

# Data Analyst Capstone

Matthew Paige 9/11/2024

# OUTLINE



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- Metholology
- Results
  - Visualization Charts
  - Dashboard
- Discussion
  - Findings & Implications
- Conclusion
- Appendix

## **EXECUTIVE SUMMARY**



- Web development languages are the most popular in use and will remain as such
- Al and Machine learning are driving trends language use
  - Python and SQL are growing in popularity.
  - Interpreted languages, easier to learn, are trending up
  - The most popular languages are all focused on manipulating data
- A noticable shift in databases away fromMySQL towards PostGres is developing
- NoSQL databases are trending
- Platform usage is dominated by web centered frameworks.

# INTRODUCTION



- The most popular languages remain those focused on web development.
- A growing trend is a group of languages related to data and machine learning.
- Older compiled languages are continue to lose popularity
- Databases show a shift in the most popular open source database.
  - MySQL is dropping in popularity.
  - PostGres is replacing MySQL.
  - Microsoft SQL server remains the most used licensed database

# **METHODOLOGY**



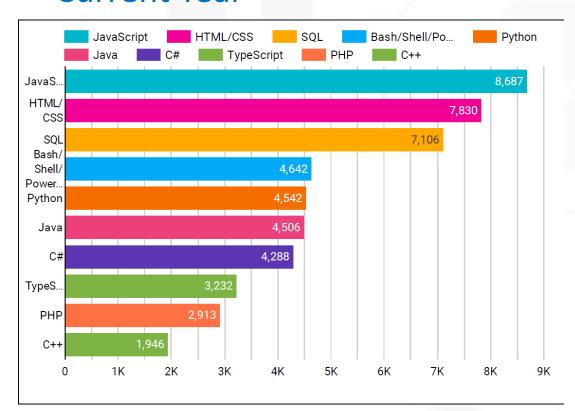
- Data was gathered from several websites and portals.
  - Job posting content was scraped from and IT job website.
  - Content was pulled from Portals.
  - APIs were used to collect survey data from a leading IT board.
- Once the data was collected, the data sets were explored and reviewed to decide how to proceed with normalization.
- The data was cleaned and prepared for analysis.
  - Duplicate rows and data sets were removed.
  - Missing values were dealt with.
  - Some data values were normalized or formatted for better analysis

# **RESULTS**

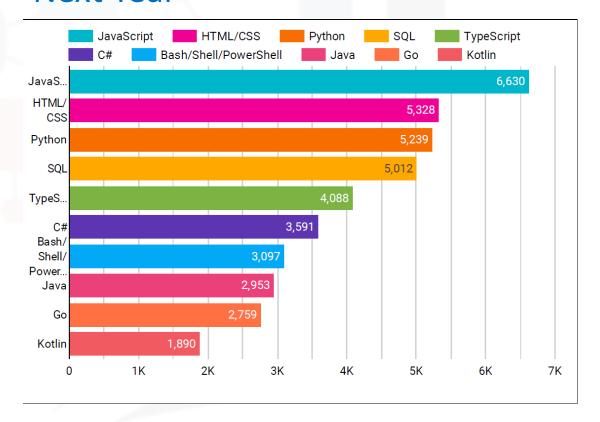


# PROGRAMMING LANGUAGE TRENDS

#### **Current Year**



#### **Next Year**



#### PROGRAMMING LANGUAGE TRENDS - FINDINGS & **IMPLICATIONS**

#### **Findings**

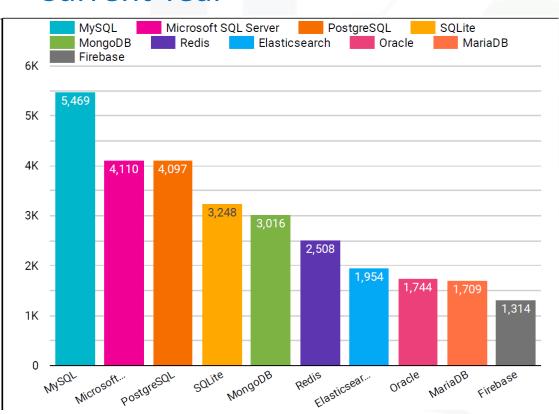
- Javascript and HTML are the top languages for this year and next.
- Python will play a larger role next year
- SQL will remain in the top 5 languages

