Key Insights on Technology Trends

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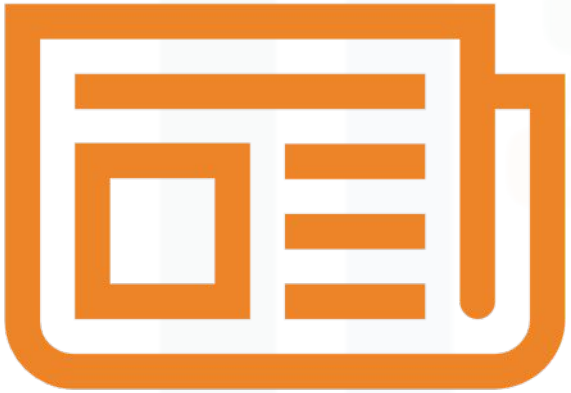
EXECUTIVE SUMMARY

- Examining trends in programming languages and databases
- Analyzing data trends
- Leading programming languages
- Key database skills
- Popular IDEs
- Technological gaps across countries
- Gender disparity in the workforce

INTRODUCTION

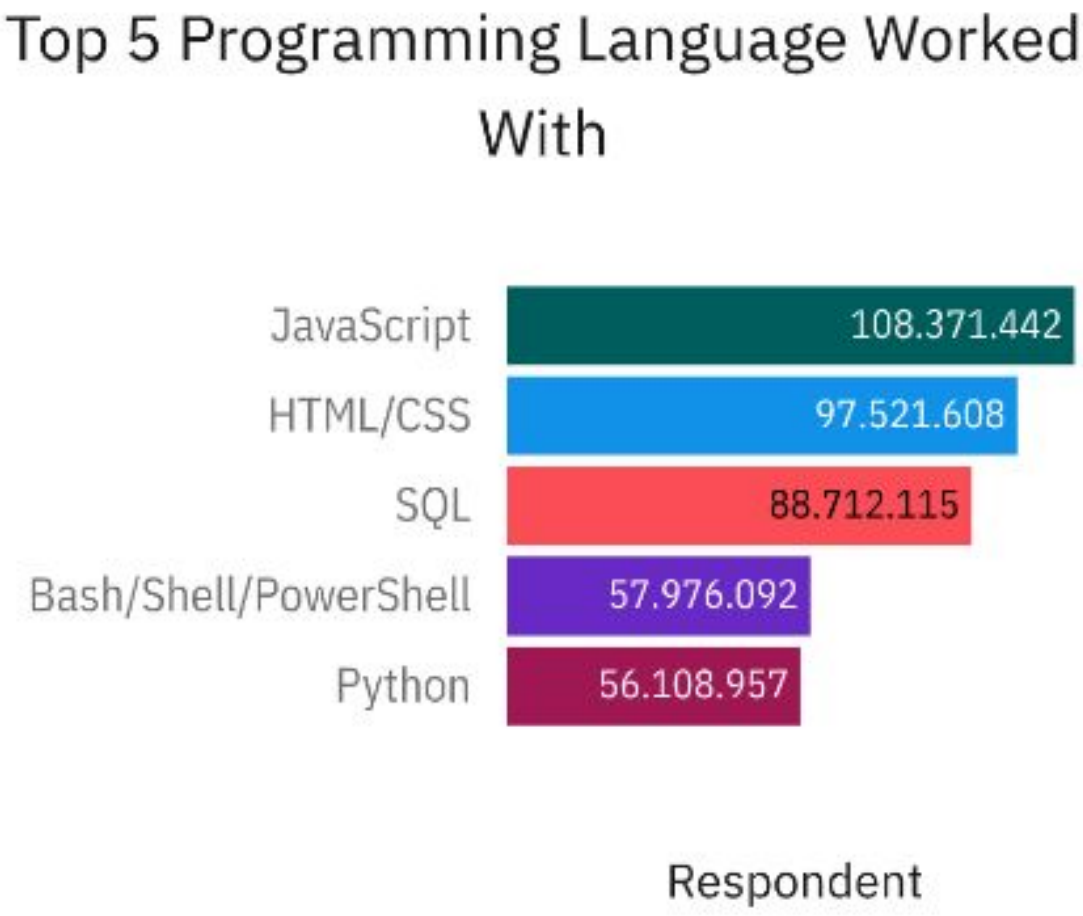
- Analyzing Software Development Trends
- The goal of this analysis is to gain a deeper understanding of current technologies and predict their future directions. This knowledge enables both current and future data professionals to identify the technologies and skills needed to remain relevant and increase their value.

