



STACK OVERFLOW DEVELOPER SURVEY

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OUTLINE



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

EXECUTIVE SUMMARY



- In-demand skills in the field of IT & Business consulting are changing very fast.
- To keep up with ever-changing skill sets, future required skill sets must be identified.
- The current and future trends of Programming languages, Databases, Platforms and Web Frames are summarized.
- The survey helps HR make wiser hirings for future employees, update educational plans for current employees, and can suggest newer technologies to the IT team.

INTRODUCTION



- About:
 - Analyzing skill & platform trends in IT section
- Purpose:
 - Identify skills required for future
 - Identify top 10 programming languages in demand
 - Identify top 10 database skills in demand
 - Identify popular web frames in demand
 - Summarize demographics (age, gender, education level)
- Audience:
 - Stakeholders in IT & business consulting firms

METHODOLOGY



- Step 1: Data Collection
 - A subset of relevant data were collected from different sources
 - Sources include:
 - Stack Overflow Developer survey,
 - GitHub Job Postings,
 - Programming Languages Annual Salary
- Step 2: Data Wrangling
 - Data was cleaned, missing values were imputed, & duplicates removed.
- Step 3: Data Visualization
 - Different charts and a comprehensive dashboard are created.
- Step 4: Final Presentation
 - Findings were documented in the current presentation.

