STACK OVERFLOW DEVELOPER SURVEY(2019)- Data Analysis

MINTU VIPIN JOY

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IBM **Developer**

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OUTLINE

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

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EXECUTIVE SUMMARY

- Data Cleaning, EDA

- Current Technology Usage Trend
  - Language
  - Database
  - Platform
  - Web Frame

- Future Technology Usage Trend
  - Language
  - Database
  - Platform
  - Web Frame

- Demographic Survey
  - Gender
  - Country
  - Age
  - Education Level

INTRODUCTION

- DataSet - The 2019 Stack Overflow Developer Survey
  - Responders - 90,000 developers
  - Analysing - Programming Languages, Databases, Platform, Web frame
  - Demographics – Gender, Country, Age, Education level
- Target Audience
  - IT Professionals
  - Anyone interested in IT
  - Students
- Significance of predicting the trend

METHODOLOGY

- Collect survey data & explore its content
  - Web Scraping
  - APIs.
  - Request library.
- Data Preprocessing & Exploratory data analysis
  - Python
- Data Visualization
  - Highlight distribution of data, relationships, the composition and
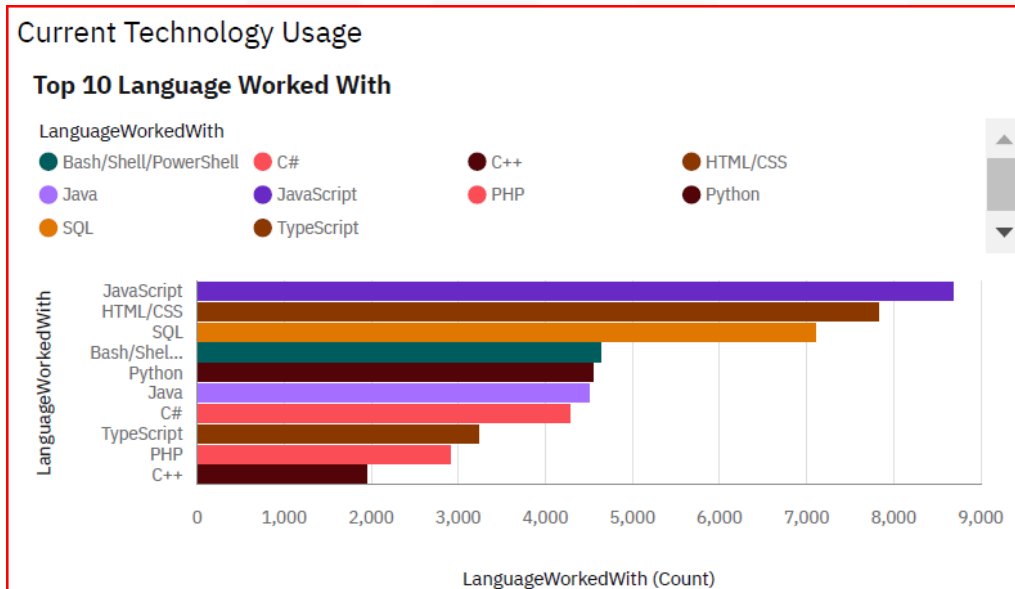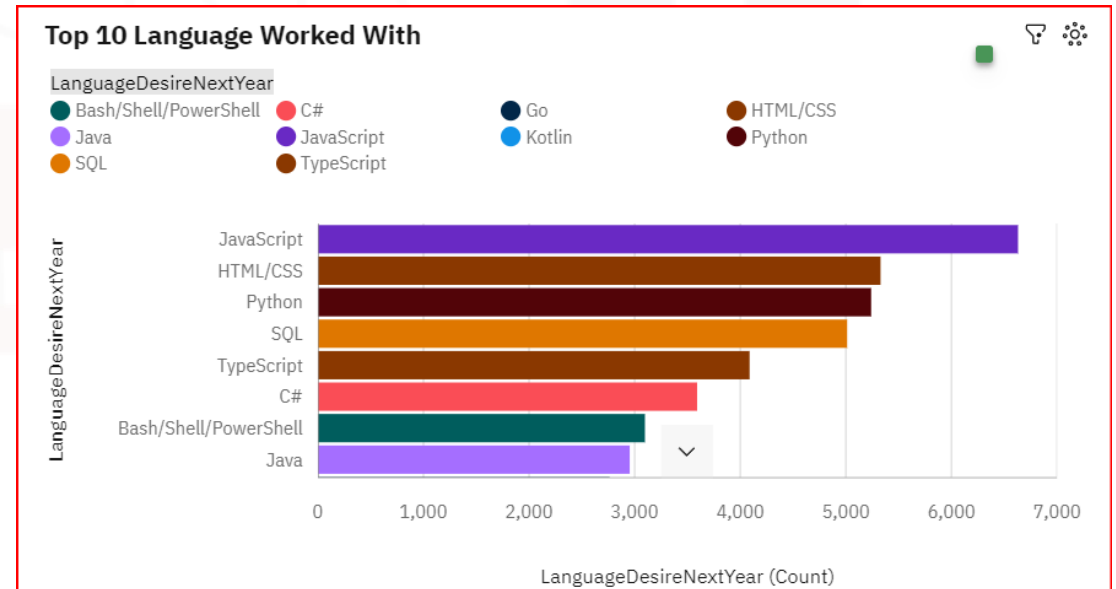 - comparison of data- python
- Dashboard
  - IBM Cognos Analytics

