



ANALYZING TECHNOLOGY TRENDS

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Dataset Source :

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OUTLINE



- Executive Summary
- Introduction
- Methodology
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- Discussion
 - Findings & Implications
- Conclusion
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EXECUTIVE SUMMARY



- Contextualization of data and the goal of the analysis
- Methodology Description
- Capturing Current Technology Usage This Year
 - Top 10 Programming languages
 - Top 10 Databases
 - Top 10 Web frames
- The data also shows the choices of programming languages, databases, web frames to be used next year.
 - Top 10 Programming languages
 - Top 10 Databases
 - Top 10 Web frames
- Classification on respondents in terms of
 - Age
 - Gender
 - Education level
 - Geographic Location

INTRODUCTION



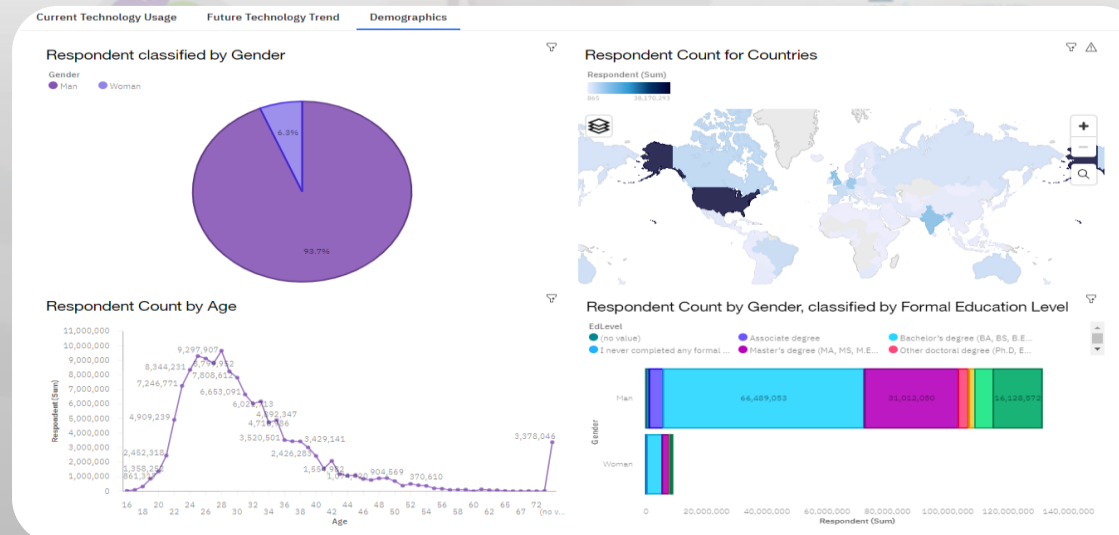
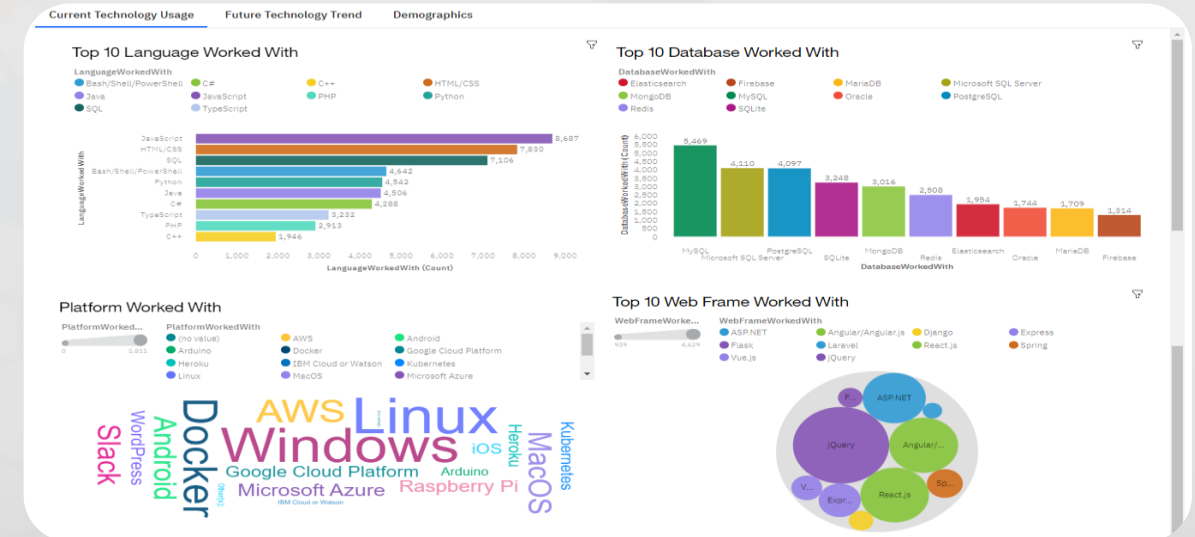
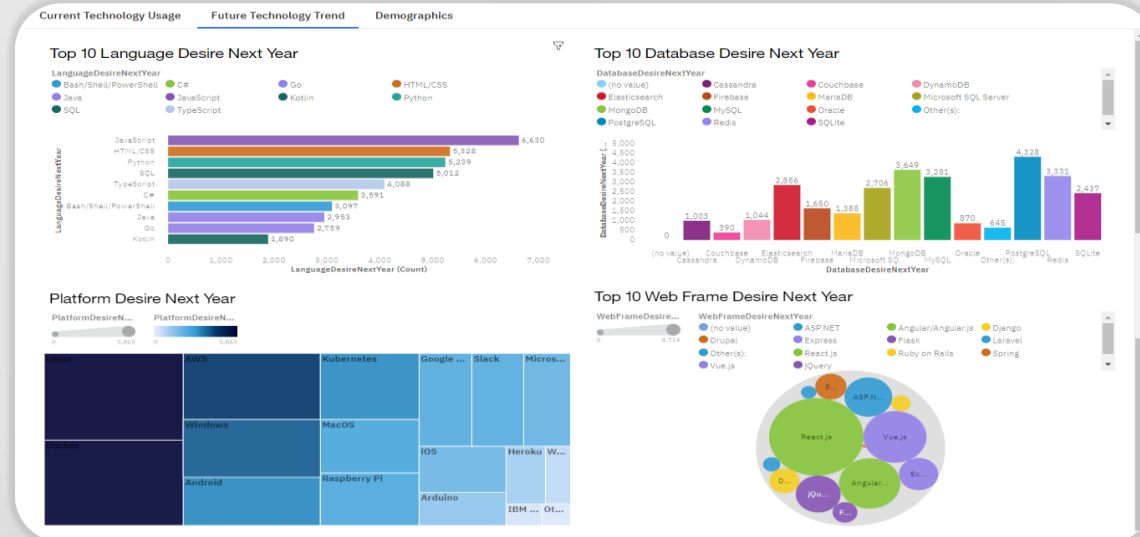
- Stack Overflow's survey that happened in 2019 collects a huge number of people's responses who code or are related to coding all over the world
- Data collected does not represent all of the people who code around the world
 - It represents people based on their responses
 - It differentiates the sample of the survey based on gender, country of origin and their job roles
- Analyzing the current usages and trends in terms of programming languages, databases, web frames.
- Purpose of Analysis
 - Analyzing factors like age, gender and geographic locations in the IT sector
 - Analyzing the demand of skills in the IT industry
 - Determining the future requirements in this industry
- Target Audience
 - Hiring Managers
 - Software Engineers
 - Developers

