<IBM Data Analytics Capstone Project >

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OUTLINE

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

EXECUTIVE SUMMARY

- Current Technology Usage
  - Top 10 Languages Worked with
  - Top 10 Database Worked with
  - Platform worked with Word-Cloud
  - Top 10 Web-frame Worked with
- Future Technology Trend
  - Top 10 Languages Desired Next Year
  - Top 10 Databases Desired Next Year
  - Platform worked with Desired Next Year
  - Top 10 Web-frame Desired Next Year
- Demographics
  - Respondents Classified by Gender
  - Respondent Count for Countries
  - Respondent Count by Age
  - Respondent Count by Gender by Formal Education Level

INTRODUCTION

- The top 10 Programming Languages in demand.
- The top 10 database skills in demand.
- The top Platformed utilization.
- The top 10 Web-frame platforms in demand.

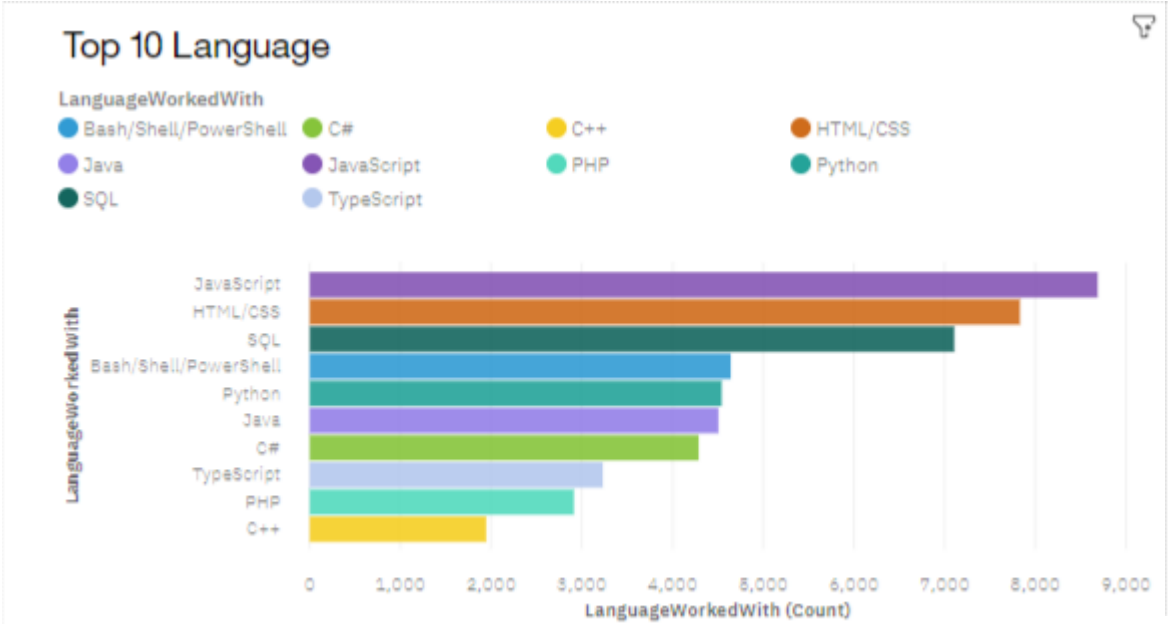
METHODOLOGY

- Collect Data from Stack Overflow Developer Survey -2019
  - By using – API.
  - By using – Web-scrapping.
- Exploration of Data
  - Sorting duplicates & removing Duplicates.
  - Organize missing values.
  - Normalizing the data.
  - Sorting outliers.
  - Perform correlation.
- Visualization of data
  - Visualization distribution, relation, composition & comparison of data.
  - Arrange & build dashboard.

