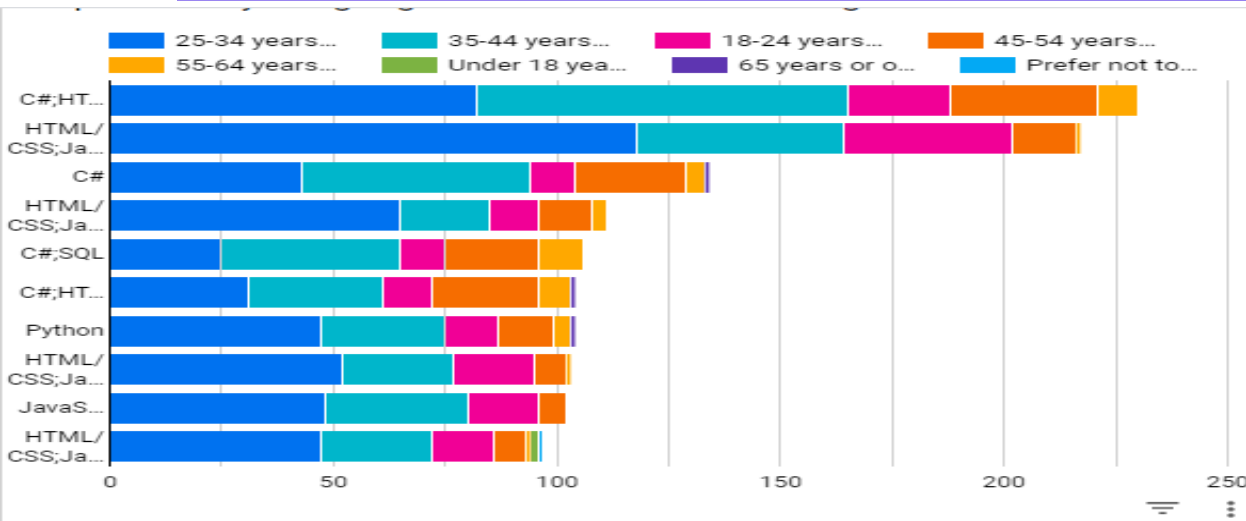
CURRENT TECHNOLOGY USAGE



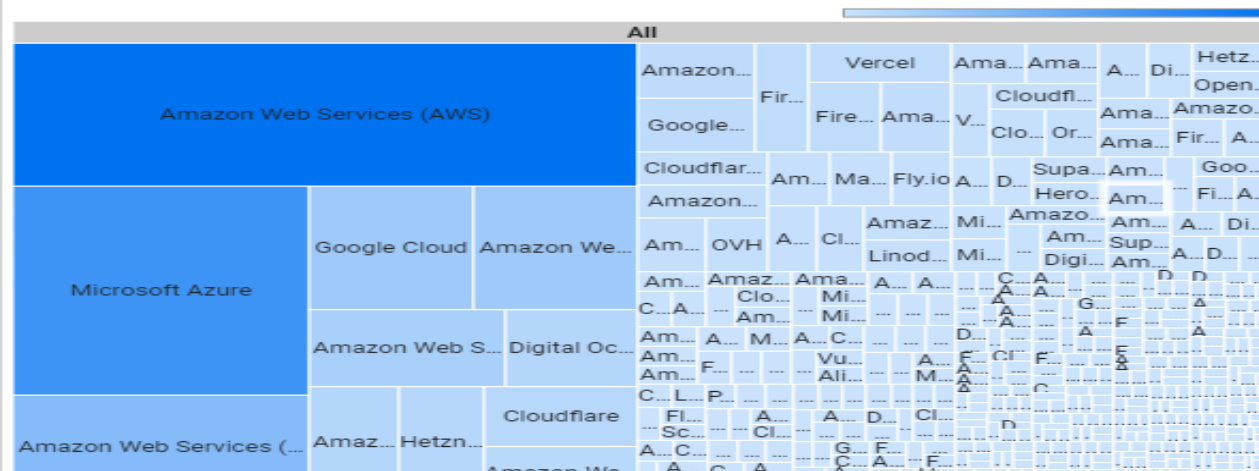
Distribution of Responseld by Record Count