METHODOLOGY



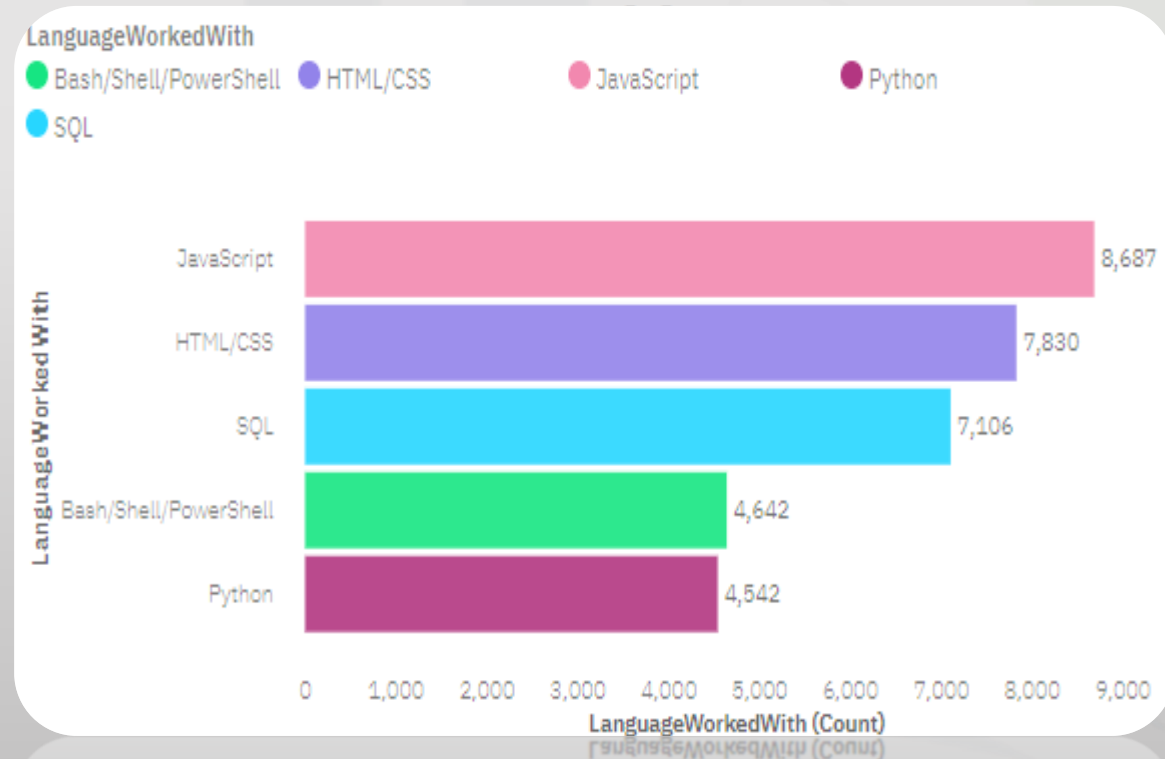
- **DATA COLLECTION**
 - MODIFIED STACK OVERFLOW SURVEY DATASET
 - WEB SCRAPING
 - APIs
- **DATA EXPLORATION**
 - SEEING TRENDS THROUGH DATA
- **EXPLORATORY DATA ANALYSIS(EDA)**
 - DATA DISTRIBUTION
 - CORRELATION
 - FINDING OUTLIERS
- **DATA VISUALIZATION**
 - IBM COGNOS
- **DATA PRESENTATION**
 - MICROSOFT POWERPOINT