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RESULTS

PROGRAMMING LANGUAGE TRENDS

Current Year

Next Year

PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

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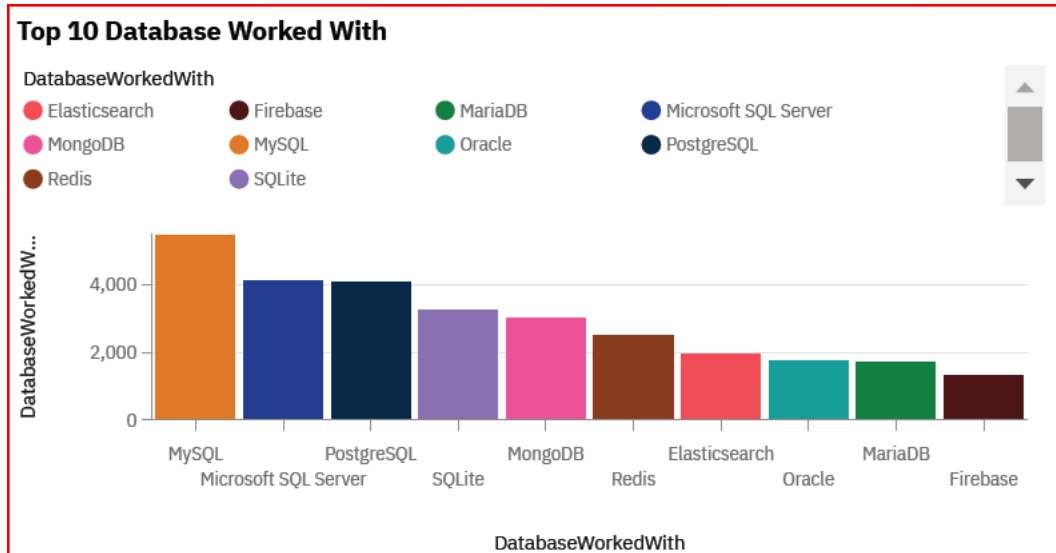- HTML/CSS and SQL still has great portion in language usage trend

