Final Capstone Story

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OUTLINE

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

EXECUTIVE SUMMARY

- Data Collection using API and Web scrapping
- Basic Data Exploration
- Data Wrangling
  - -Dealing with duplicate
  - - Missing values
  - - Normalization
- Data Exploratory Analysis (EDA)
  - - Distribution
  - - Outliers
  - - Correlation
- Data Visualization
- Dashboard

INTRODUCTION

- The goal of this project is to analyze technology and programming data to identify the future skills needed in the field.
- To achieve this, data must be gathered from various sources and thoroughly analyzed.
- The insights gained will be valuable for both the IT department and investors.
- This analysis aims to answer key questions such as
  - which programming languages are in highest demand
  - what database skills are most sought after
  - which platforms and IDEs are most popular

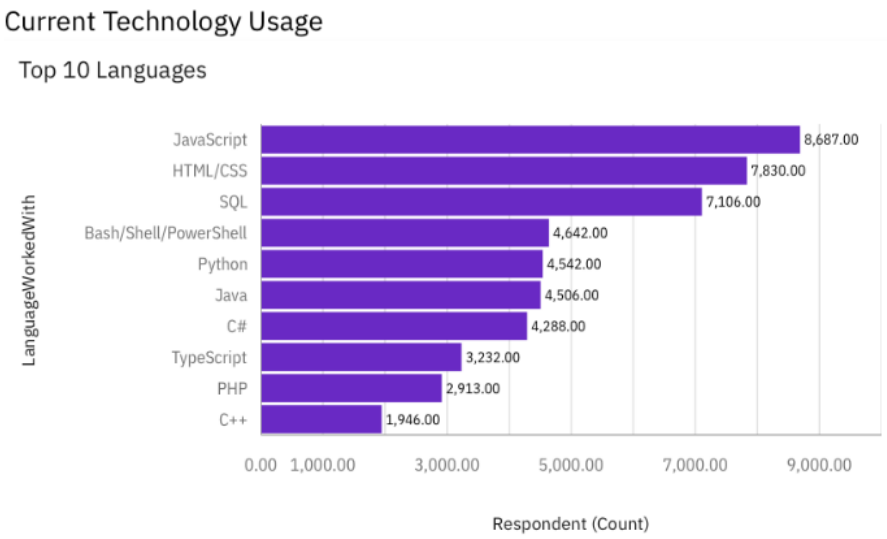
METHODOLOGY

- Data Collection Sources (API, WEB SCRAPPING)
- Data Exploration
- Data Wrangling
- EDA
- Data Visualization
- Dashboard

