TECHNOLOGY TREND ANALYSIS

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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

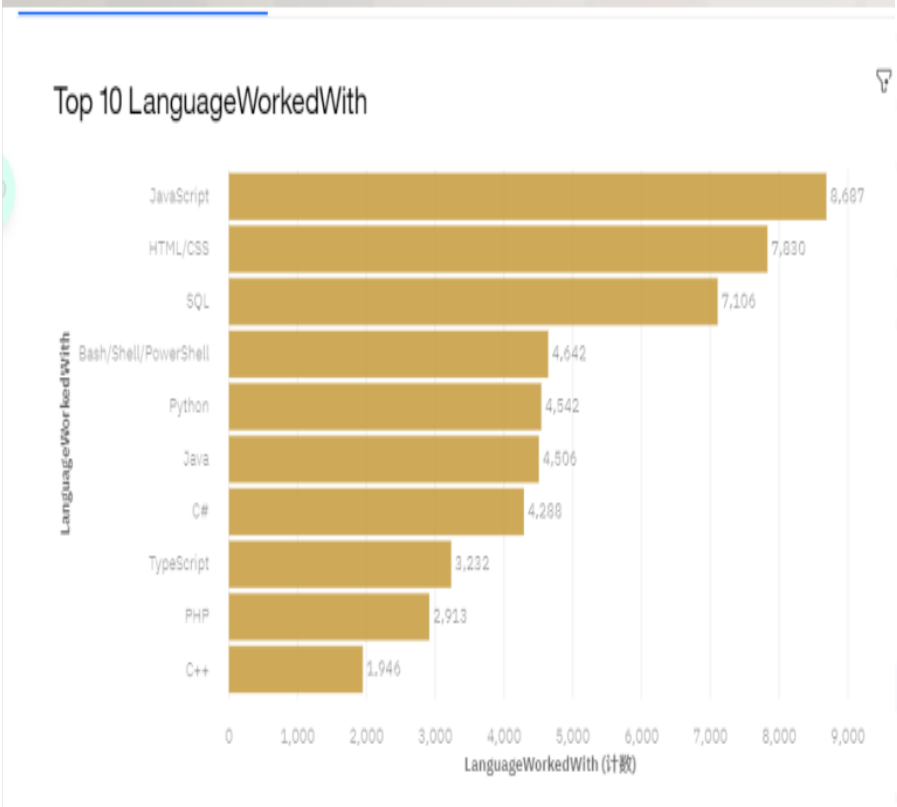
- Data Collection
- Data Wrangling
- Data Exploration
- Data Cleaning
- Data Visualization
- Presentation
  - Dashboard Creation
  - Python Matplotlib

RESULTS

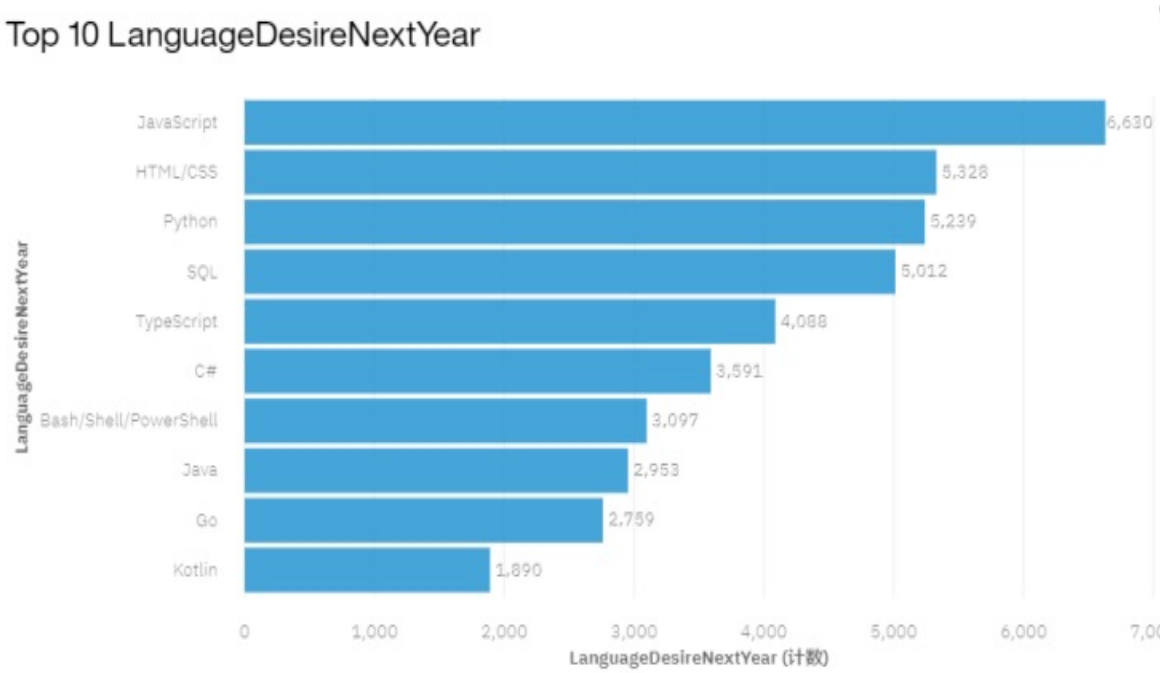
	Respondent	LanguageWorkedWith	LanguageDesireNextYear	DatabaseWorkedWith	DatabaseDesireNextYear	PlatformWorkedWith
0	4	C	C	MySQL	MySQL	Linux
1	4	C++	C#	SQLite	SQLite	Windows
2	4	C#	JavaScript	NaN	NaN	NaN
3	4	Python	SQL	NaN	NaN	NaN
4	4	SQL	NaN	NaN	NaN	NaN
...	...	...	...	...	...	...
74584	25142	Go	Python	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