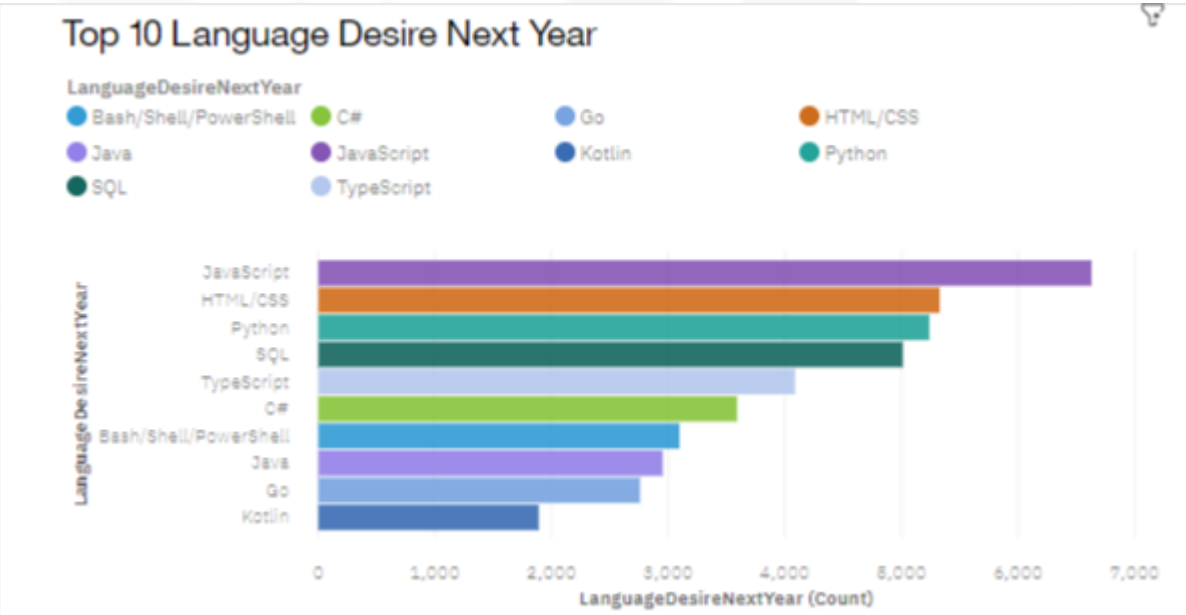
RESULTS

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

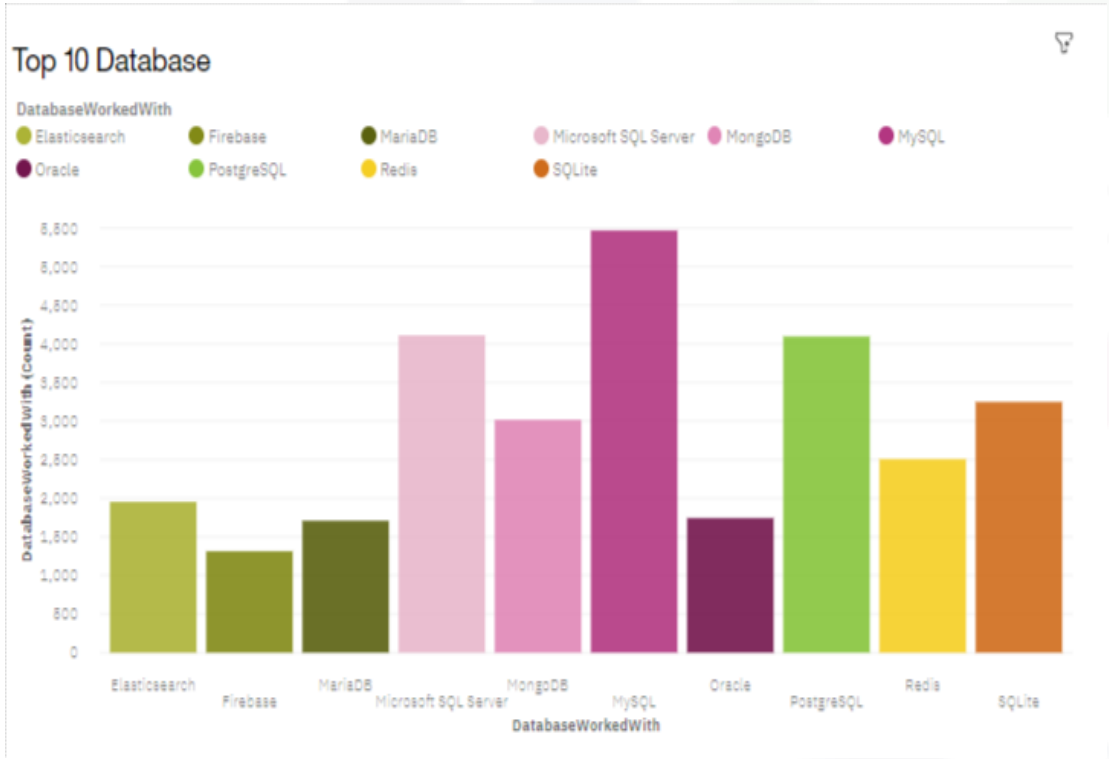
- JS being the most popular language
- C++ being the least popular language
- Python and SQL are among the top 5 languages due to the demand of data scientists.