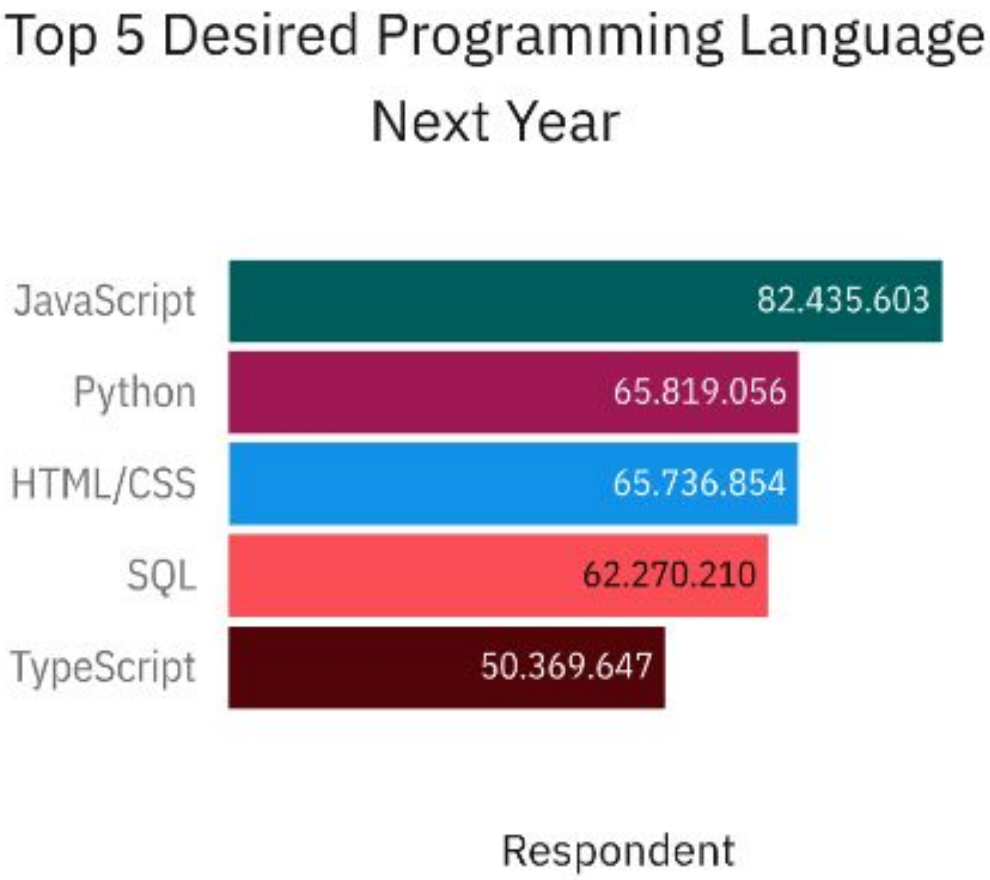
METHODOLOGY



- Data Collection
- Data wrangling
- Exploring Data
- Data Visualization
  - Dashboard
  - Findings presentation
- Conclusion
- Appendix