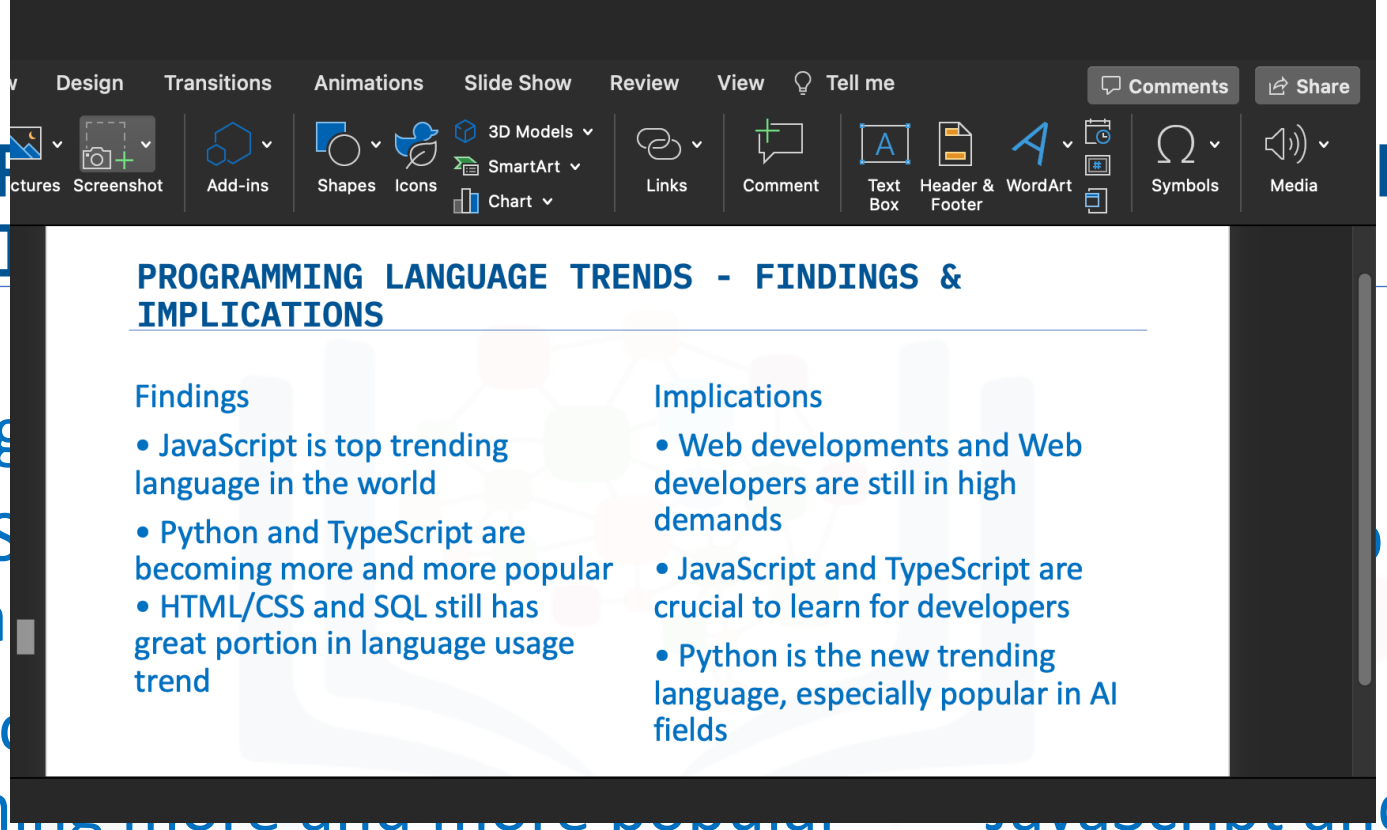
Current Year



Next Year



PROGR NGS & IMPLI



Findin

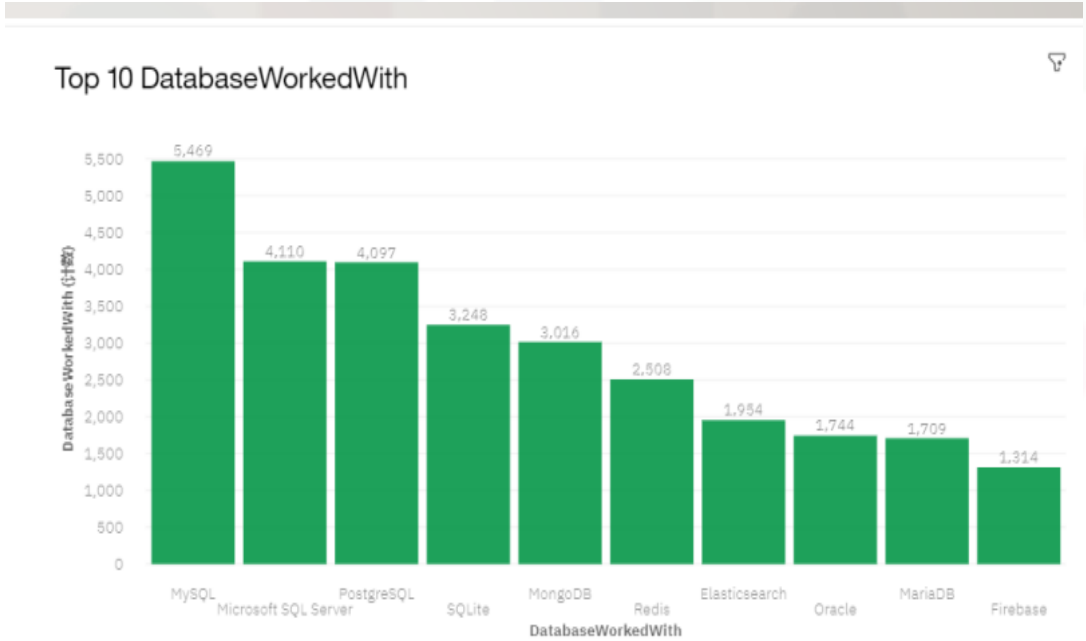
- JavaS ments and Web langua still in high
- Pytho becom d TypeScript are