Implications

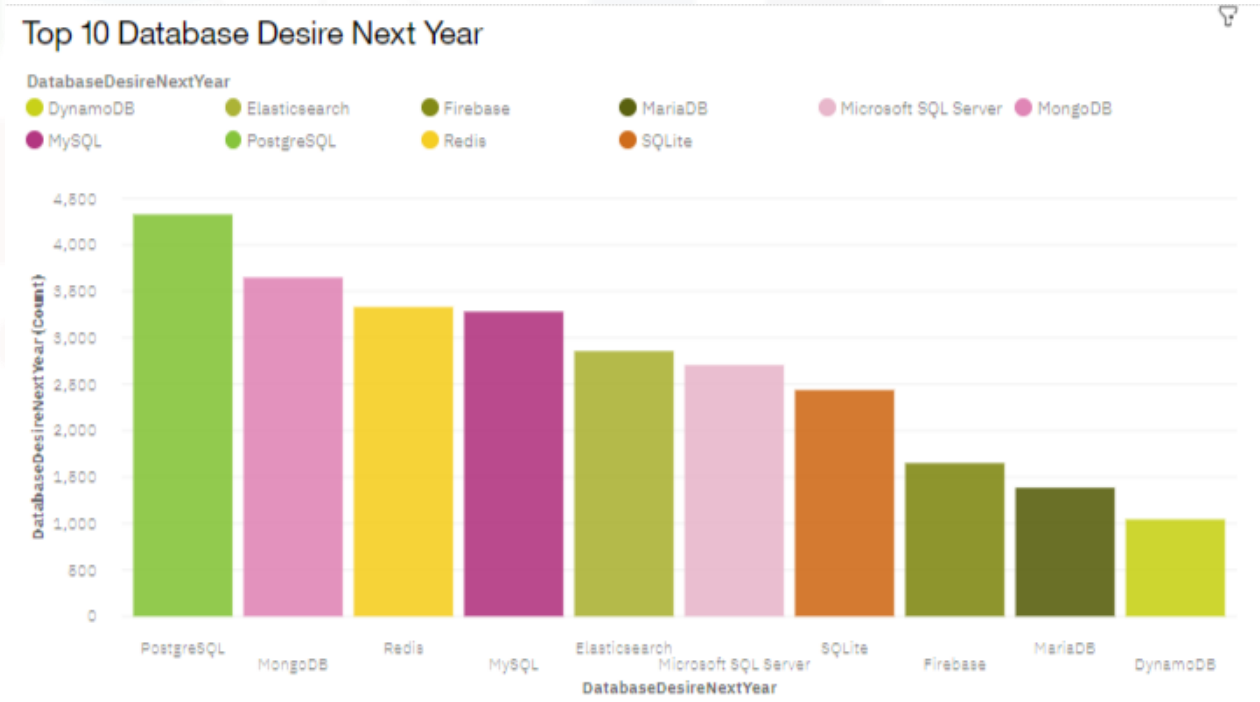
- Upcoming demand raises for Python and SQL due to their flexibility in data science.
- Go and Kotlin is taking upcoming the attention.
- JS will remain the top in demand due to the demand in software development.