Implications

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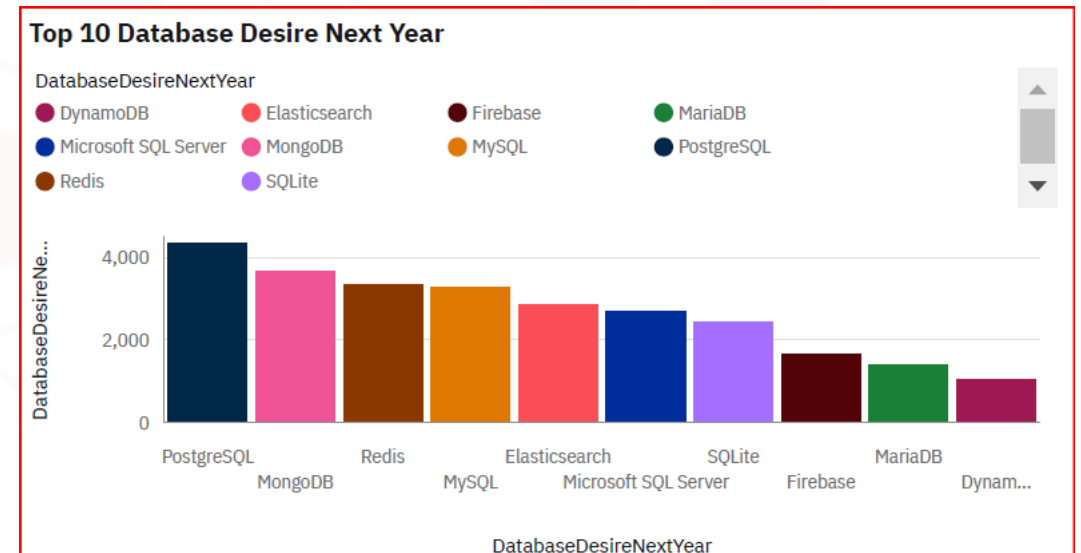- JavaScript and TypeScript are crucial to learn for developers

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DATABASE TRENDS

Current Year

Next Year

DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL as most used database
- Lack of interest in Microsoft SQL Server and SQLite
- Increasing interest in PostgreSQL and MongoDB

Implications

- Microsoft SQL Server and SQLite losing ground in the market
- PostgreSQL and MongoDB establishment in the market
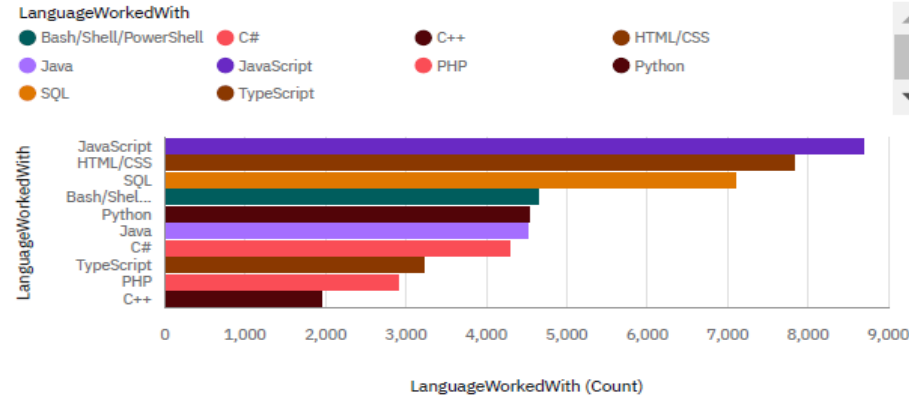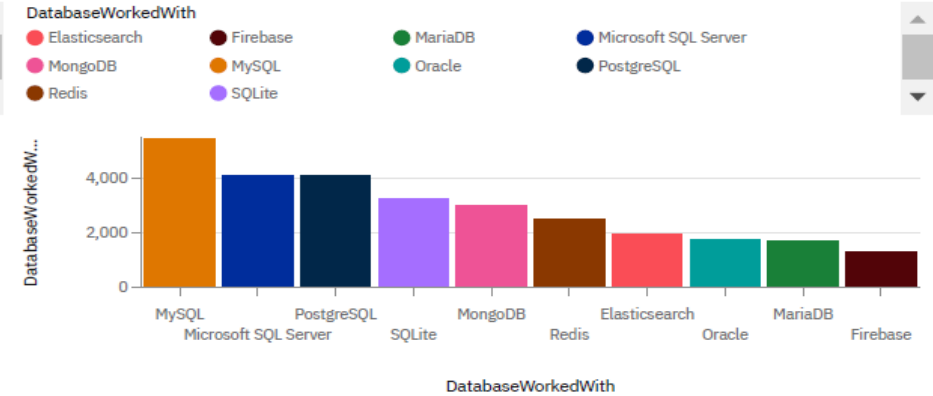- Open source databases are preferred