- HTML/CSS and SQL still has great portion in language usage trend

crucial to learn for developers

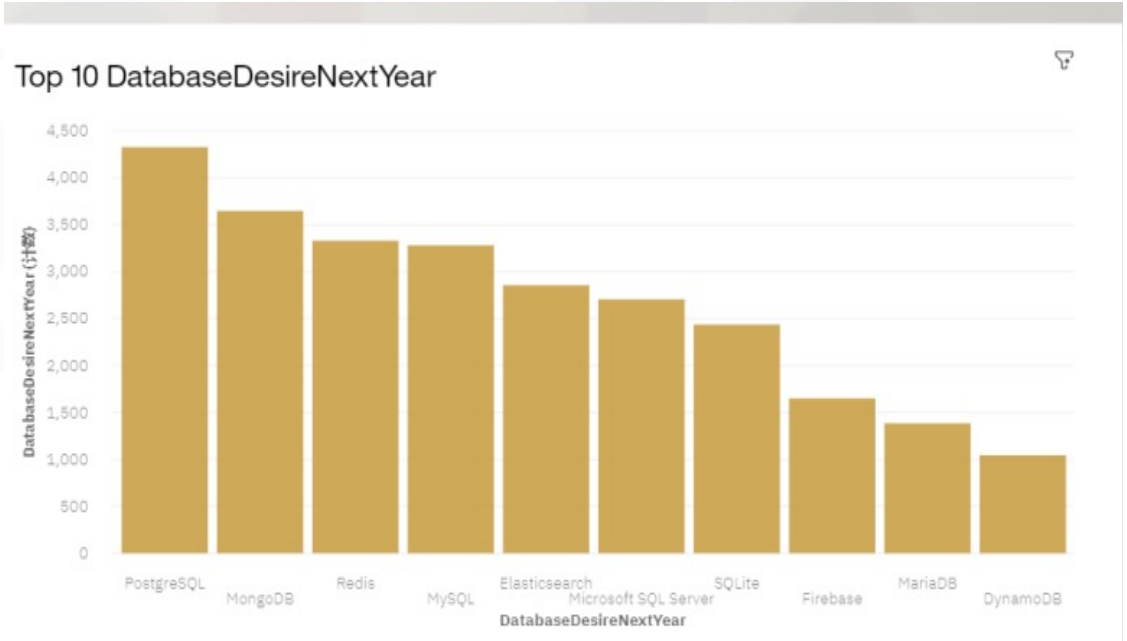
- Python is the new trending language, especially popular in AI fields