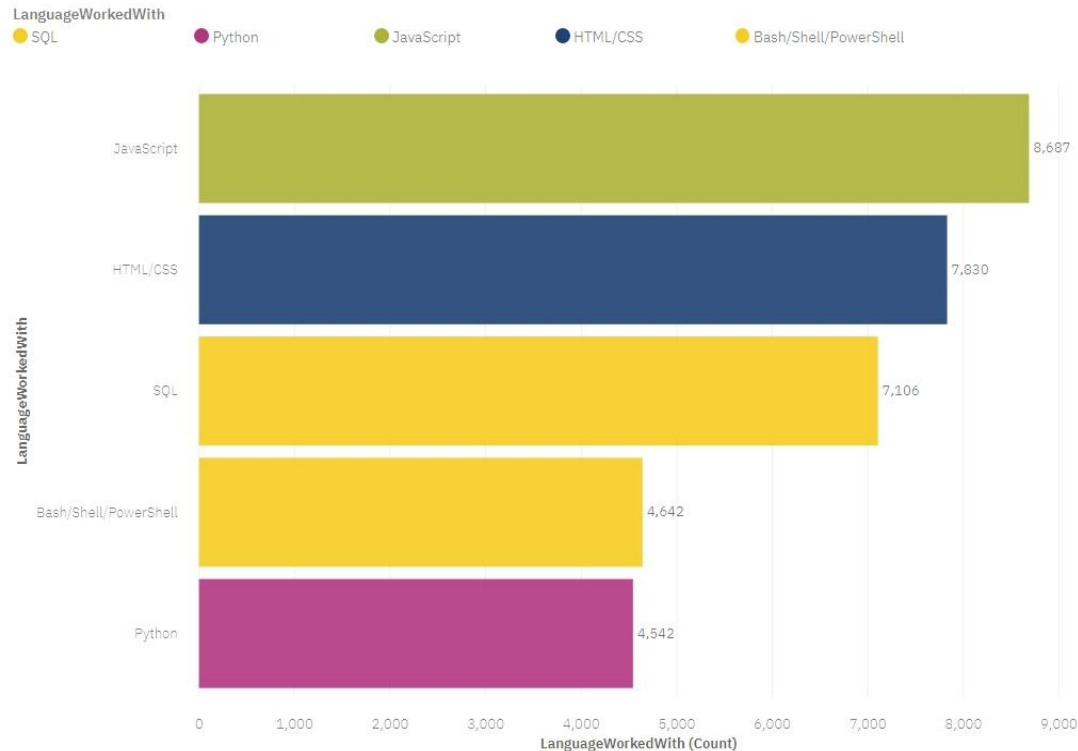
RESULTS



PROGRAMMING LANGUAGE TRENDS

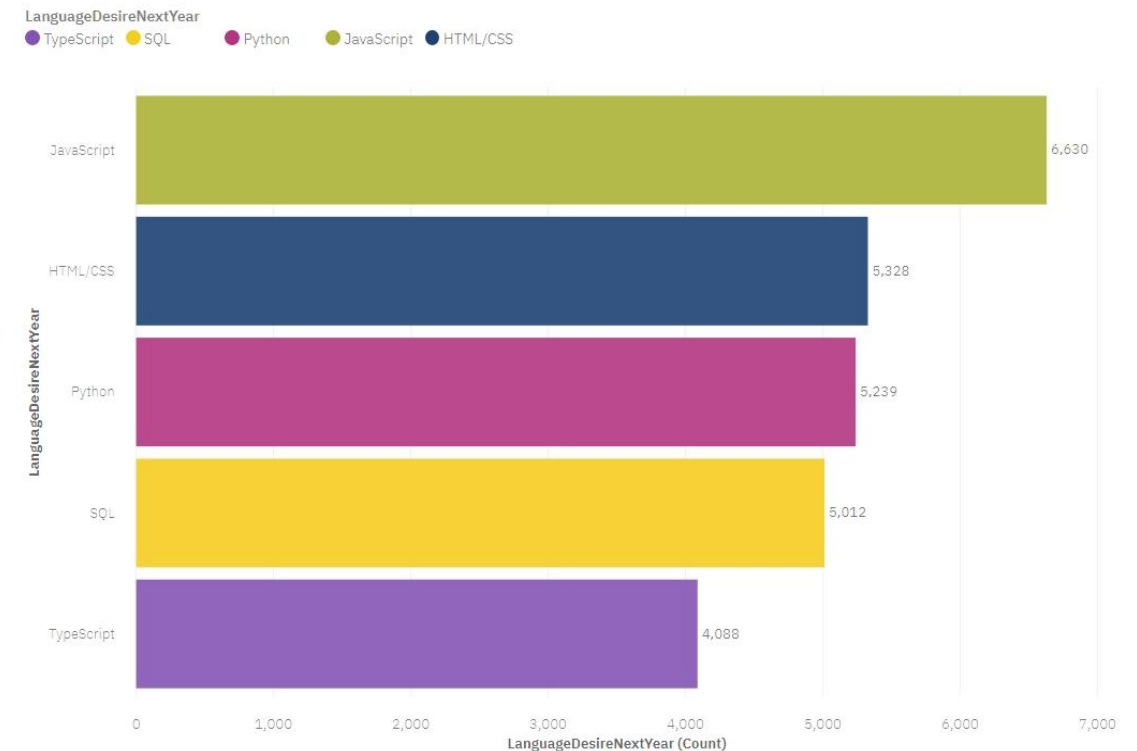
Current Year

Top 5 Languages Worked With



Next Year

Top 5 Language Desire Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Top 2 this year and next year: JavaScript, HTML/CSS
- Python and Typescript are rising.
- Python is rising and power shell is out of top 5.