RESULTS

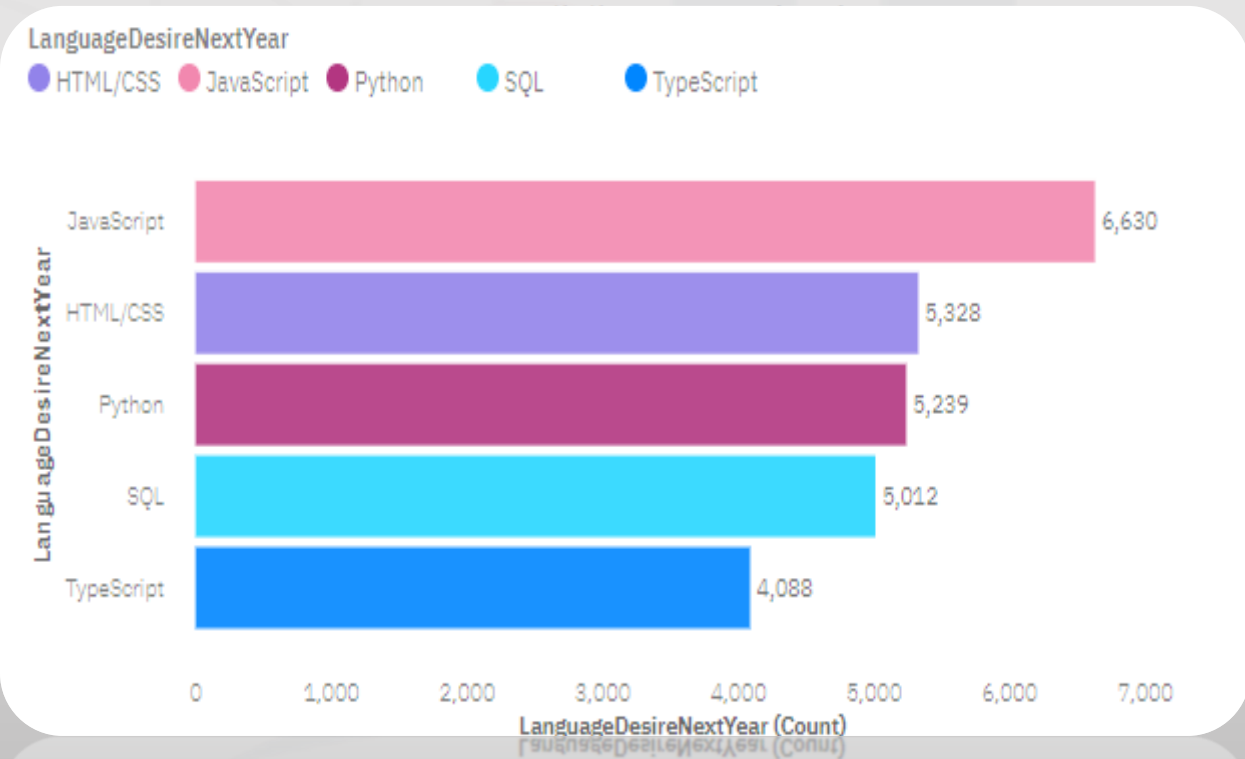


PROGRAMMING LANGUAGE TRENDS

Top 5 Programming Languages for Current Year



Top 5 Programming Languages for Next Year



PROGRAMMING LANGUAGE TRENDS – FINDINGS & IMPLICATIONS

Findings

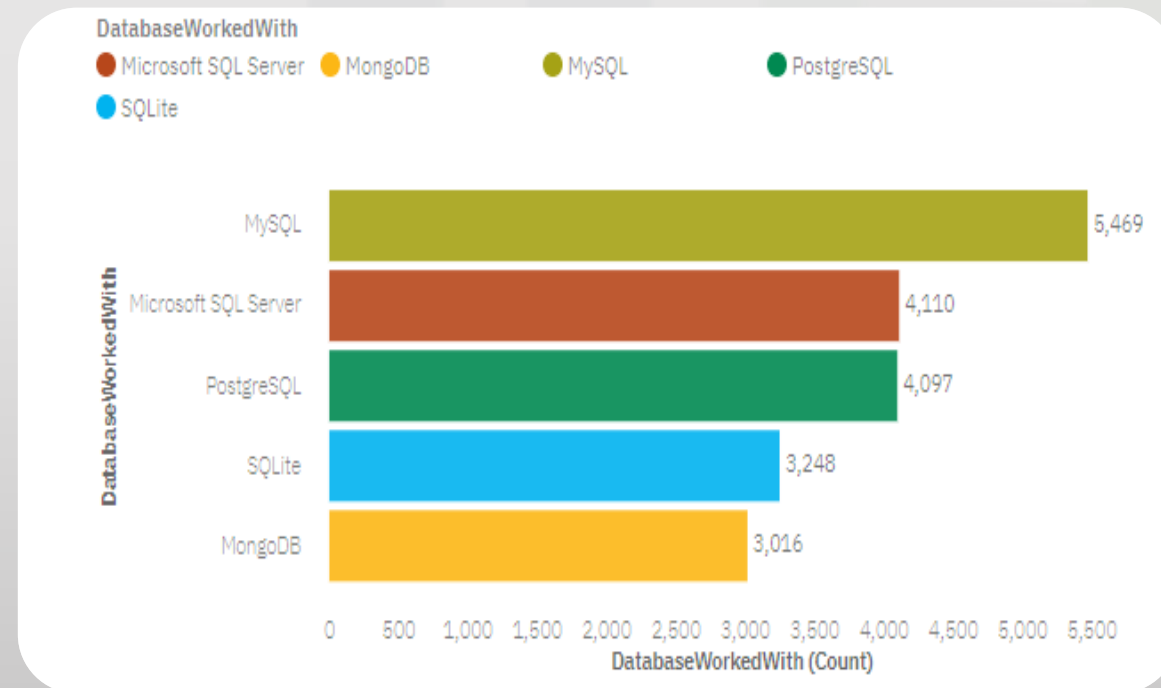
- Java Script is the most used Programming Language and will be so next year too
- HTML/CSS will retain the second spot next year too and PowerShell will not be in top 5
- Python is gaining popularity and will become third most used Programming Language
- TypeScript will enter the top 5 next Year