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL is the most popular database
- There are still a lot of companies using Microsoft SQL Server
- MongoDB and Redis are the most favorable NoSQL database

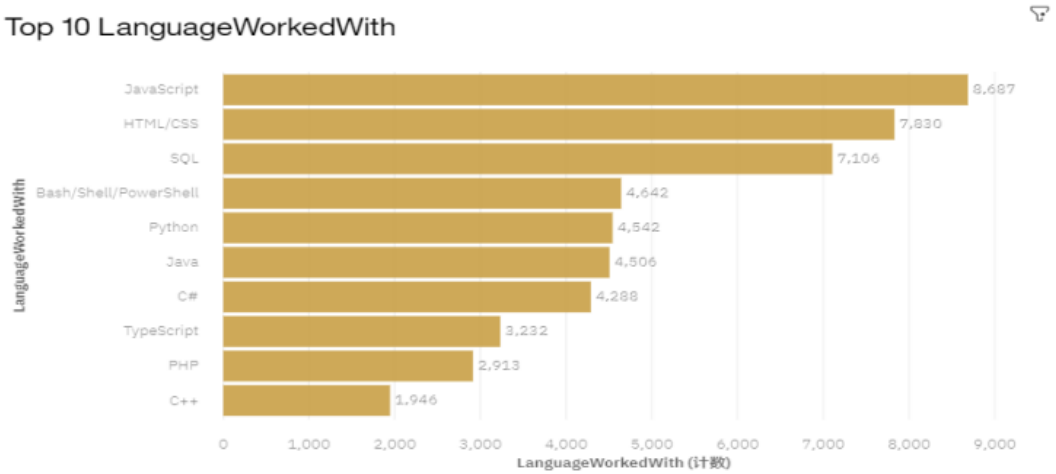
Implications

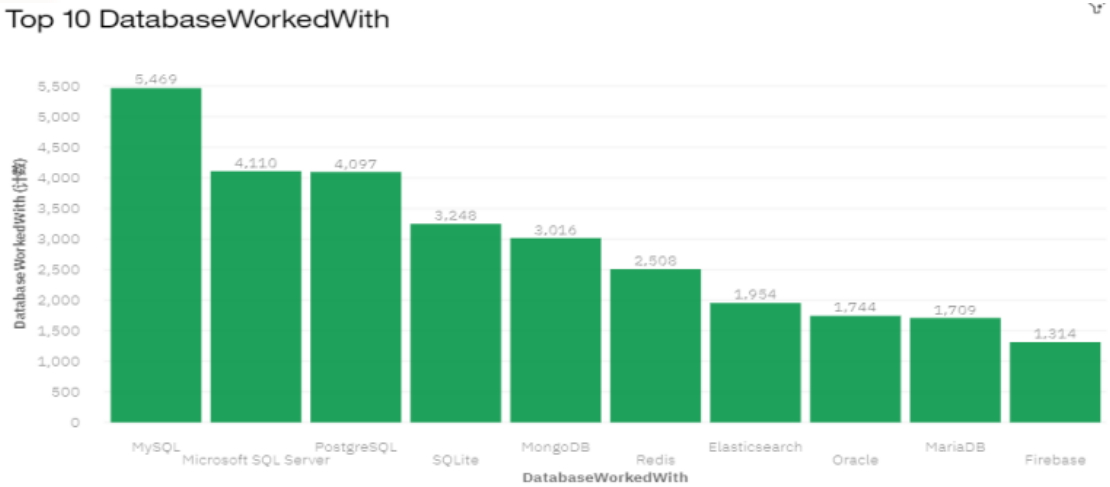
- Open-source databases like MySQL are still preferable
- Software development and Big Data technology still requires SQL
- NoSQL databases will make an impact for relational databases