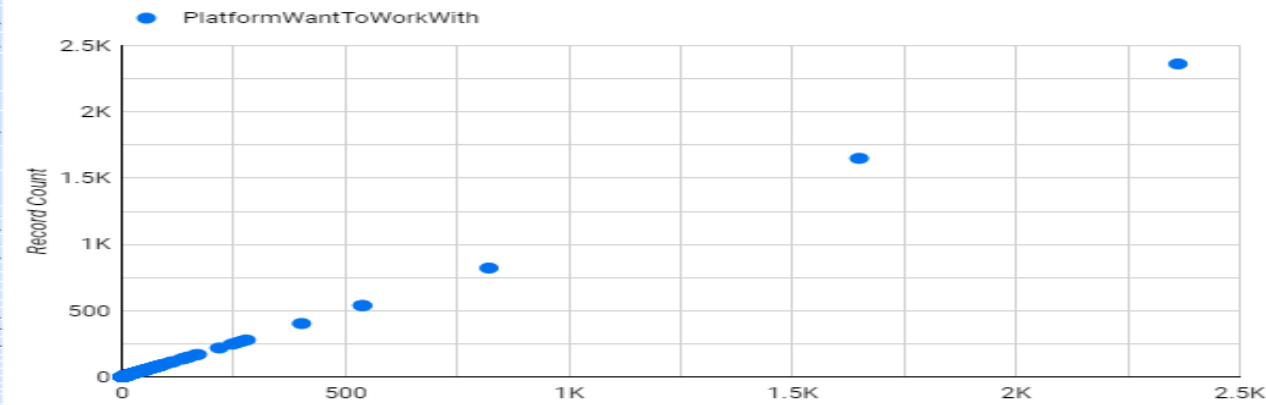
FUTURE TECHNOLOGY TREND



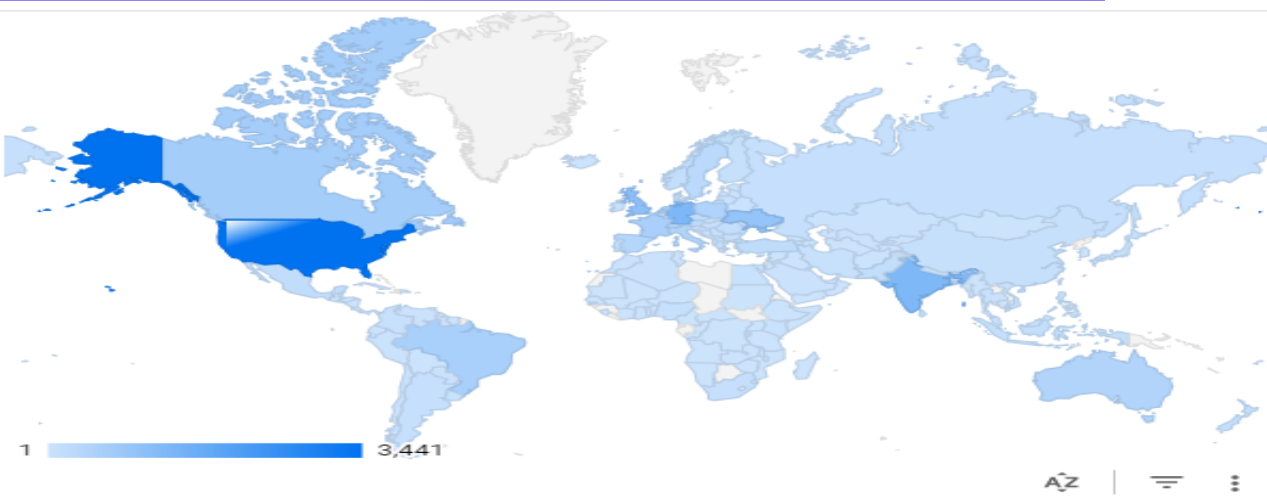
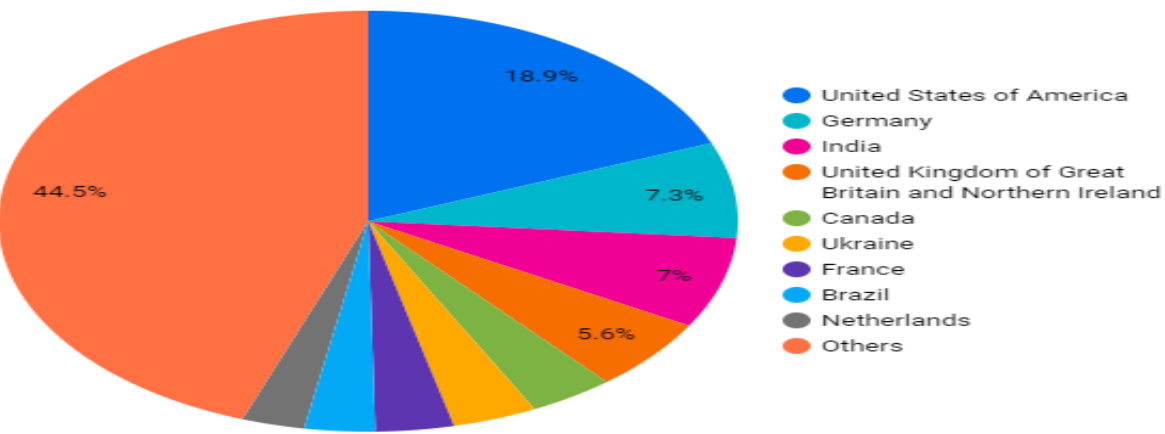
Responseld by PlatformWantToWorkWith