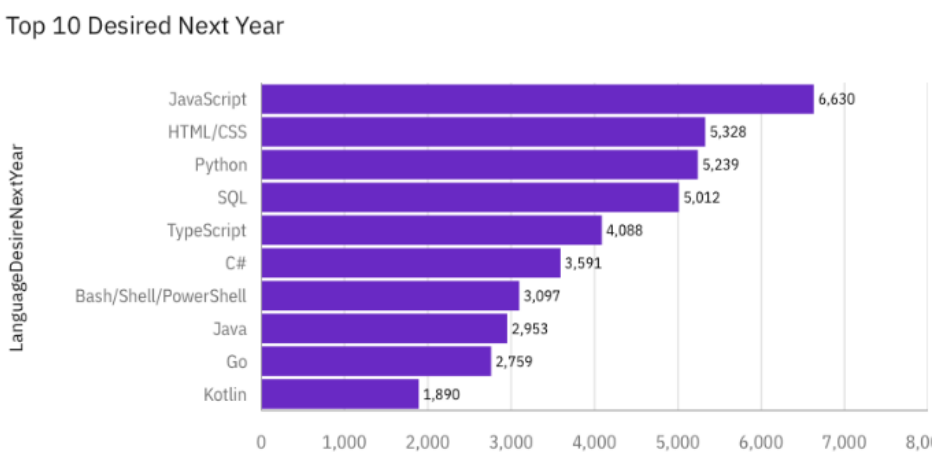
RESULTS

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

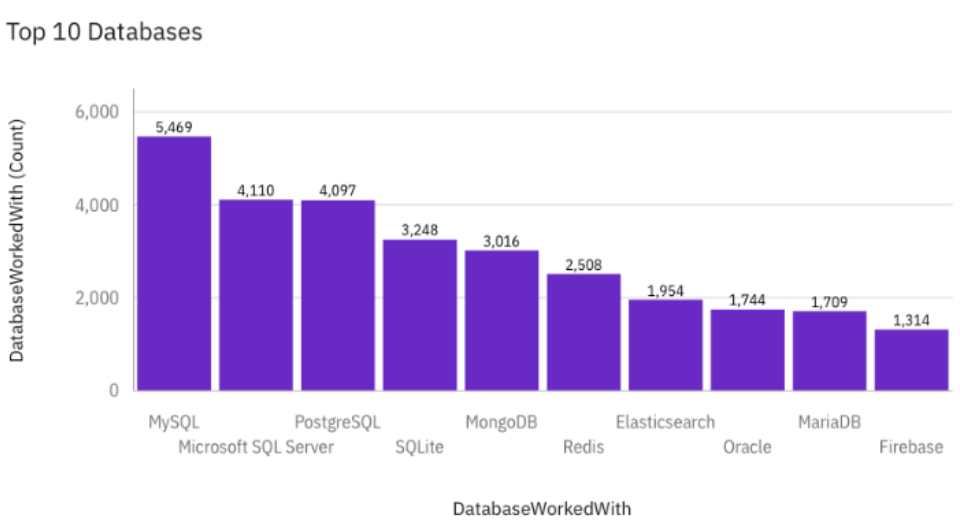
- JavaScript remains the most popular language, with consistent demand expected next year.
- Python continues to rise, showing growth in both current use and future demand.
- TypeScript is gaining traction, indicating its growing importance in web development.

Implications

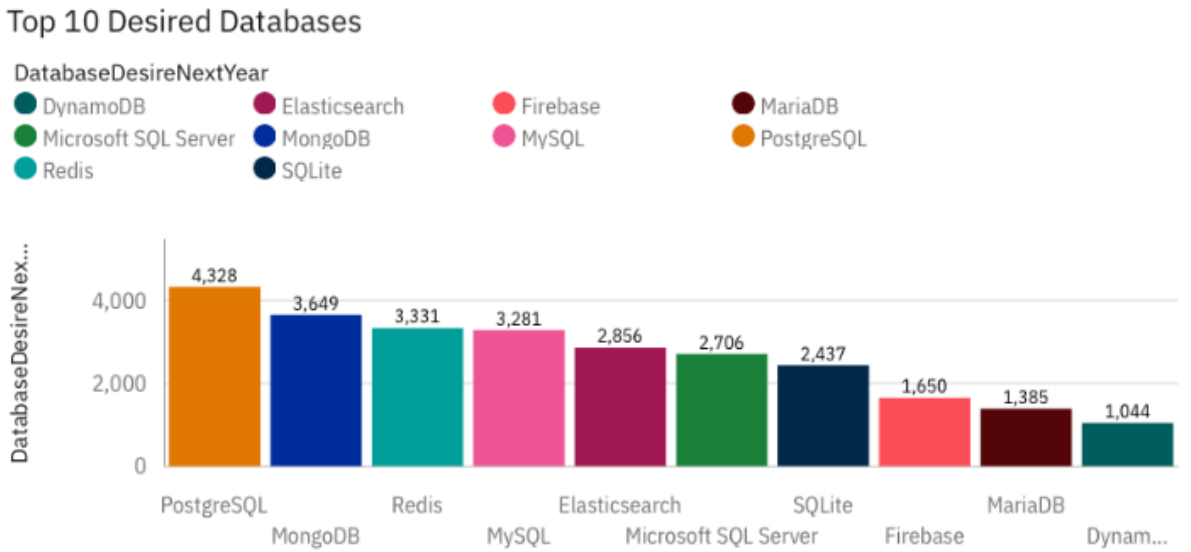
- Focus on JavaScript and Python for both current and future-proof skills.
- Learning TypeScript could provide an edge in front-end development roles.
- The continued importance of HTML/CSS underscores the need for solid foundational web development skills.