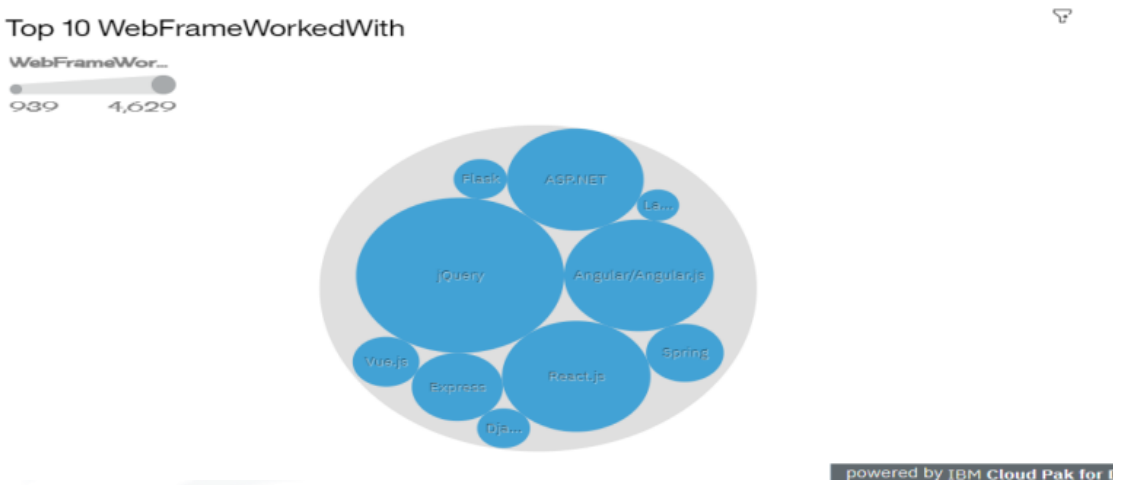
DASHBOARD

https://dataplatform.cloud.ibm.com/dashboards/fe52d392-0d9c-4f29-8996-389531352958/view/6e1bdc0911b91dfc56efe6e4079979037f652454e1bb8b0b83867b495e607197a96f12c7c87a495cd9425037fbee4708cc