#### **Implications**

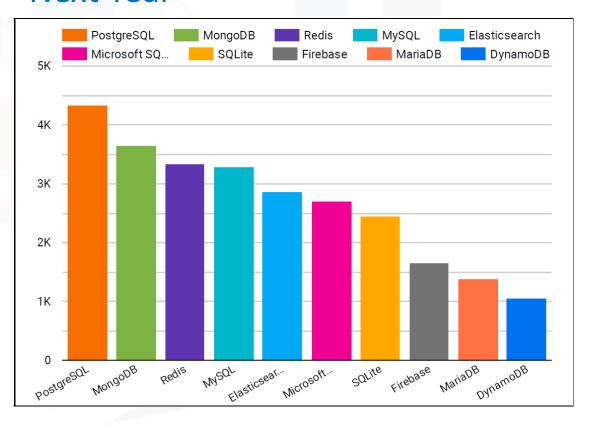
- Languages integral to the internet are popular and will remain so.
- The highest-ranking languages are interpreted rather than compiled.
- The Internet and AI drive the rankings

## DATABASE TRENDS

#### **Current Year**



#### **Next Year**



#### DATABASE TRENDS - FINDINGS & **IMPLICATIONS**

#### **Findings**

- Open source databases occupy most of the top slots
- MS SQL is losing popularity
- Mongo DB, a NoSQL database is expected to grow next year

#### **Implications**

- Open source databases are popular due to features and cost
- Databases from large corporations are dropping in popularity.
- NoSQL databases may take a larger role as AI develops