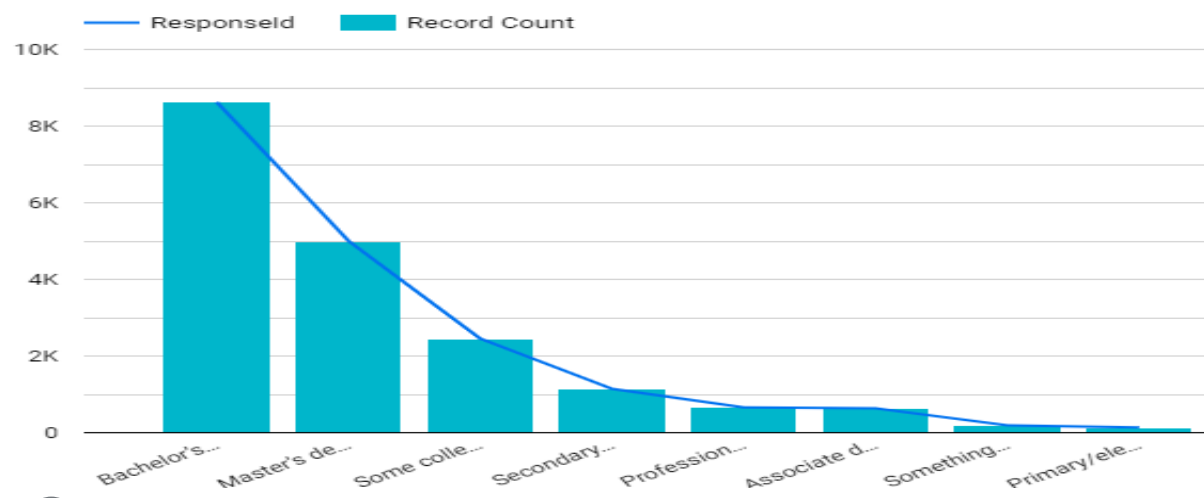
Distribution of Responseld by Record Count



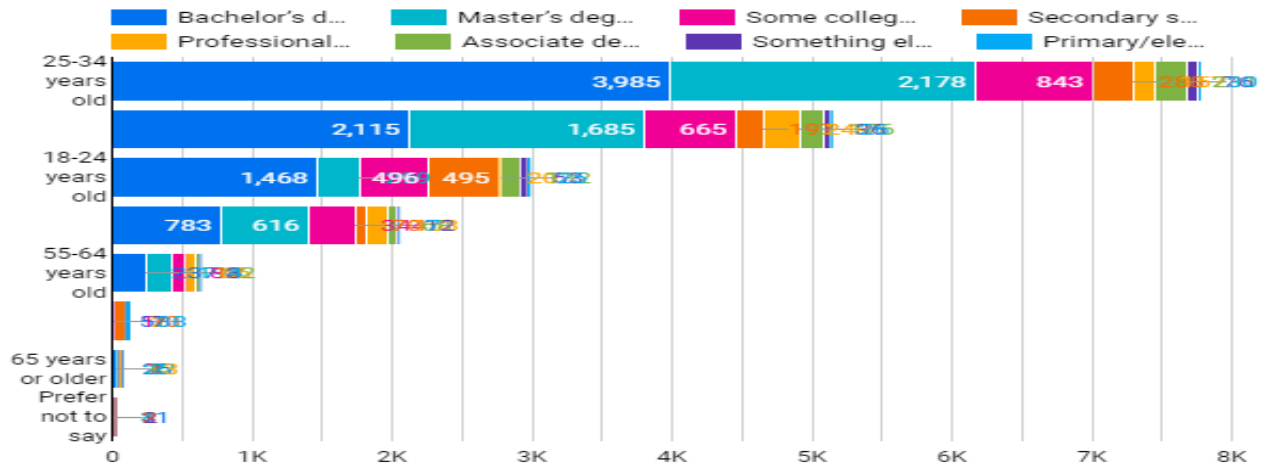
DEMOGRAPHICS



Responded and Record Count by EdLevel



Responded by Age and EdLevel



DISCUSSION

- Technology Usage Trend Now and Future
- Gender, Age and Education Discrimination in IT Industry