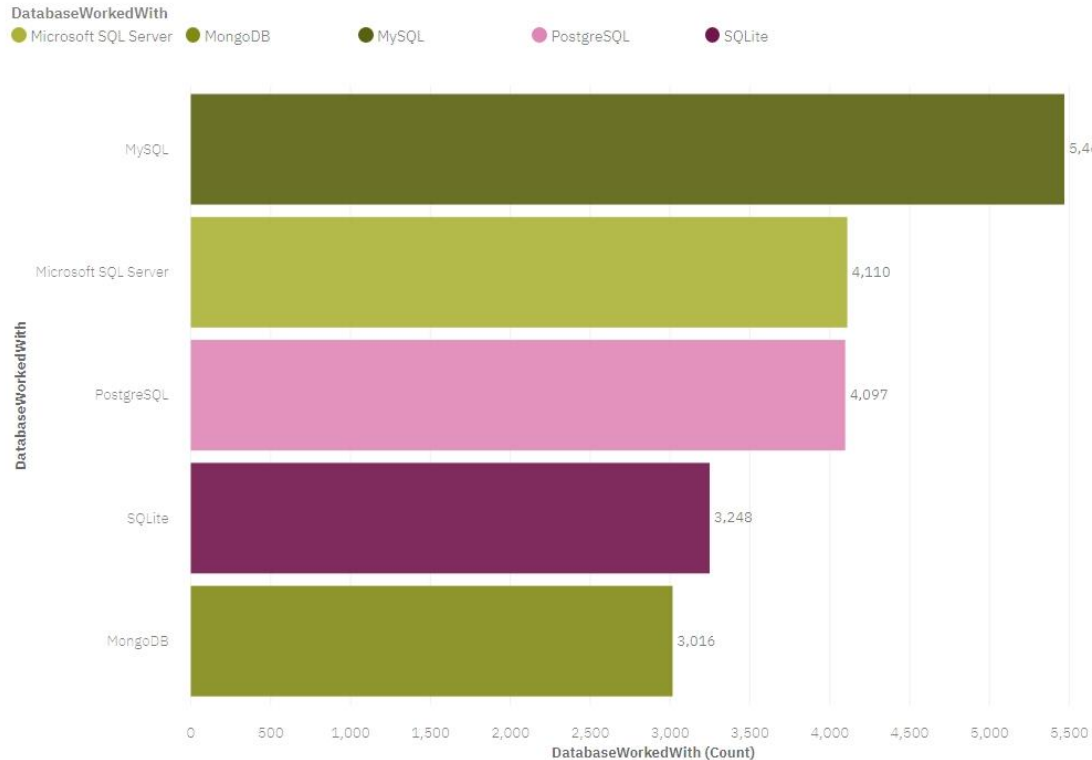
Implications

- Web development is & will be still in high-demand.
- Big Data and web development continue to rise.
- Python is the best choice due to big data and AI applications.

DATABASE TRENDS

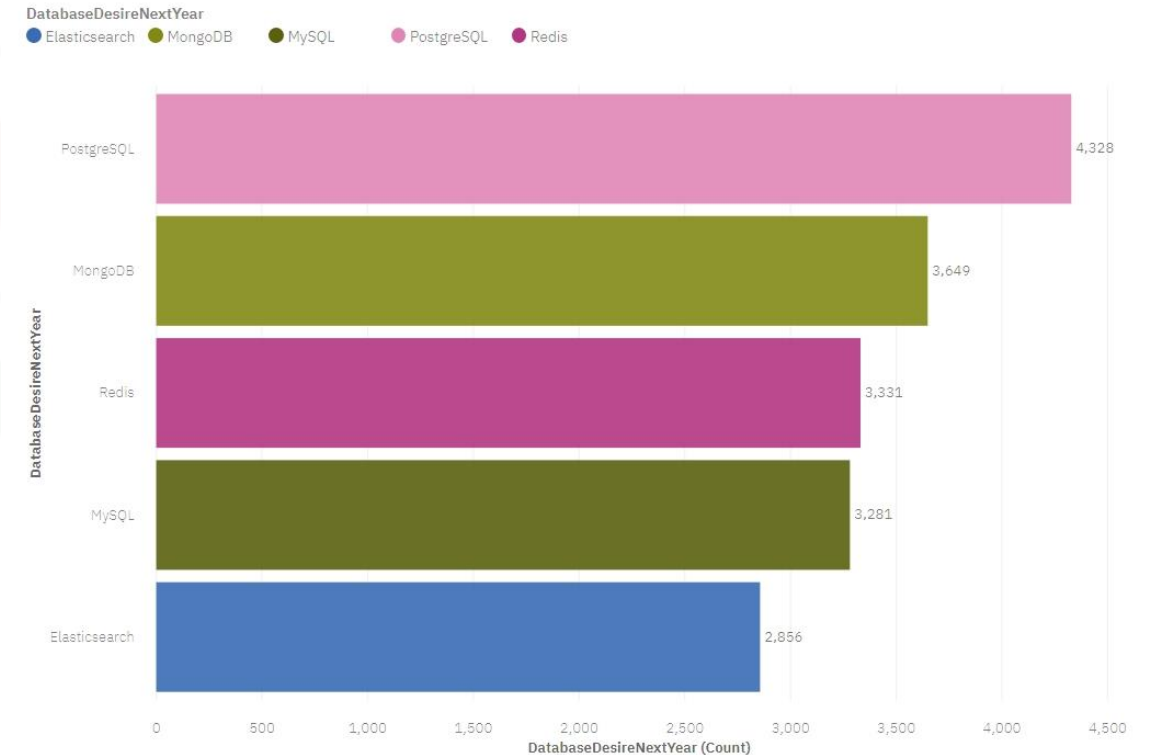
Current Year

Top 5 Databases Worked With



Next Year

Top 5 Database Desire Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL will be replaced with PostgreSQL.
- MongoDB and Redis are on the rise.
- Elasticsearch is joining the top 5 club.