Implications

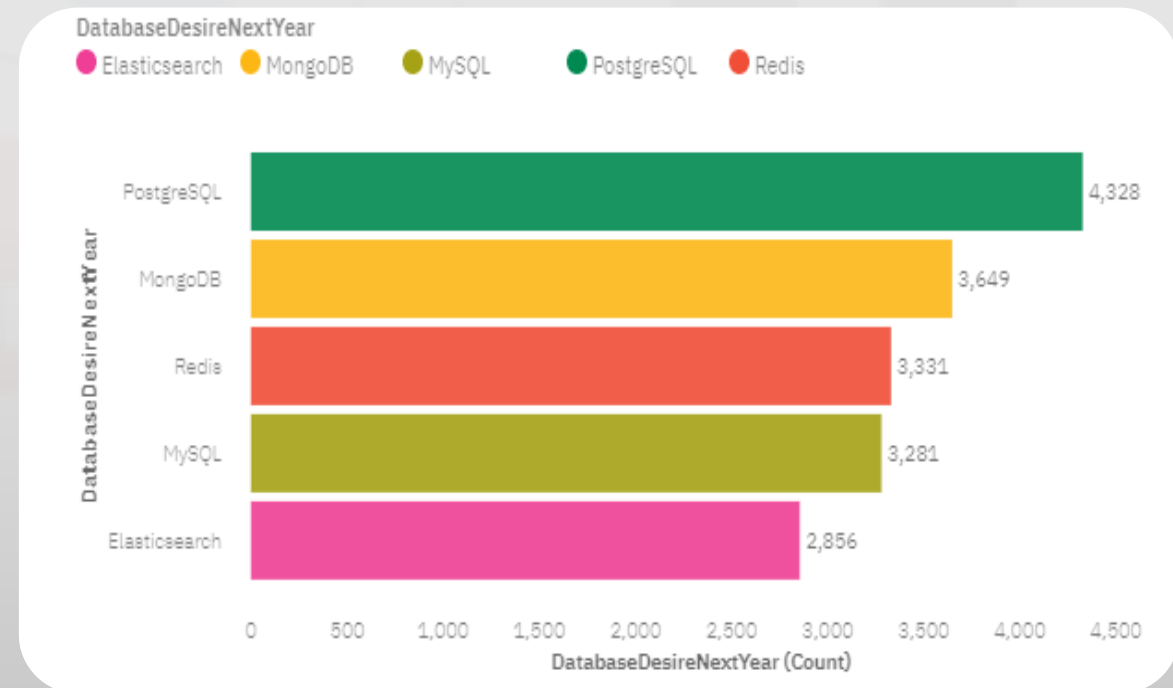
- As Data Science, ML and AI is expecting to grow, Python will be more in demand following next year
- PowerShell users will have to upskill themselves in terms of the demand of the industry
- Web and Software developers will be in demand as Java Script and HTML/CSS will rule the IT sector

DATABASE TRENDS

Top 5 Databases for Current Year



Top 5 Databases for Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL is at the top this year and it will be in top 5 next year
- PostgreSQL is in top 5 but will be at the top next year
- Microsoft SQL Server and SQLite are there in the top 5 this year but their demand will decrease that will not keep them in the top 5
- MongoDB is in top 5 but will jump to 2nd spot next year

Implications

- MySQL will still be in use in vast areas
- Databases are important for Data Science and Back End Development and so they will continue to be in demand
- Big Data is taking over the sector and so NoSQL databases are become and will be in demand following next year