DASHBOARD TAB 1



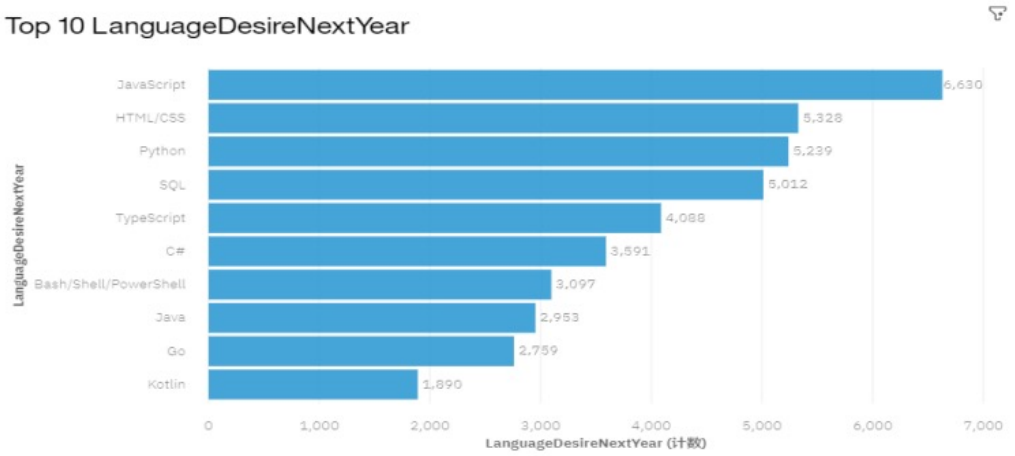


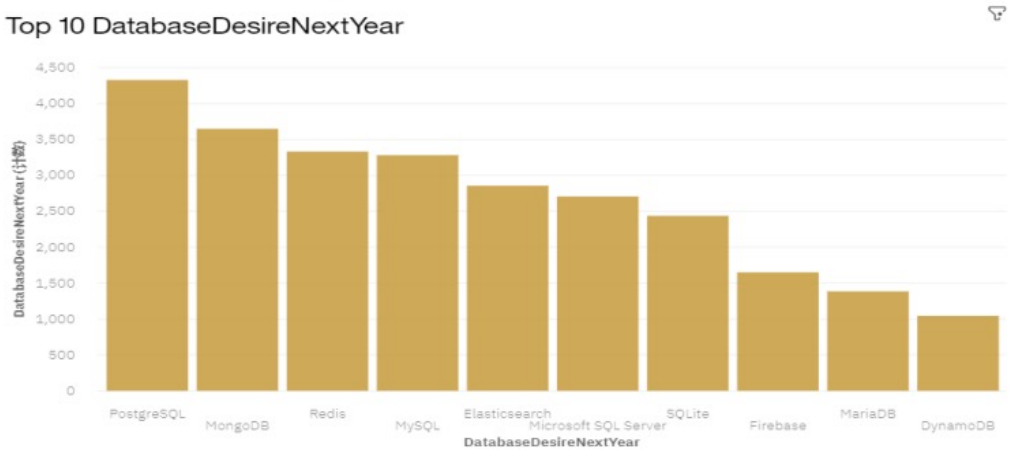


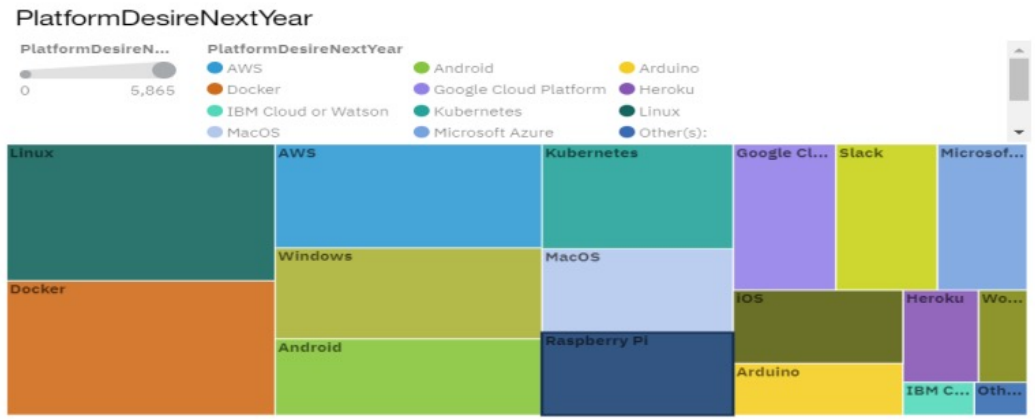
IBM Developer

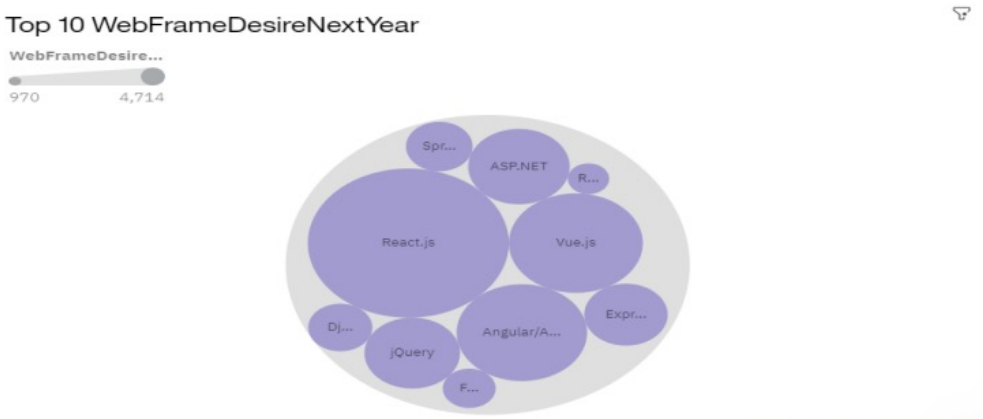
SKILLS NETWORK

DASHBOARD TAB 2