DASHBOARD

Dashboard

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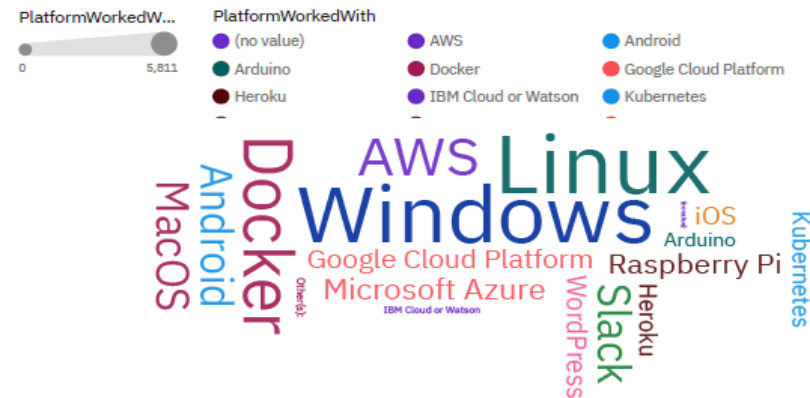SKILLS NETWORK

DASHBOARD TAB 1

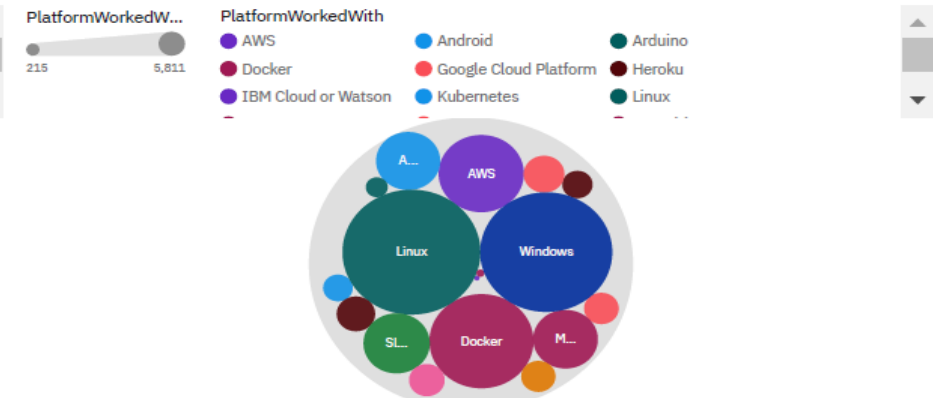Current Technology Usage

Top 10 Language Worked With
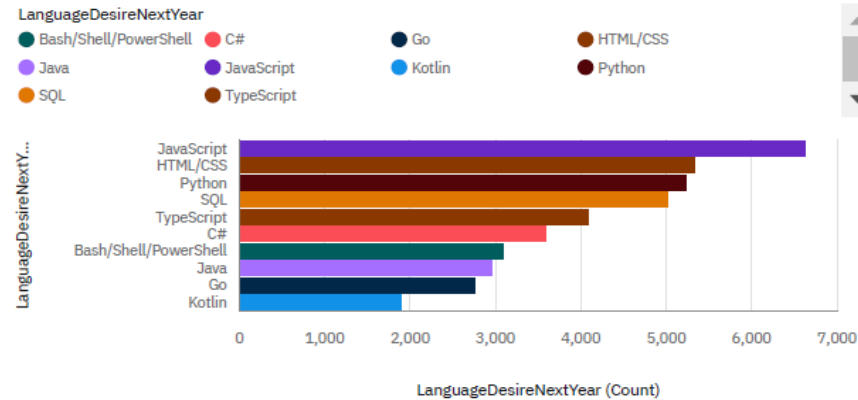
Top 10 Database Worked With