DASHBOARD



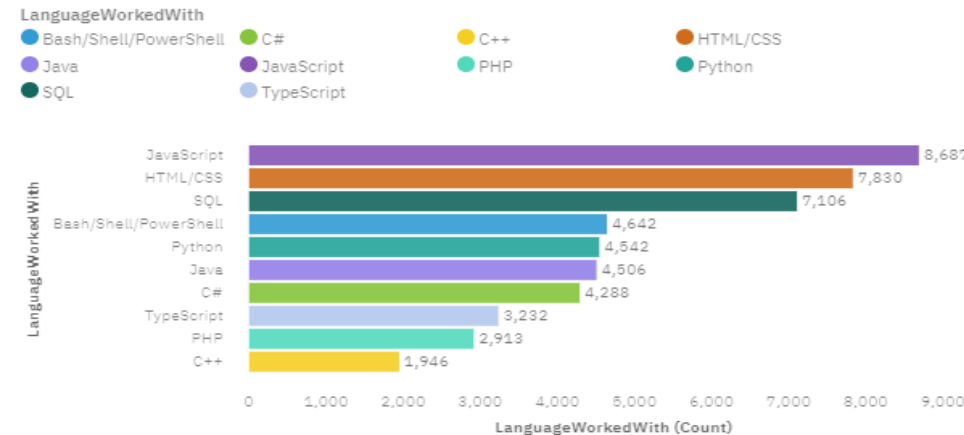
The permanent link of the read-only view of the Cognos dashboard



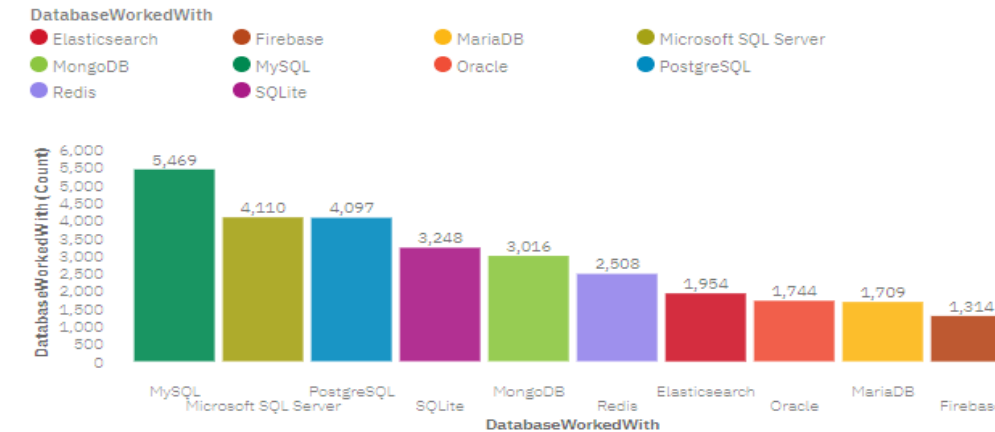
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CURRENT TECHNOLOGY USAGE