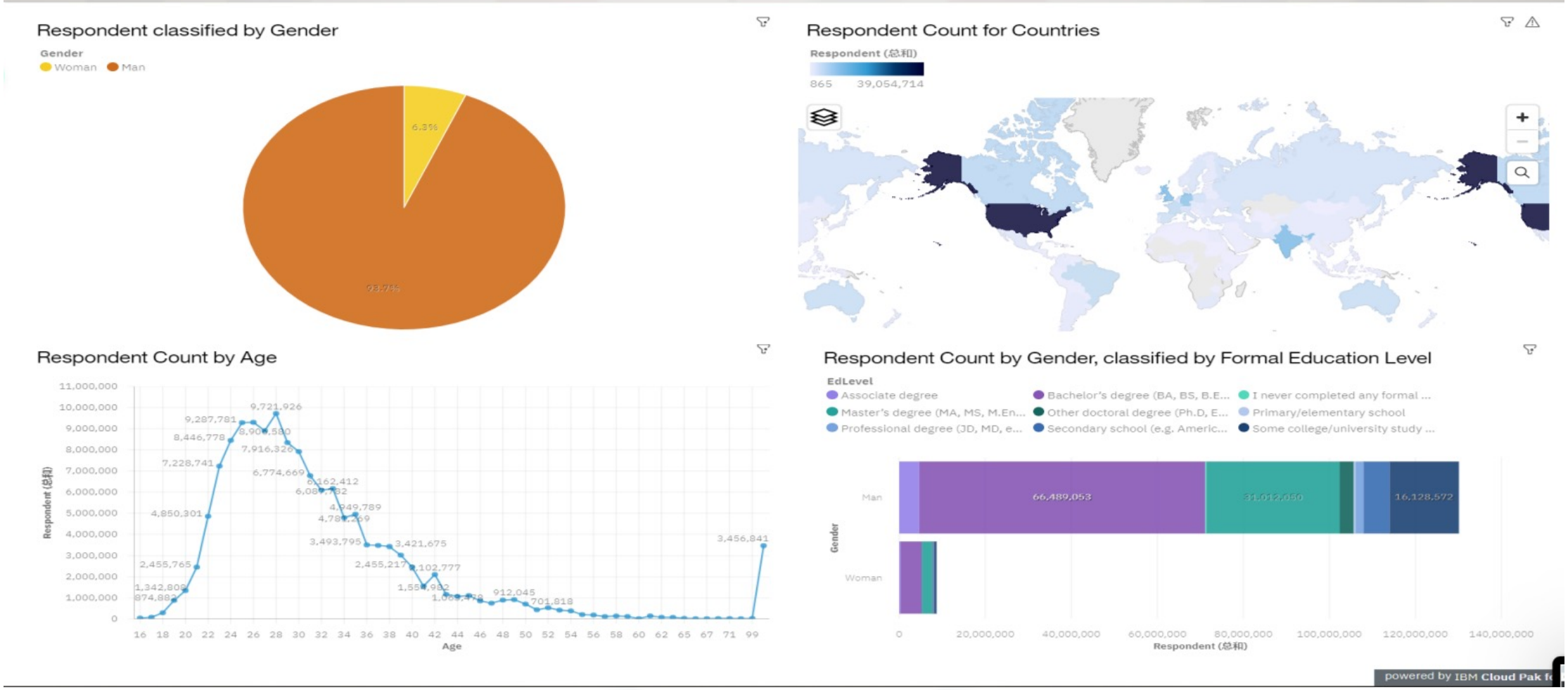




IBM Developer

SKILLS NETWORK

DASHBOARD TAB 3



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

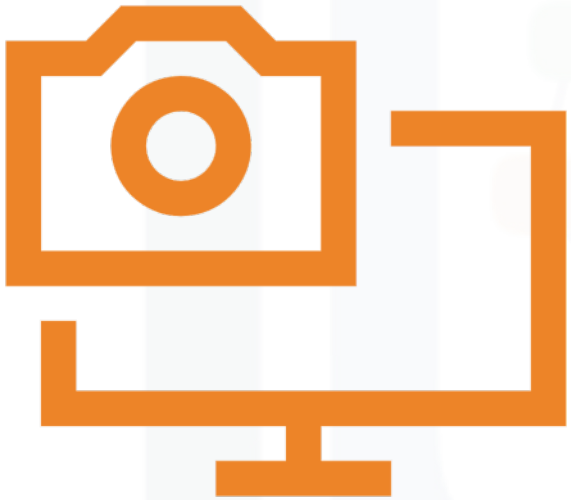
Implications

- 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