Platform Worked With

Top 10 Web Frame Worked With
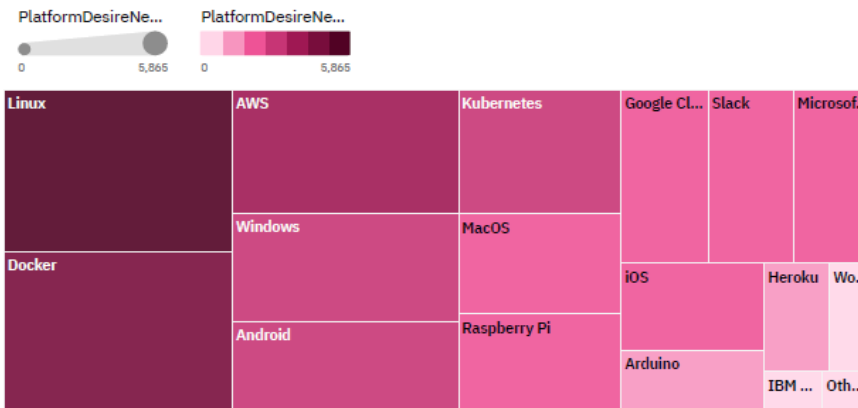
DASHBOARD TAB 2

Future Technology Trend.
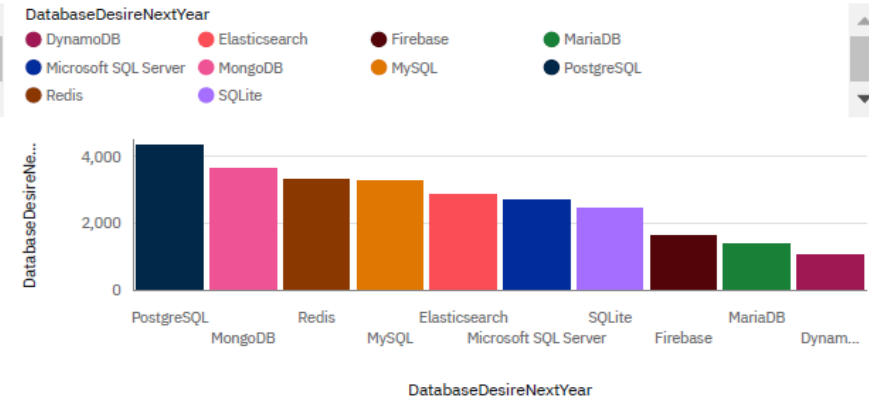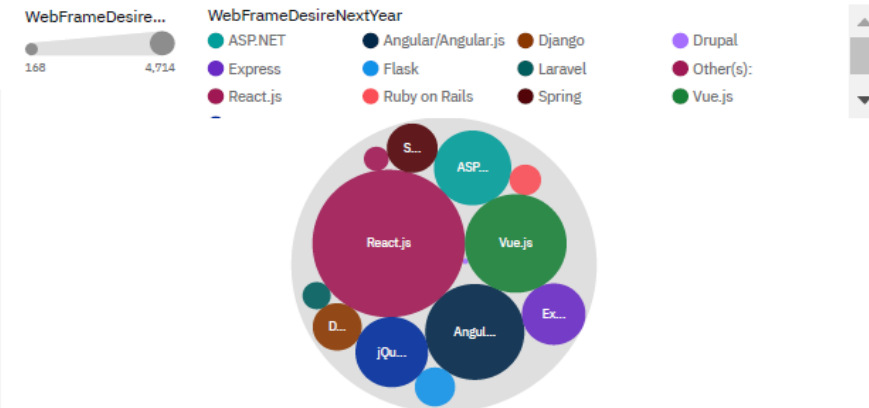
DASHBOARD TAB 3