Top 10 Language Worked With



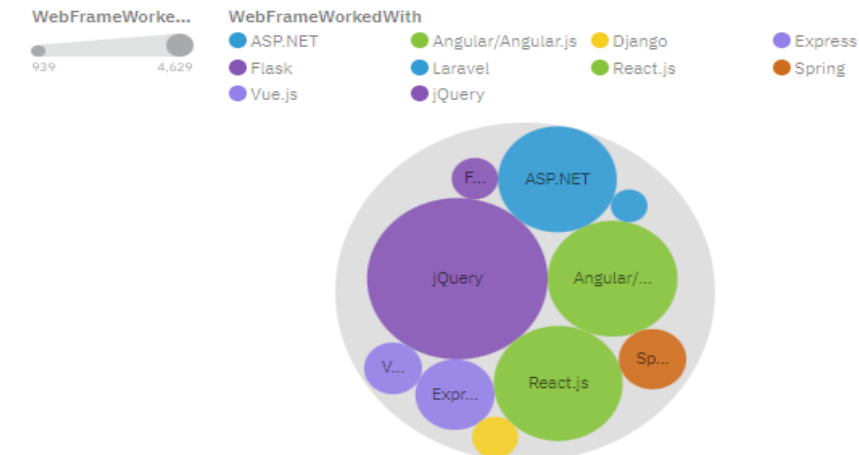
Top 10 Database Worked With



Platform Worked With

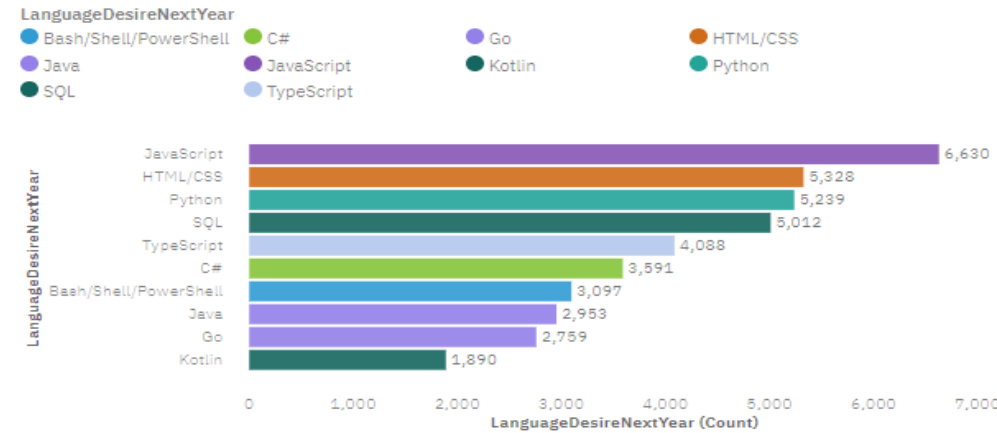


Top 10 Web Frame Worked With

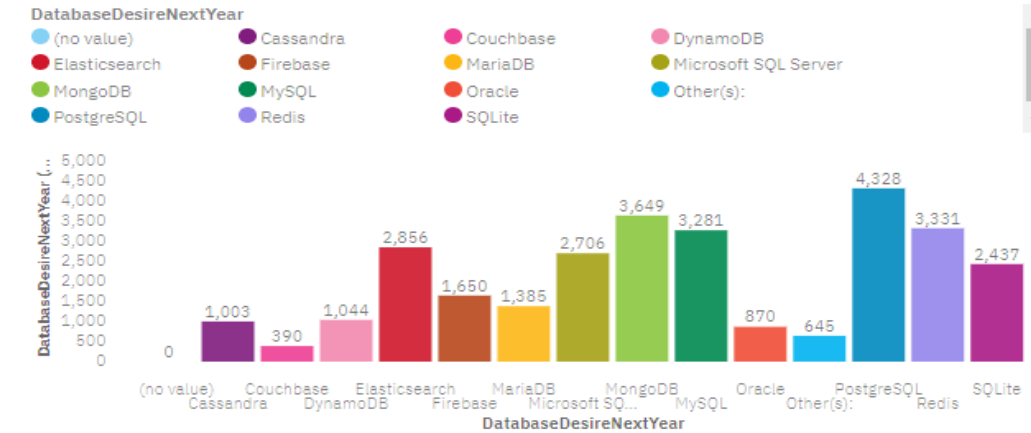


FUTURE TECHNOLOGY TRENDS

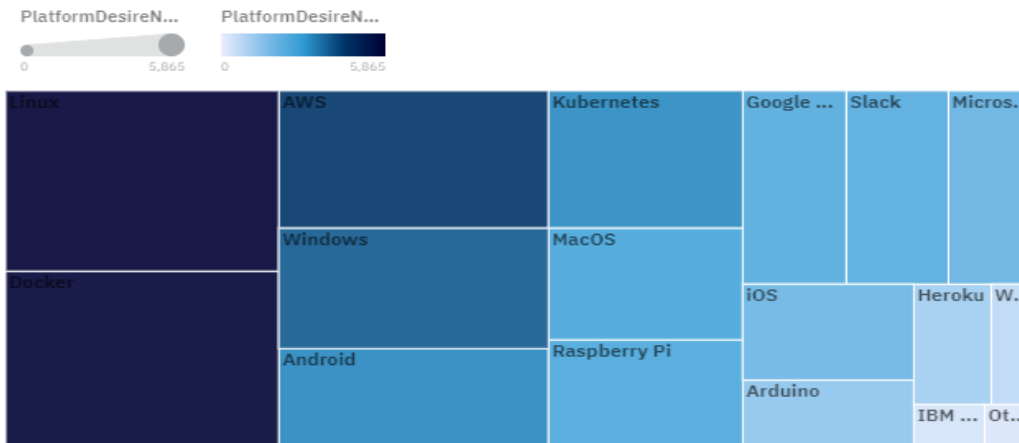
Top 10 Language Desire Next Year



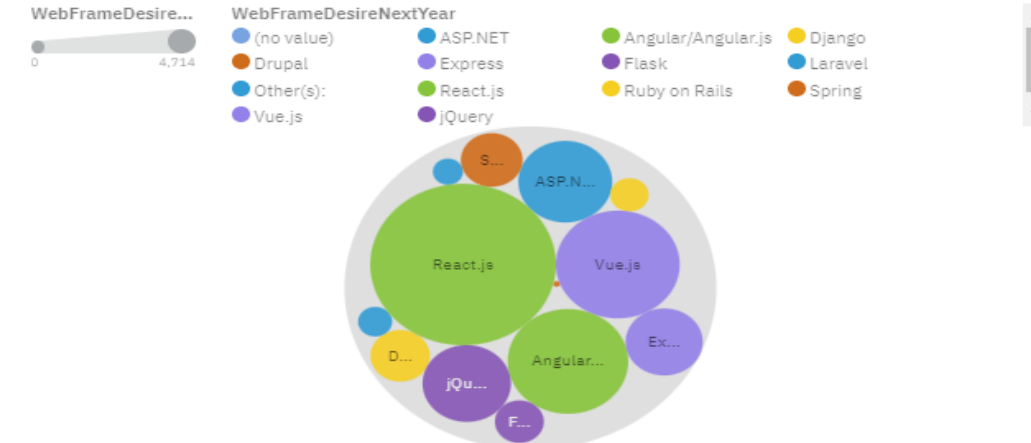
Top 10 Database Desire Next Year



Platform Desire Next Year



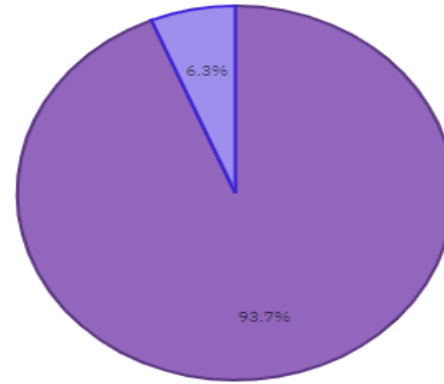
Top 10 Web Frame Desire Next Year



DEMOGRAPHICS

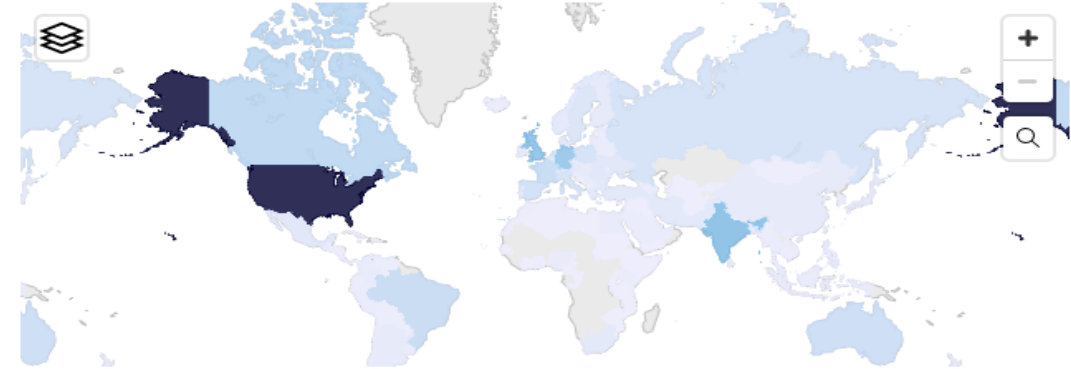
Respondent classified by Gender

Gender
● Man ● Woman

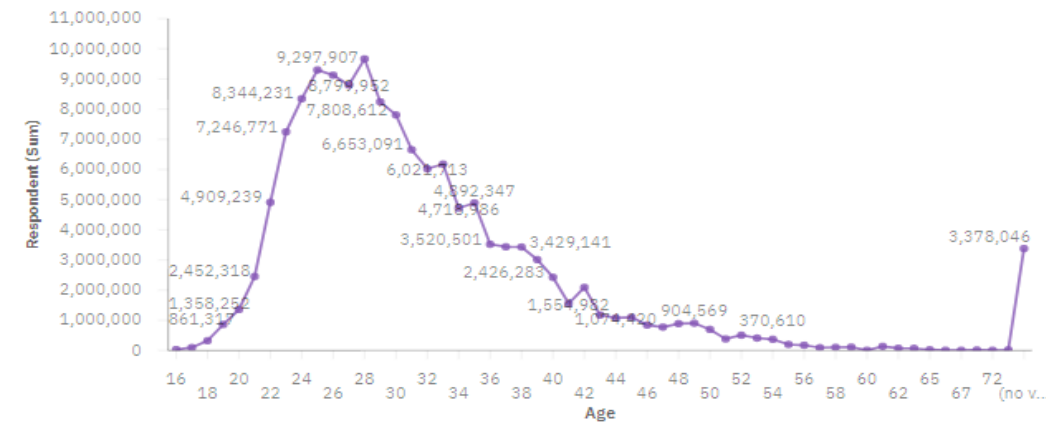


Respondent Count for Countries

Respondent (Sum)
865 38,170,293

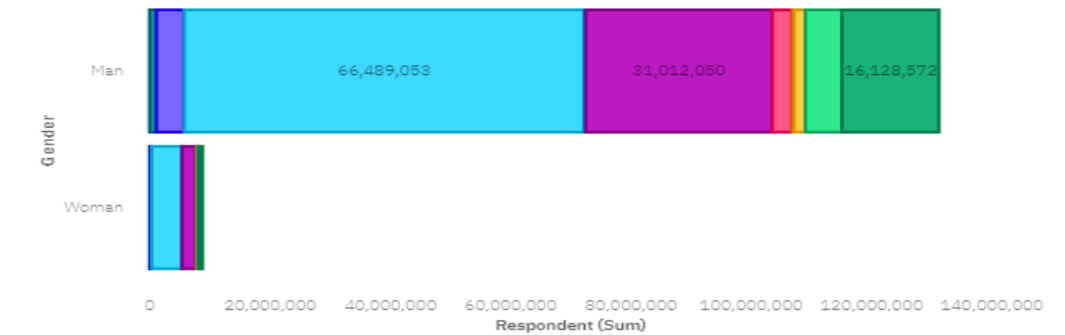


Respondent Count by Age



Respondent Count by Gender, classified by Formal Education Level

EdLevel
● (no value) ● Associate degree ● Bachelor's degree (BA, BS, B.E...
● I never completed any formal ... ● Master's degree (MA, MS, M.E... ● Other doctoral degree (Ph.D, E...



DISCUSSION



- CURRENT TECHNOLOGY USAGE AND TRENDS IN THE IT INDUSTRY
 - PROGRAMMING LANGUAGES
 - DATABASES
 - PLATFORMS
- EDUCATION LEVEL, AGE, GEOGRAPHICAL BIASNESS IN IT SECTOR

OVERALL FINDINGS & IMPLICATIONS

Findings

- 90% men working in the IT industry that indicates gender based discrimination
- Technology will keep evolving and the demand will be higher in future
- As Big Data is increasing enormously, NoSQL databases will be in high demand
- Some languages like Python, HTML/CSS and Java Script will be in top of the list