Implications

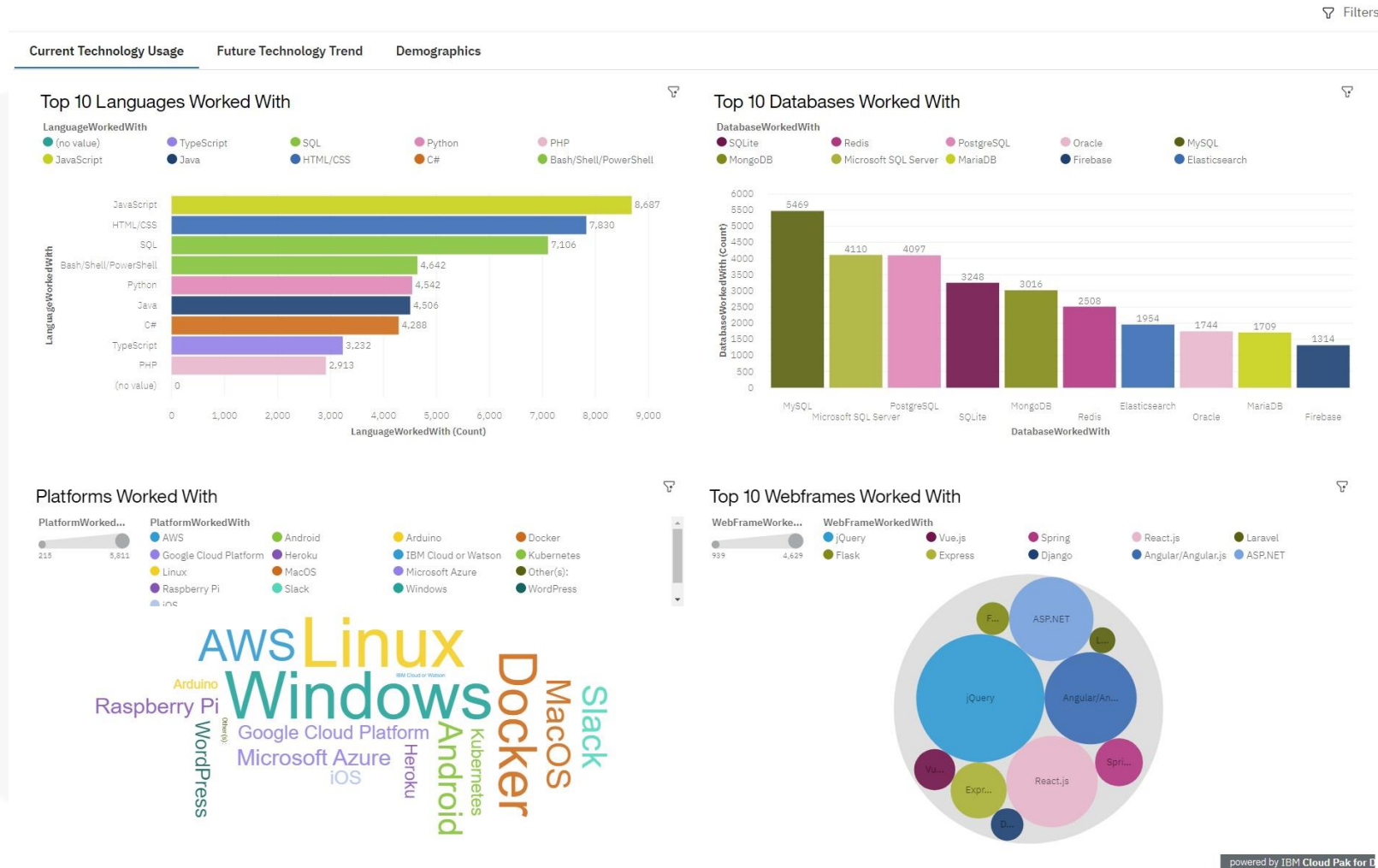
- Open-Source DBs will become more appealing.
- NoSQL DBs are becoming more preferable.
- Free open-source NoSQL DBs are continuing to grow.