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL is top in-demand while Microsoft SQL Server is following it.
- Firebase is the least in demand.
- PostgreSQL and MongoDB is an upcoming trend.

Implications

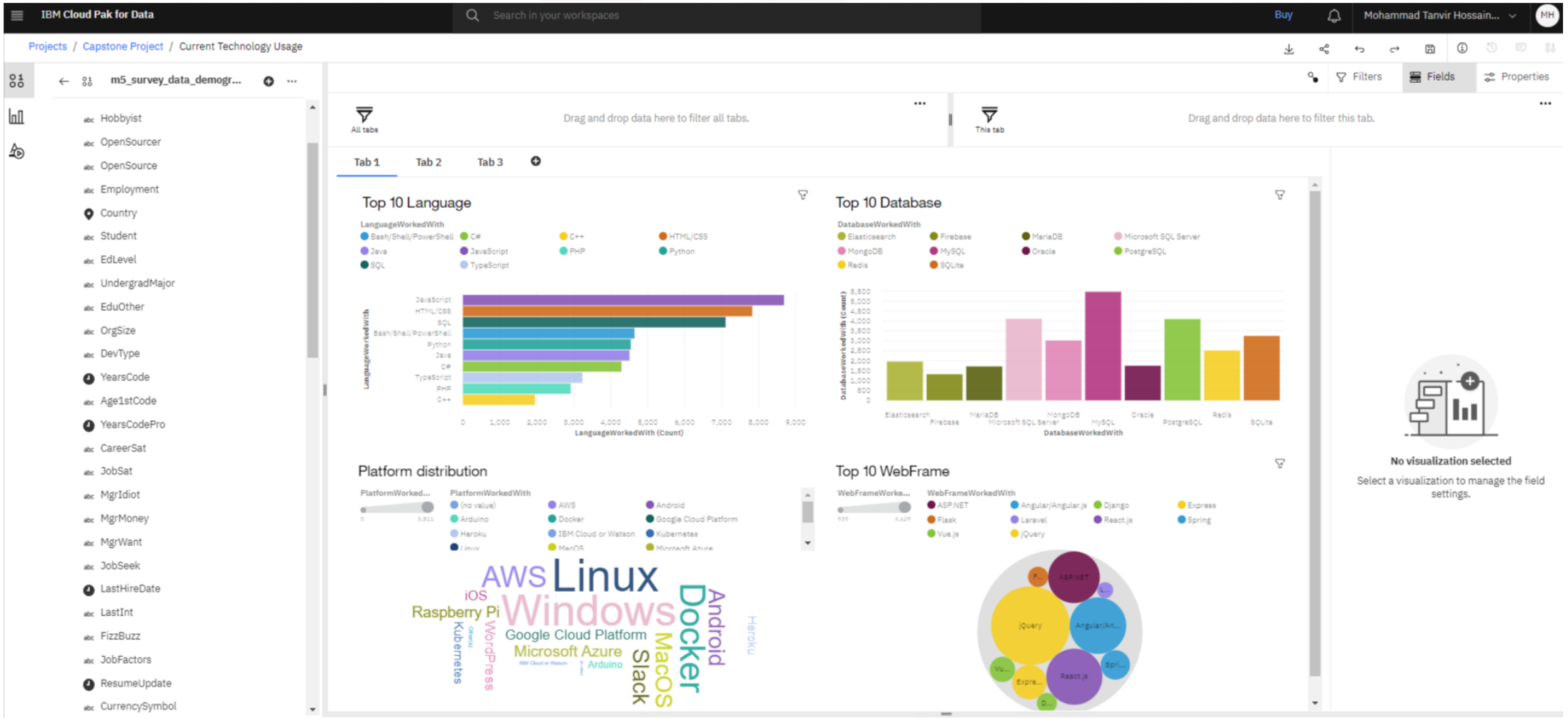
- PostgreSQL need to implement among user.
- Dynamo DB is replacing oracle.
- Redis, MySQL & MongoDB appear to get a similar interest in database choice.