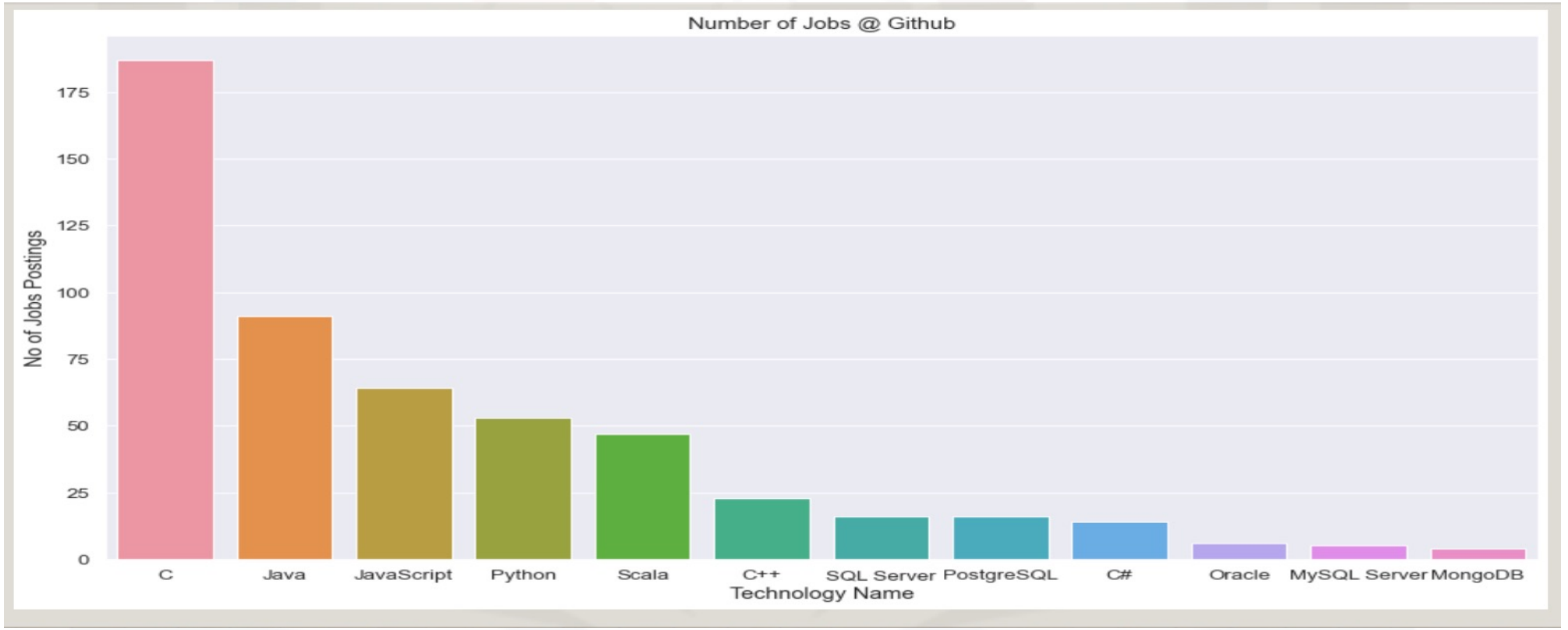
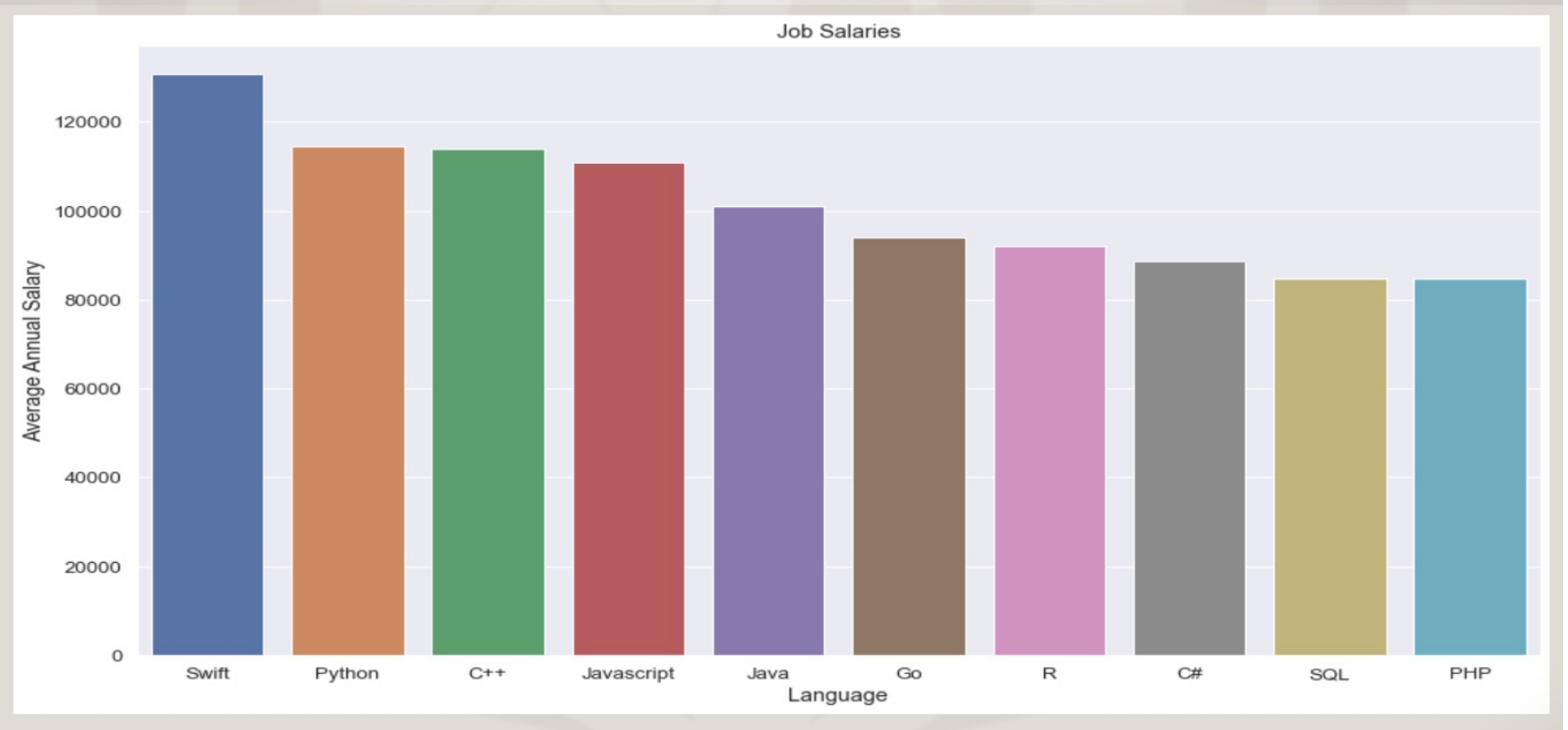
APPENDIX



source:

https://stackoverflow.blog/2019/04/09/the-2019-stack-overflow-developer-survey-results-are-in/ under a **ODbL: Open Database License**.

JOB POSTINGS



POPULAR LANGUAGES