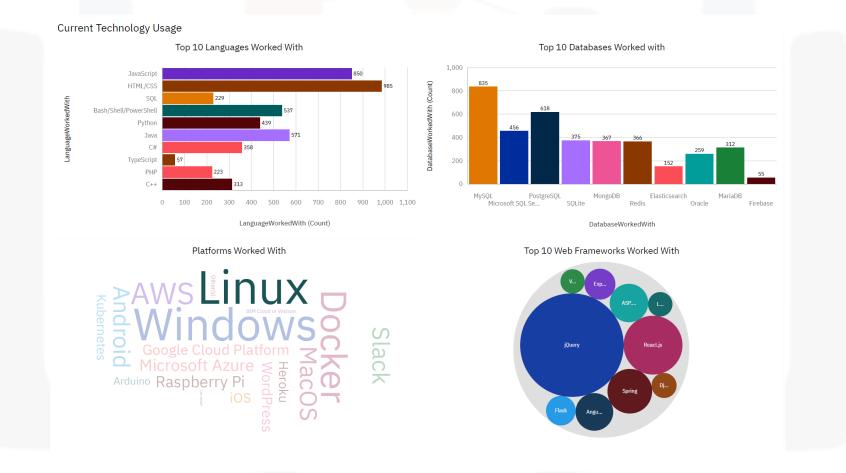


# **DASHBOARD**



https://github.com/Matthew-Paige/IBM\_Data\_Analyst.git

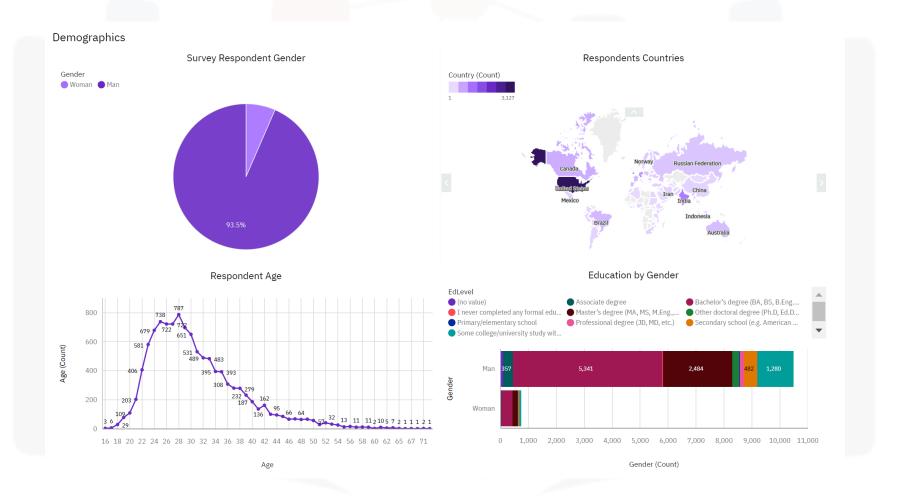
# DASHBOARD TAB 1



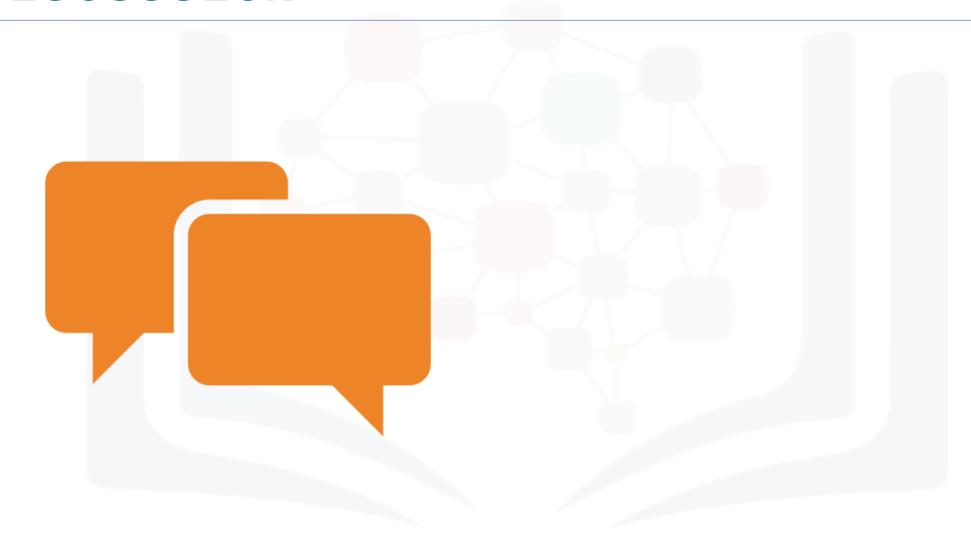
# DASHBOARD TAB 2



# DASHBOARD TAB 3



# **DISCUSSION**



# OVERALL FINDINGS & IMPLICATIONS

#### **Findings**

- Languages for internet development dominate the most popular languages.
- Interpreted languages focused on AI and data science becoming popular.
- Open source databases are trending

#### **Implications**

- Web development dominates most development.
- Al activity is driving future trends in language use.
- Large companies are losing ground in their database usage reach.

# CONCLUSION



- The most popular languages, platforms and databases change from year to year.
- Languages that focus on the web and Al hold the tops spots consistently.
- A shift in databases towards open source is visible in the data.
- The IDE platforms are trending towards Web and AI focused platforms.

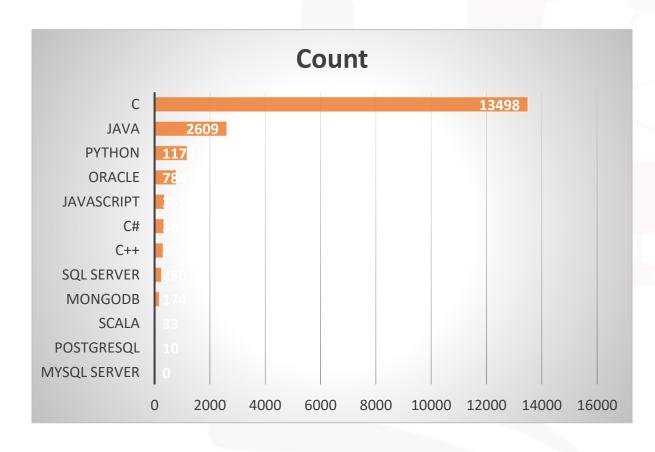
# **APPENDIX**



### Sample of data collected

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## JOB POSTINGS



 Job postings pulled from the job board. Count of jobs via language keywords.

# POPULAR LANGUAGES



 Popular languages based on average salary