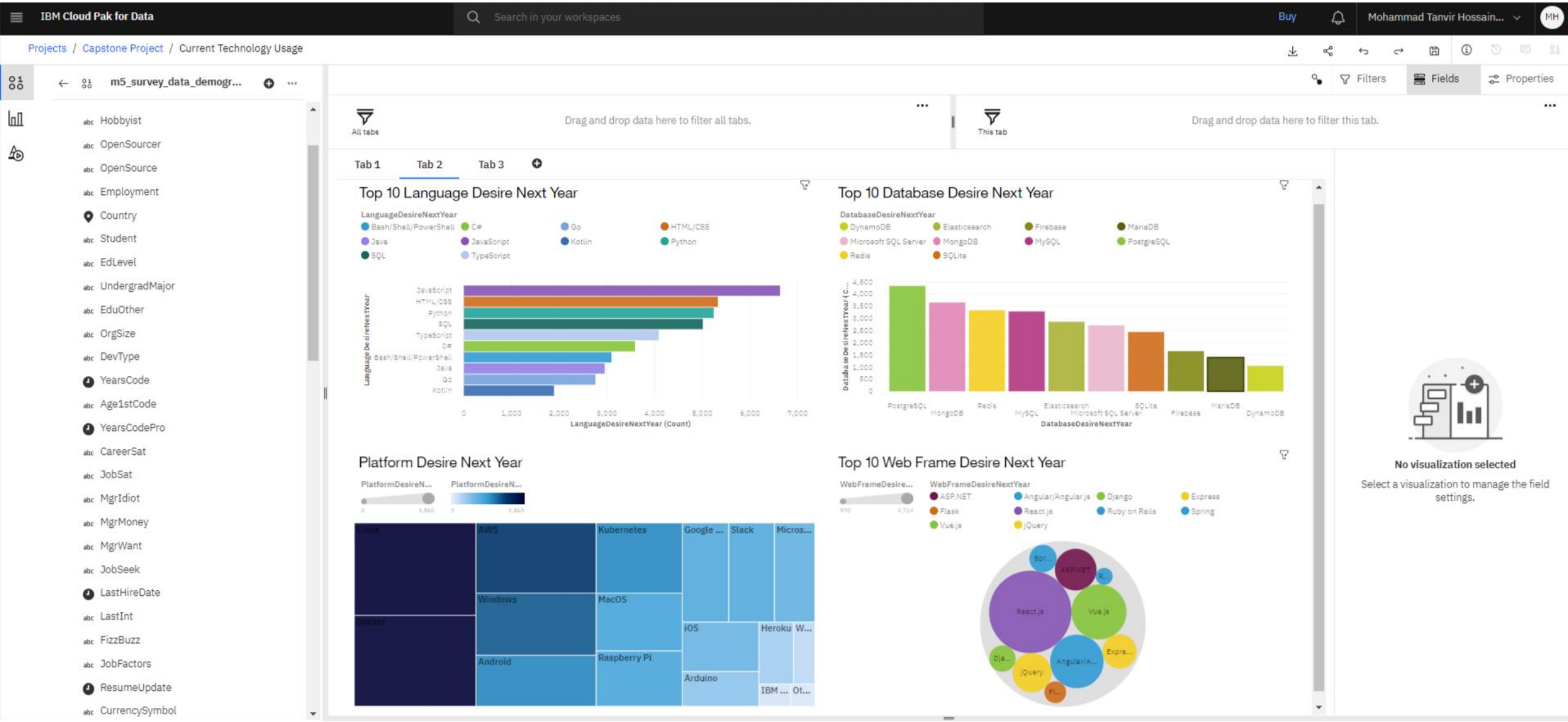
DASHBOARD

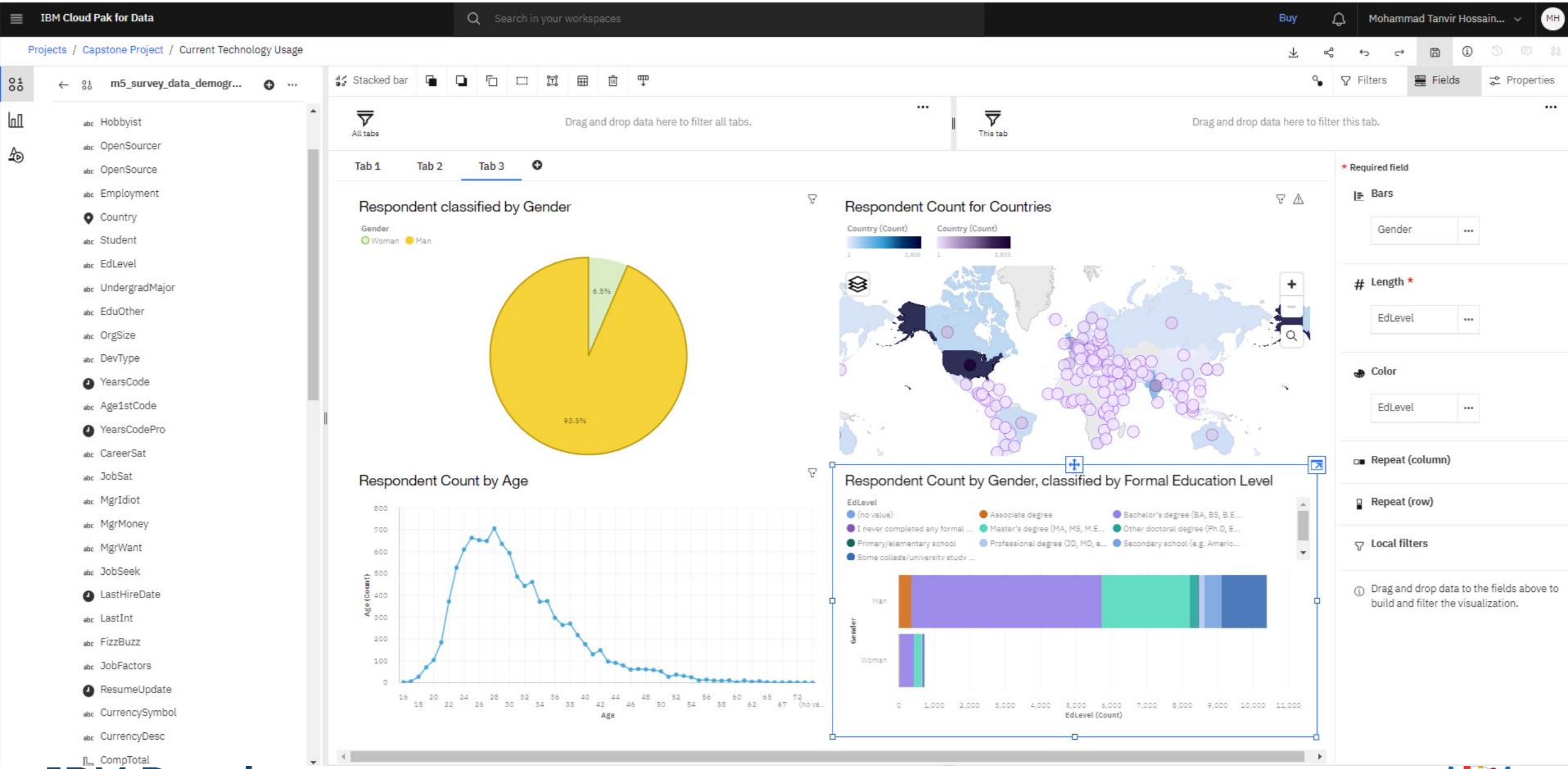
The permanent link of the read-only view of the Cognos dashboard is as follows –