OVERALL FINDINGS & IMPLICATIONS

Findings

- Technology trends changes every year
- USA is the top technology country
- There are extreme gender and age discrimination
- Docker and AWS are the most popular platform

Implications

- Programmers should always follow the latest technology trends
- More countries should have the equal chance to be exposed to new technology
- Gender and Age should not be one of the concerns or benefits of Employment



CONCLUSION



- Technology Trends
- Programming Languages, Database, Platform and Web frame Trends
- Demographics Trends
- Gender and Education
- Programming Languages Trends and Salary Trends



APPENDIX

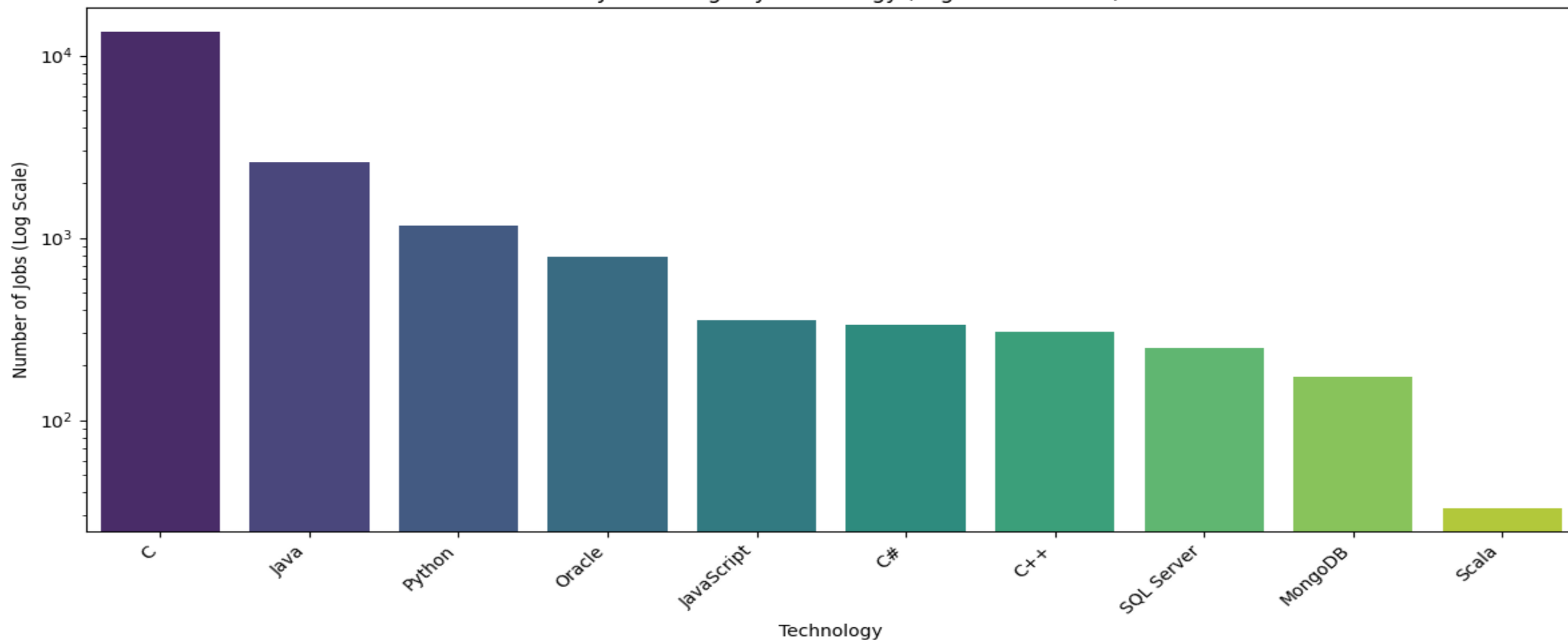


- **IBM Cognos and Google Looker Studio simplifies data storytelling.** This user-friendly platform empowers users to transform data into insightful and visually engaging dashboards. Looker Studio's intuitive interface makes it easy to connect data sources, create interactive visualizations, and share compelling reports with stakeholders. This enables organizations to communicate data-driven insights effectively and make informed decisions.



GITHUB JOB POSTINGS

Total Job Postings by Technology (Logarithmic Scale)



POPULAR LANGUAGES

Average Annual Salary by Programming Language