Demographics

Respondent classified by Gender

Gender
● Woman ● Man

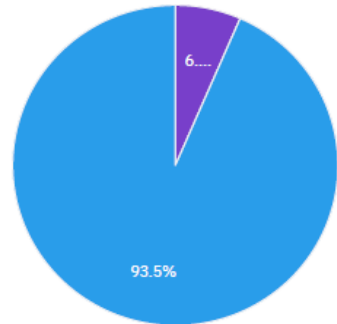**Respondent Count for Countries**

Country (Count)
1 ── 3,058

Country
● Australia ● Israel
● South Africa ● Austria
● Argentina ● Iran

© Mapbox © OpenStreetMap
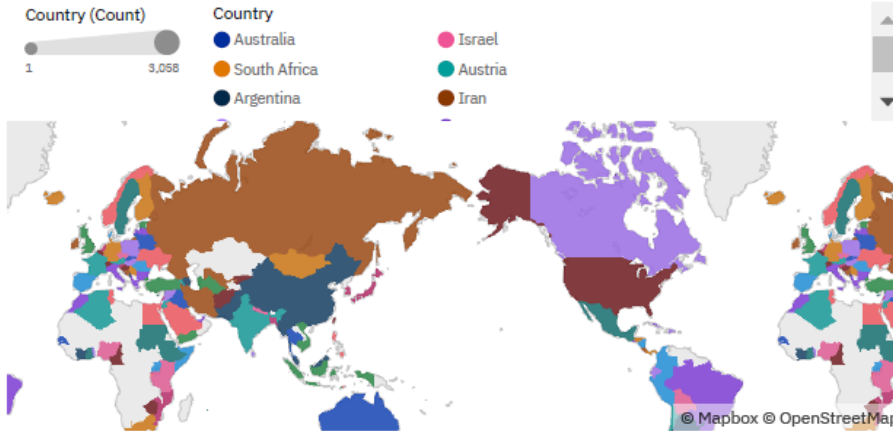
Respondent Count by Age
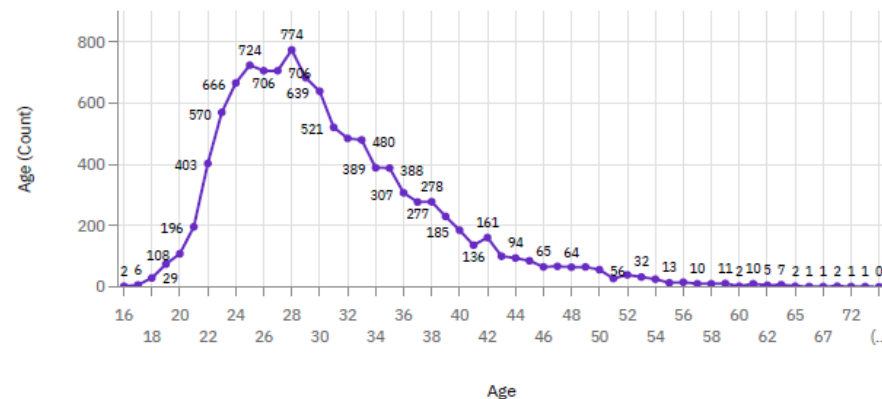
Respondent Count by Gender, classified by Formal Education Level

EdLevel
● Associate degree ● Bachelor's degree (BA, BS, B.Eng.,... ● I never completed any formal edu...
● Master's degree (MA, MS, M.Eng., ... ● Other doctoral degree (Ph.D, Ed.D... ● Primary/elementary school
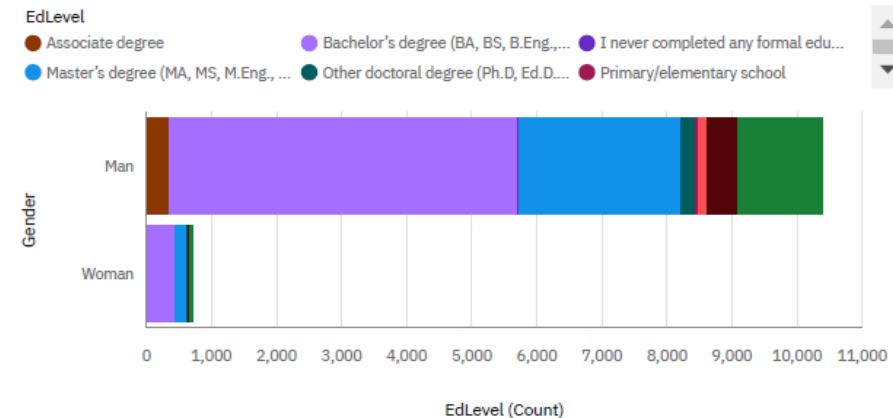
DISCUSSION