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL and PostgreSQL are the most widely used databases, with PostgreSQL predicted to grow in demand.
- MongoDB is seeing increased interest for future adoption.
- 3. Traditional databases like Microsoft SQL Server maintain a strong presence but are being complemented by NoSQL databases.

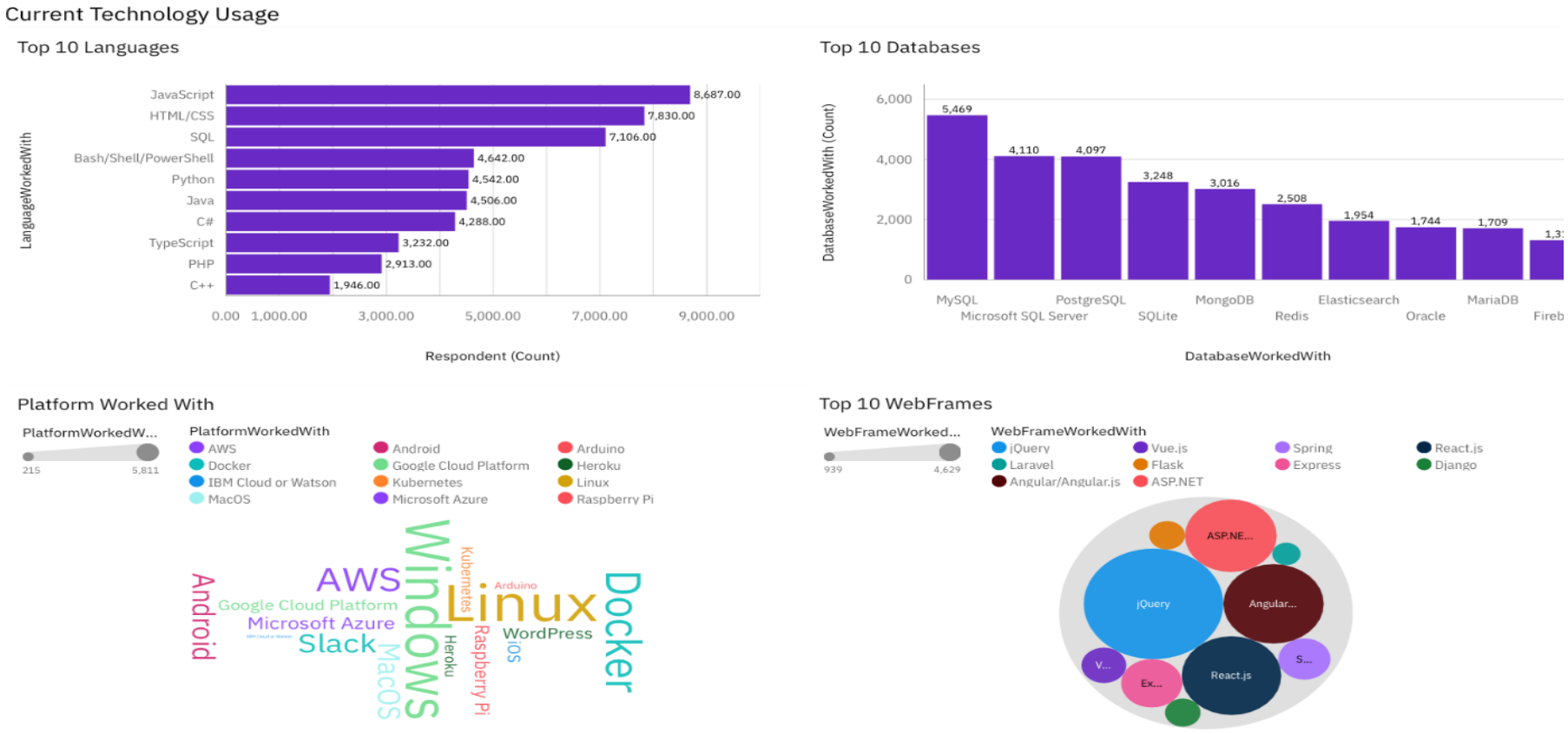
Implications

- Knowledge of PostgreSQLwill be crucial for future opportunities, given its expected rise in demand.
- Investing in learning NoSQL databases like MongoDB could be beneficial for positions involving large-scale data and flexible schemas.
- Maintaining proficiency in SQL and traditional relational databases is still important due to their widespread use.