DASHBOARD

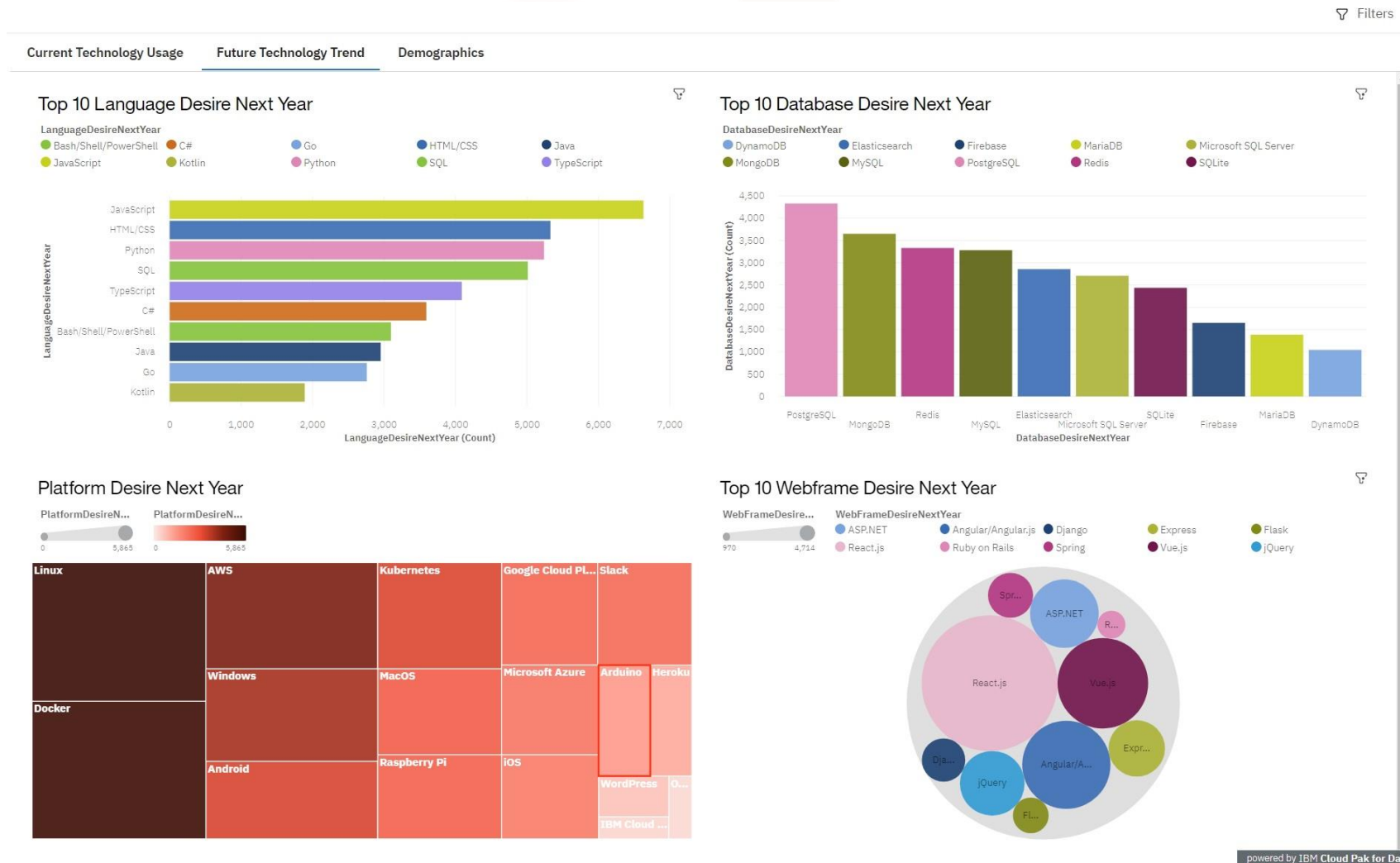


<https://eu-de.dataplatform.cloud.ibm.com/dashboards/d7c230bd-0f37-4535-86ff-f98158fa9a0b/view/0612a22c39990fe54ffceae407c87e03783f220ebabb8b5089867b4959657097f06a42c0c87e4e09d2140560f1ea12089c>