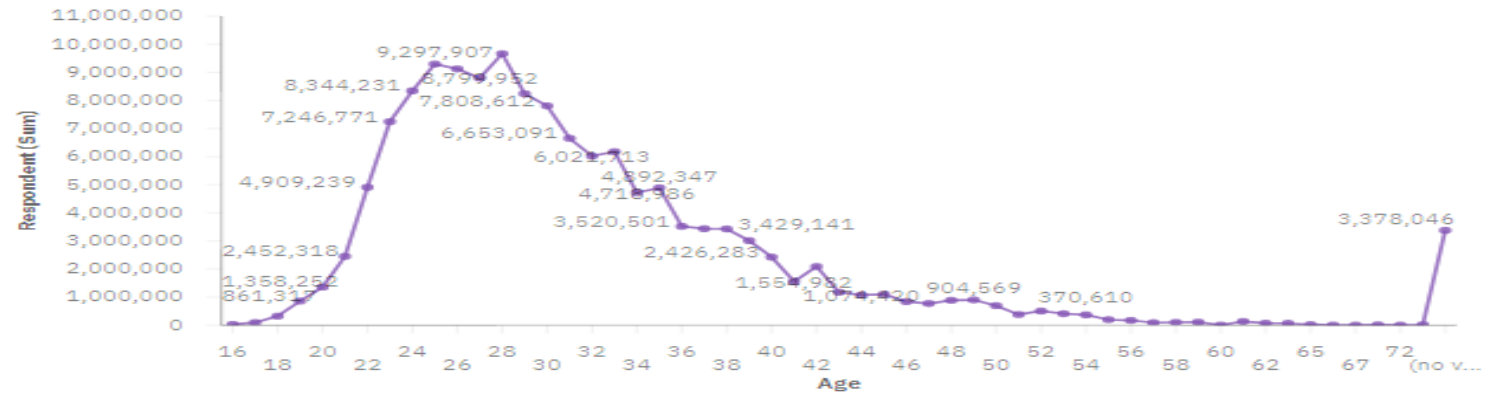
Implications

- United States has developed their IT industry enormously and other countries should also follow the path of the United States
- There will be a huge change in terms of programming languages, databases and web frames and so developers should upskill themselves
- In terms to grow, the sector needs to reduce the discrimination in terms of gender

CONCLUSION



- A good understanding of current usage and future trends in the IT industry is obtained
- The growth suggests that developers and other people associated with programming and big data need to upskill and learn other technologies
- Discrimination is the main reason in some countries that can halt their advancement in the IT sector
- Big Data and NOSQL databases will play a big role in the IT industry and will play a huge role in terms of growth of the sector
- There is no monopoly of languages or platforms in the sector and more leaning two to three of them (programming languages, databases, web frames) is suggested

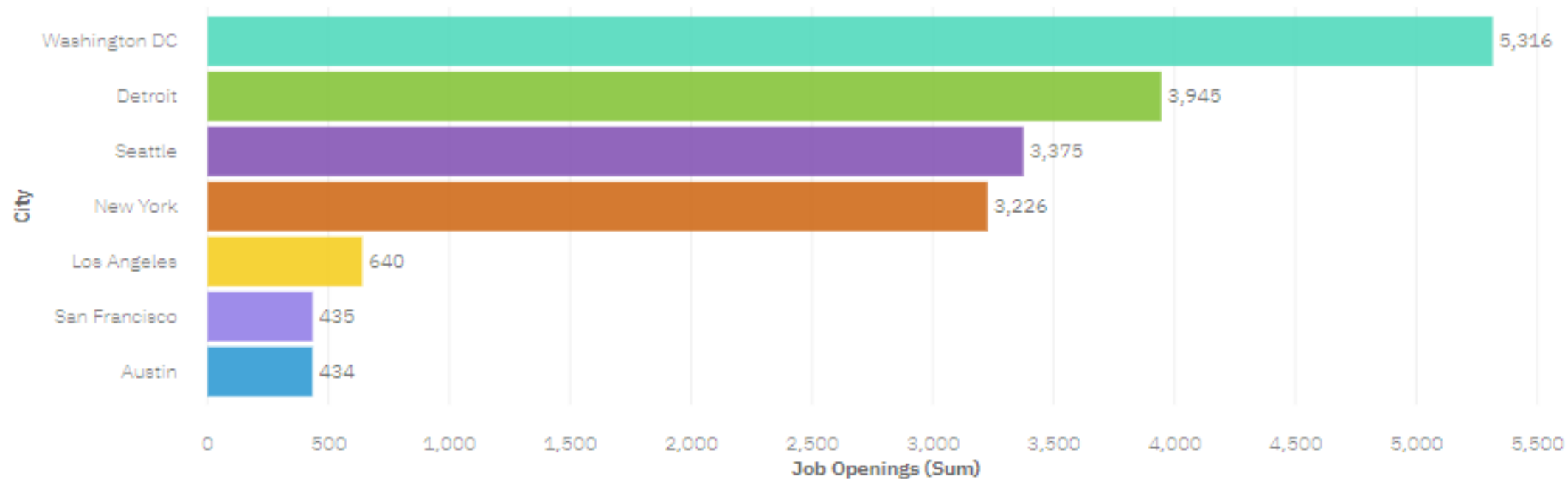


JOB POSTINGS

Job Postings

City - Job Openings (Sum)

Austin | 434 Detroit | 3,945 Los Angeles | 640 New York | 3,226 San Francisco | 435 Seattle | 3,375
Washington DC | 5,316



POPULAR LANGUAGES