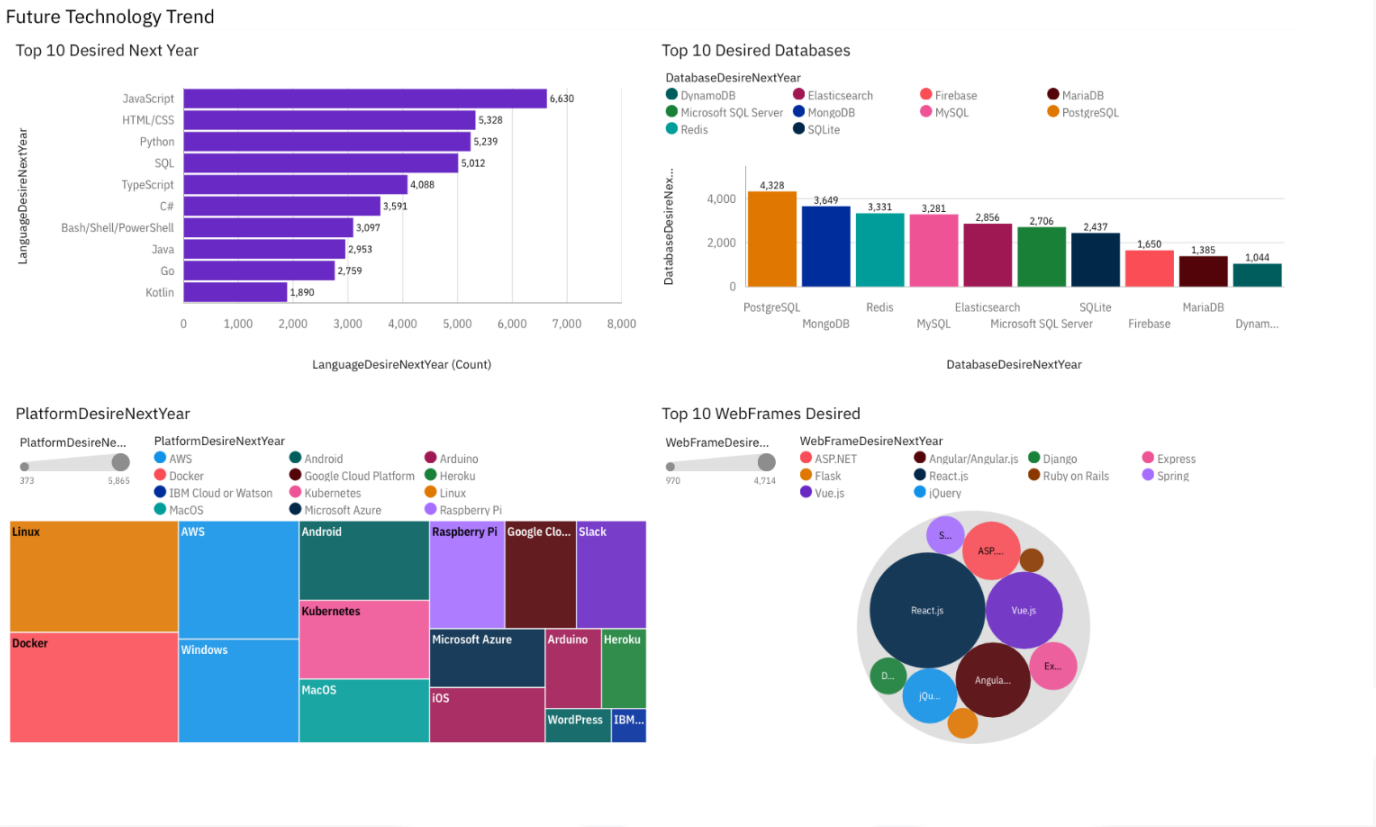
DASHBOARD

https://github.com/Kelseynmiller98/Capstone-project.git

DASHBOARD TAB 1



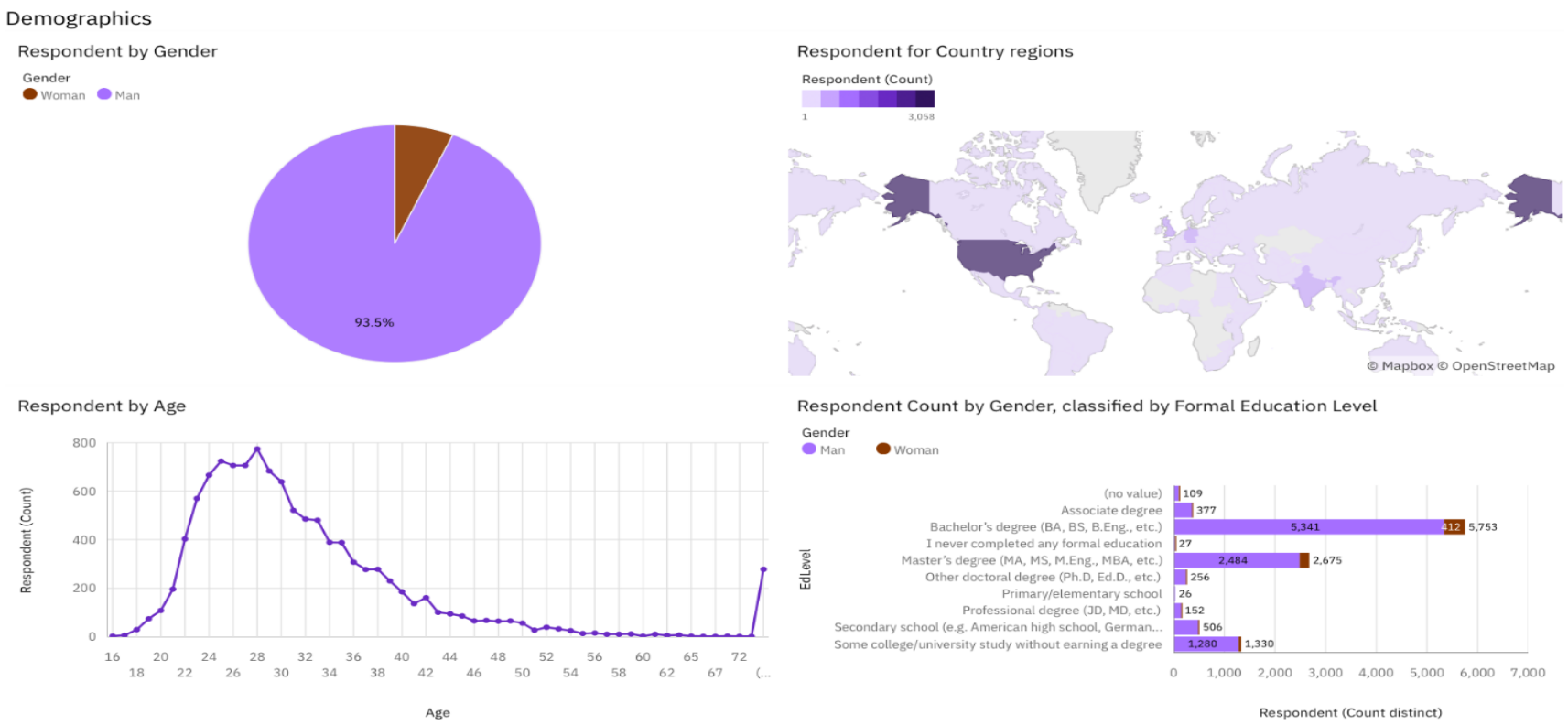
DASHBOARD TAB 2



IBM Developer

SKILLS NETWORK

DASHBOARD TAB 3



DISCUSSION

- Tech Skills Demand
  - JavaScript and Python remain dominant, with rising interest in TypeScript and modern frameworks.
- Database Shifts
  - PostgreSQL and MongoDB are leading a move towards open-source and NoSQL solutions.