DASHBOARD TAB 1: Current Technology Usage



DASHBOARD TAB 2: Future Technology Trend

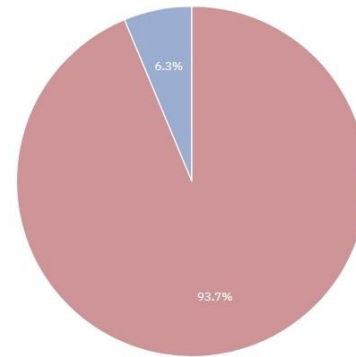


DASHBOARD TAB 3: Demographics

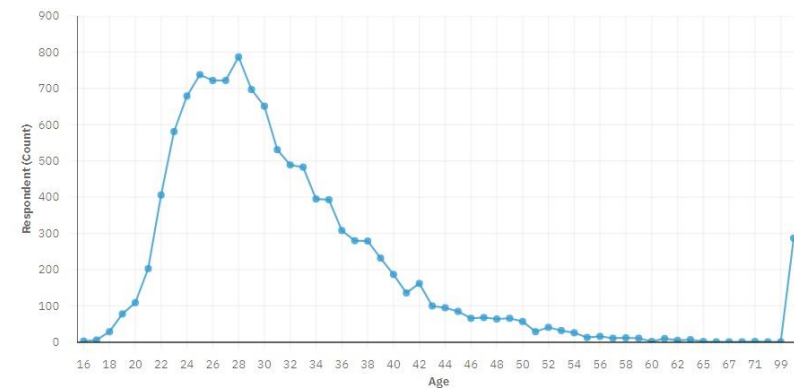
Current Technology Usage Future Technology Trend **Demographics**

Respondent classified by Gender

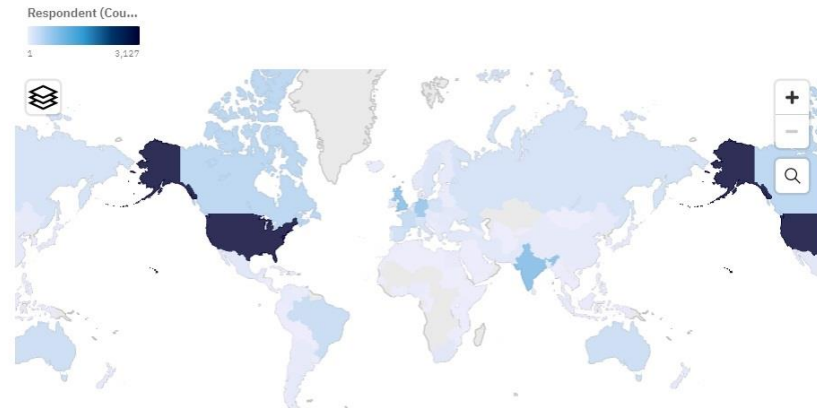
Gender
● Man ● Woman



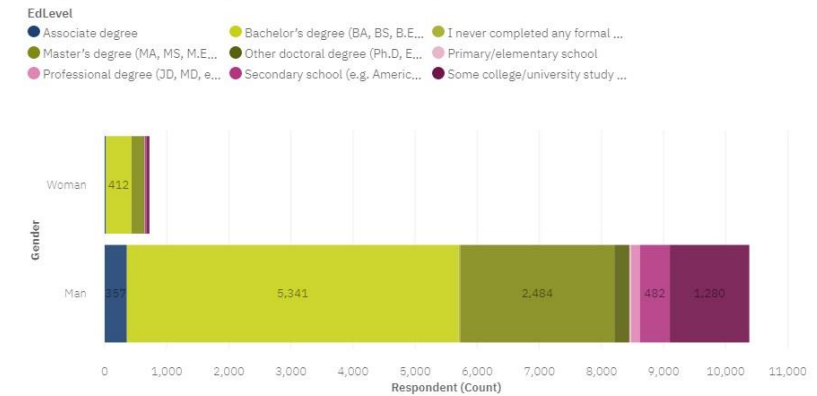
Respondent Count by Age



Respondent Count for Countries



Respondent Count by Gender, classified by Formal Education Level



powered by IBM Cloud Pak for Data

DISCUSSION

- 
- Ever-changing trends in skills and platforms
 - Cloud computing on the rise
 - Gender gap in developers
 - Country gap in developers

OVERALL FINDINGS & IMPLICATIONS

Findings

- The current & future skill sets are not the same, and that can cause discomfort.
- Platforms like Docker & AWS are growing.
- Gender gap is huge: 94% men vs. 6% women.
- Except USA, UK, Germany, Canada & India, most countries are lagging.