<https://dataplatform.cloud.ibm.com/dashboards/4c961828-7ef5-4fef-8866-19a4457775f4/view/6469b8076fef1fcc44c9eee4079b7d0075302d5ab4bb865281867b495a357797a8684590c82c4e5ad9470d61a6be175f9c.>

DASHBOARD TAB 1




IBM Cloud Pak for Data
Search in your workspaces
Buy
Mohammad Tanvir Hossain...
Projects / Capstone Project / Current Technology Usage
m5_survey_data_demogr...
Filters
Fields
Properties
Hobbyist
OpenSourcer
OpenSource
Employment
Country
Student
EdLevel
UndergradMajor
EduOther
OrgSize
DevType
YearsCode
Age1stCode
YearsCodePro
CareerSat
JobSat
MgrIdiot
MgrMoney
MgrWant
JobSeek
LastHireDate
LastInt
FizzBuzz
JobFactors
ResumeUpdate
CurrencySymbol
All tabs
Drag and drop data here to filter all tabs.
This tab
Drag and drop data here to filter this tab.
Tab 1
Tab 2
Tab 3
Top 10 Language Desire Next Year
LanguageDesireNextYear
Bash/Shell/PowerShell
C#
Go
HTML/CSS
Java
JavaScript
Kotlin
Python
SQL
TypeScript
LanguageDesireNextYear (Count)
Top 10 Database Desire Next Year
DatabaseDesireNextYear
DynamoDB
Elasticsearch
Firebase
MariaDB
Microsoft SQL Server
MongoDB
MySQL
PostgreSQL
Redis
SQLite
DatabaseDesireNextYear
Platform Desire Next Year
Linux
AWS
Kubernetes
Google ...
Slack
Micros...
Windows
MacOS
iOS
Heroku
Android
Raspberry Pi
Arduino
IBM ...
Top 10 Web Frame Desire Next Year
WebFrameDesireNextYear
ASP.NET
Angular/Angular.js
Django
Express
Flask
React.js
Ruby on Rails
Spring
Vue.js
jQuery
No visualization selected
Select a visualization to manage the field settings.


IBM Cloud Pak for Data
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Projects / Capstone Project / Current Technology Usage
m5_survey_data_demogr...
Hobbyist
OpenSourcer
OpenSource
Employment
Country
Student
EdLevel
UndergradMajor
EduOther
OrgSize
DevType
YearsCode
Age1stCode
YearsCodePro
CareerSat
JobSat
MgrIdiot
MgrMoney
MgrWant
JobSeek
LastHireDate
LastInt
FizzBuzz
JobFactors
ResumeUpdate
CurrencySymbol
CurrencyDesc
CompTotal
Stacked bar
Filters
Fields
Properties
All tabs
Drag and drop data here to filter all tabs.
This tab
Drag and drop data here to filter this tab.
Tab 1
Tab 2
Tab 3
Respondent classified by Gender
Gender
Woman
Man
6.5%
93.5%
Respondent Count for Countries
Country (Count)
Respondent Count by Age
Age (Count)
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...
Primary/elementary school
Professional degree (JD, MD, e...
Secondary school (e.g. Americ...
Some college/university study ...
Man
Woman
Gender
EdLevel (Count)
* Required field
Bars
Gender
Length *
EdLevel
Color
EdLevel
Repeat (column)
Repeat (row)
Local filters
Drag and drop data to the fields above to build and filter the visualization.

DISCUSSION

- All aged groups are used for the survey.
- Only male and female genders are considered for the survey.
- People from different countries took part in the survey.
- Various education level persons were considered as well.

OVERALL FINDINGS & IMPLICATIONS

Findings

- Upcoming programming language trend suggests a good demand in the data science field.
- Non-relational databases are capturing the trend.

Implications

- People are interested in advanced programming languages with user-friendly commands.
- People are interested in data science because it seems to have a great future.

CONCLUSION

- The major programming language that will be used in future is JS which is an ongoing demand.
- PostgreSQL is going to replace the MySQL in future due to its ongoing demand.
- Linux and Docker will be most popular platforms in near future.
- React.js is going to replace the demand of JQuery in near future.