- Platform Importance
  - Linux and Docker are crucial for stability and scalability, especially in cloud-native environments.
- Strategic Recommendations
  - Focus on cloud, containerization, and modern programming skills to stay competitive and agile in the evolving tech landscape.

OVERALL FINDINGS & IMPLICATIONS

Findings

- JavaScript and Python are the most in-demand languages, with growing interest in TypeScript.
- PostgreSQL and MongoDB are leading the trend towards open-source and NoSQL databases.
- Linux and Docker are critical platforms, especially in cloud-native environments.

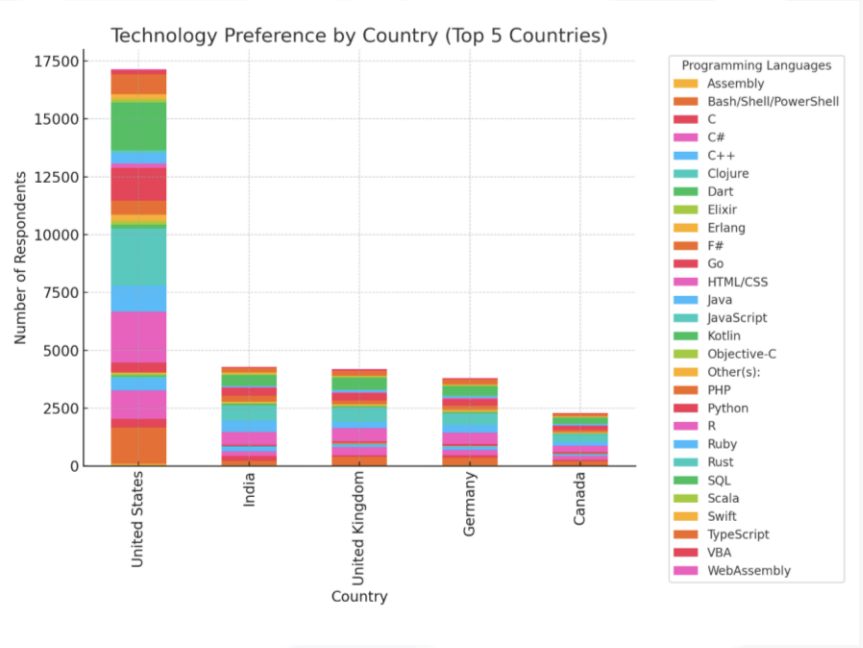
Implications

- Professionals should focus on mastering these languages and platforms to remain competitive.
- Organizations should prioritize cloud and containerization strategies for scalability.
- Educational programs should emphasize these emerging technologies to prepare students for the future job market.