Implications

- Hiring future employees & training current employees should be planned accordingly.
- Cloud computing and cloud-native apps are a must.
- We should motivate & encourage more women coming into IT.
- We should produce a plan for IT education, or we lack developers.

CONCLUSION

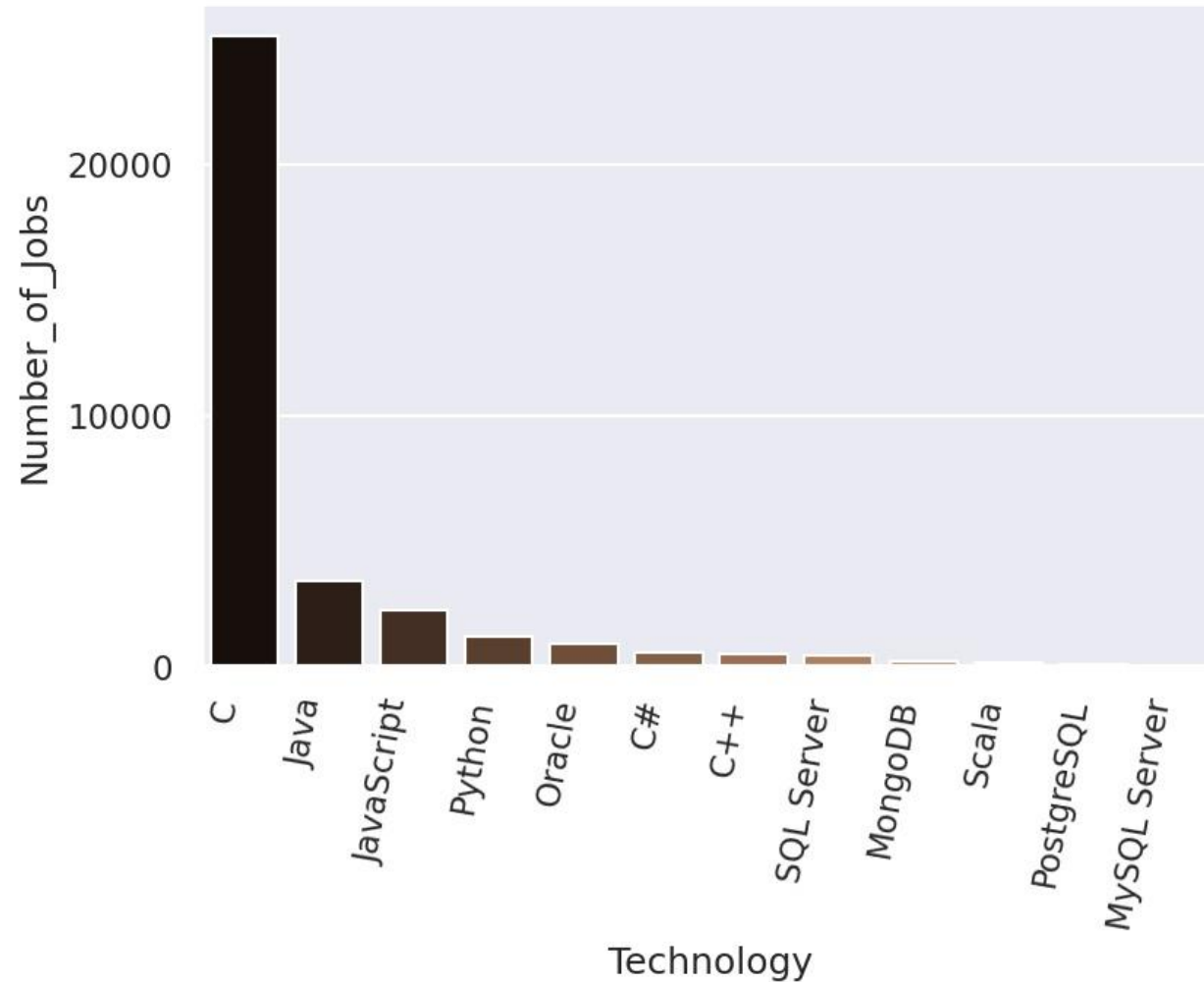


- Technology trends were reviewed for now and future.
- Programming Languages, Databases and Platforms were reviewed.
- Demographics of developers were gathered.
- Actions to be taken are offered.
- For future, we may apply Machine Learning for predicting trends.

APPENDIX



GitHub JOB POSTINGS



POPULAR LANGUAGES