- Current & Future Technology Usage Trend

- Gender, Age, Country and Education Discrimination in IT Industry

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OVERALL FINDINGS & IMPLICATIONS

Findings

- JavaScript widely used and TypeScript getting popular

- Developers mostly located in developed countries

- There are extreme gender and age discrimination

Implications

- JavaScript and TypeScript web frames gaining fans

- Young developers without postgrad studies on its majority

- Gender gap and age gap will affect job hiring

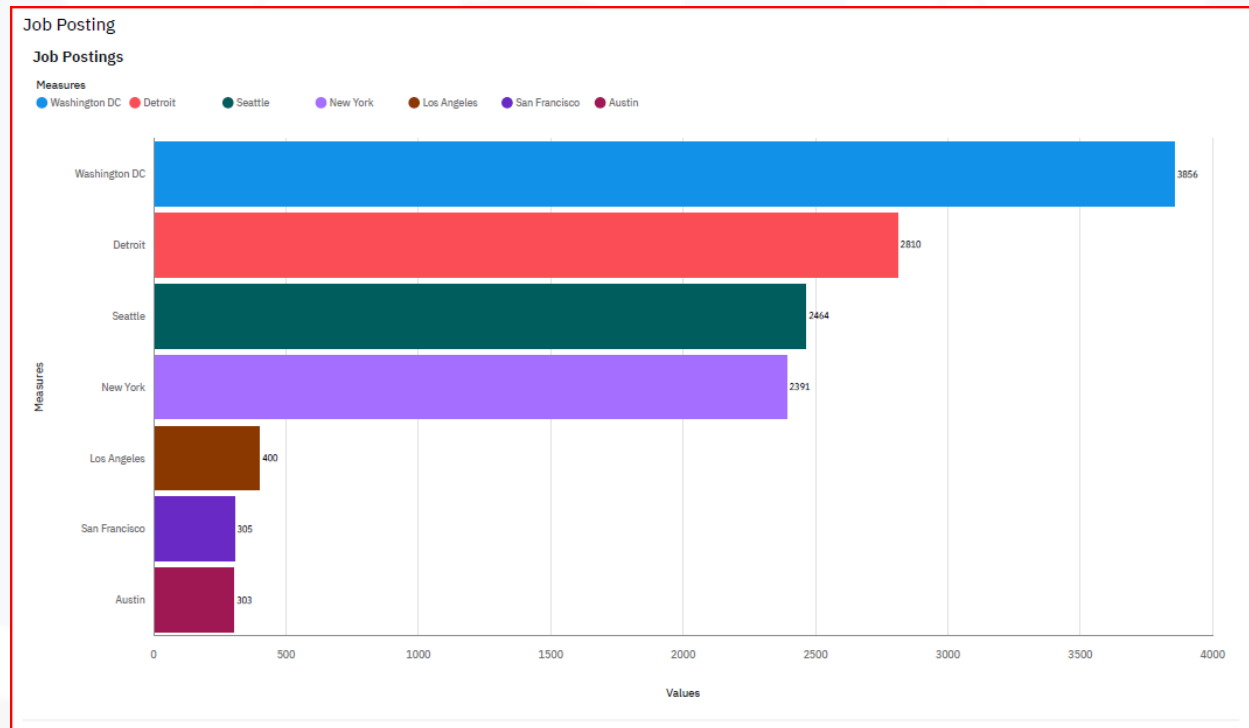**IBM Developer**

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CONCLUSION

- Current & Future Technology Usage Trend
  - Programming Language, Database, Platform and Web frame
- Gender, age, country, and education significantly influence workforce diversity, skills development, and market dynamics in the IT industry

APPENDIX

JOB POSTINGS

POPULAR LANGUAGES