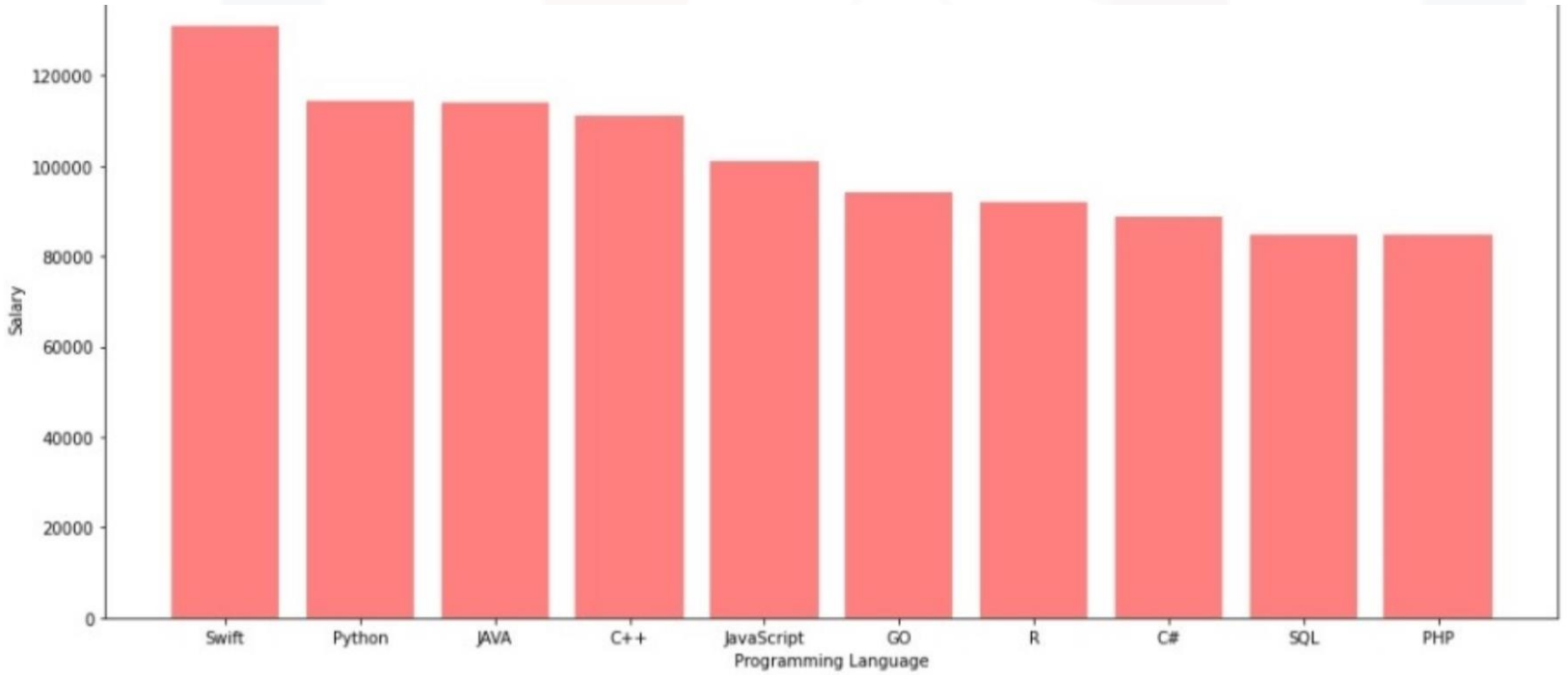
CONCLUSION

- Technology trends indicate JavaScript and Python will remain in high demand.
- PostgreSQL and MongoDB are leading the database preferences, showing a shift towards open-source and NoSQL solutions.
- Linux and Docker are critical platforms for both current and future technology environments.
- The demographic data reveals a predominantly male respondent pool with a significant representation of individuals with a Bachelor's degree in technology-related fields

APPENDIX


Technology Preference by Country (Top 5 Countries)
Number of Respondents
17500
15000
12500
10000
7500
5000
2500
0
United States
India
United Kingdom
Germany
Canada
Country
Programming Languages
Assembly
Bash/Shell/PowerShell
C
C#
C++
Clojure
Dart
Elixir
Erlang
F#
Go
HTML/CSS
Java
JavaScript
Kotlin
Objective-C
Other(s):
PHP
Python
R
Ruby
Rust
SQL
Scala
Swift
TypeScript
VBA
WebAssembly

JOB POSTINGS



POPULAR LANGUAGES