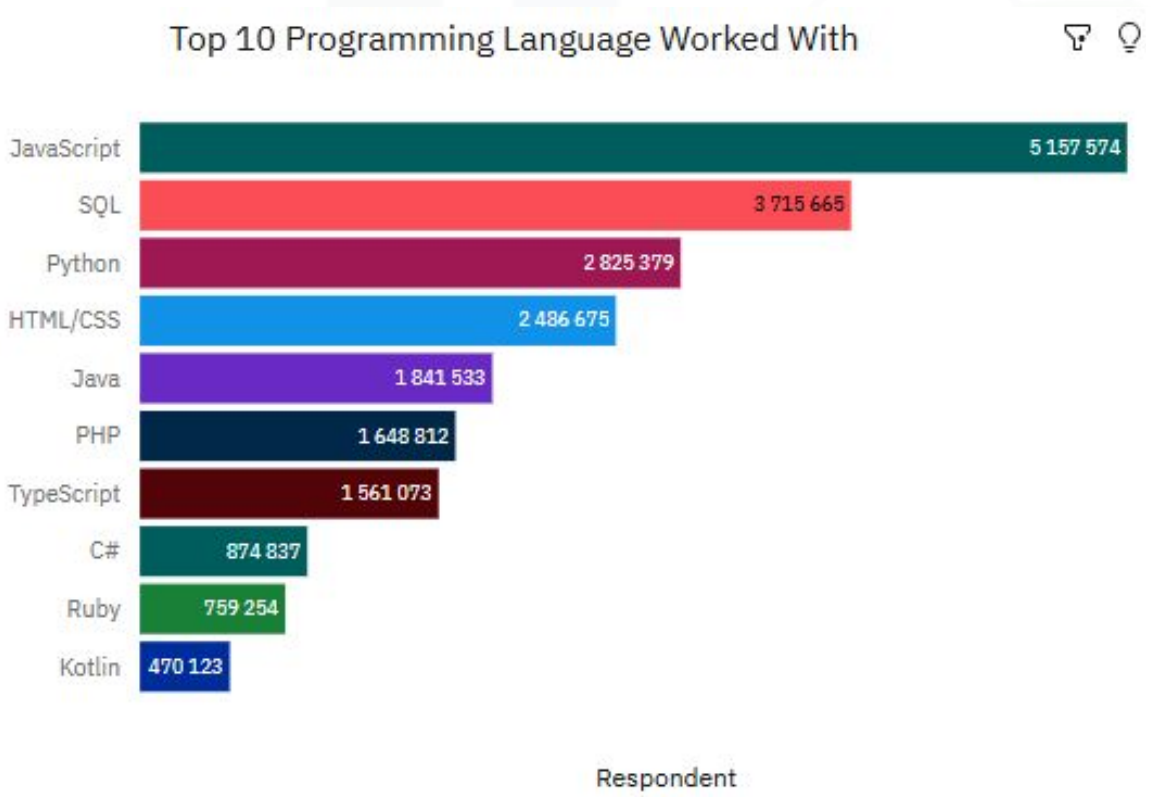
RESULTS


Top 5 Programming Language Worked With
JavaScript
108.371.442
HTML/CSS
97.521.608
SQL
88.712.115
Bash/Shell/PowerShell
57.976.092
Python
56.108.957
Respondent

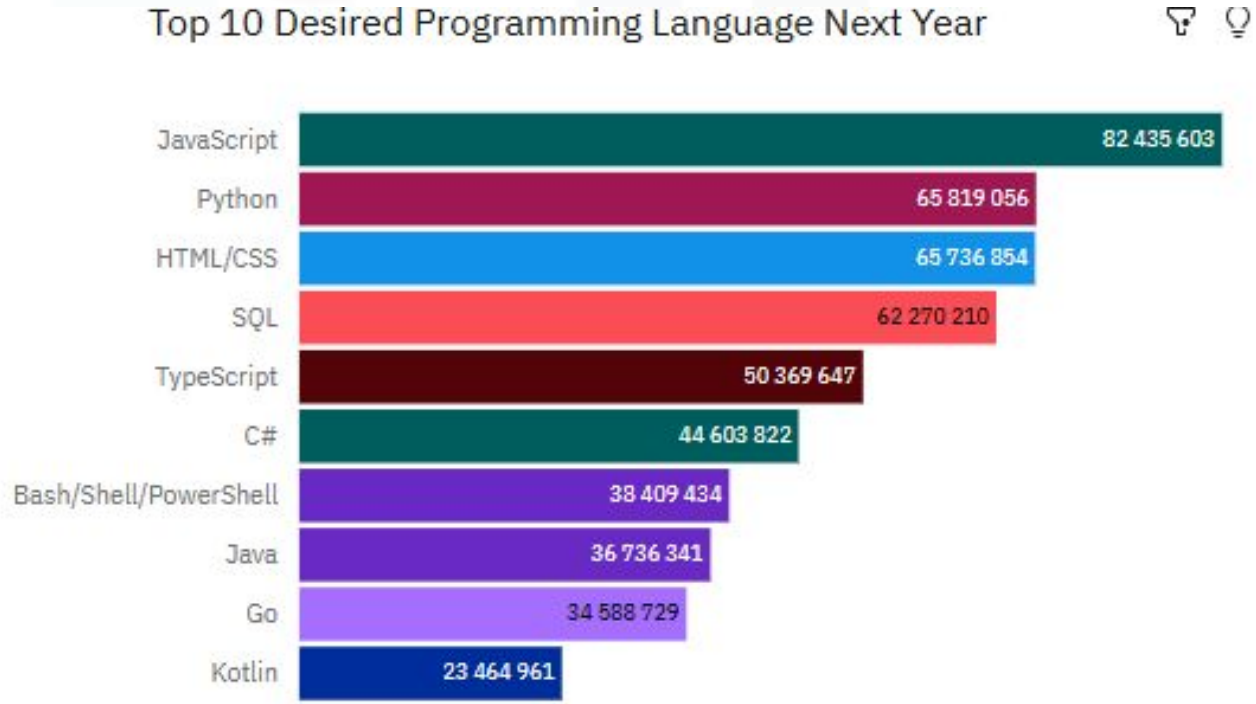

Top 5 Desired Programming Language Next Year
JavaScript
82.435.603
Python
65.819.056
HTML/CSS
65.736.854
SQL
62.270.210
TypeScript
50.369.647
Respondent

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

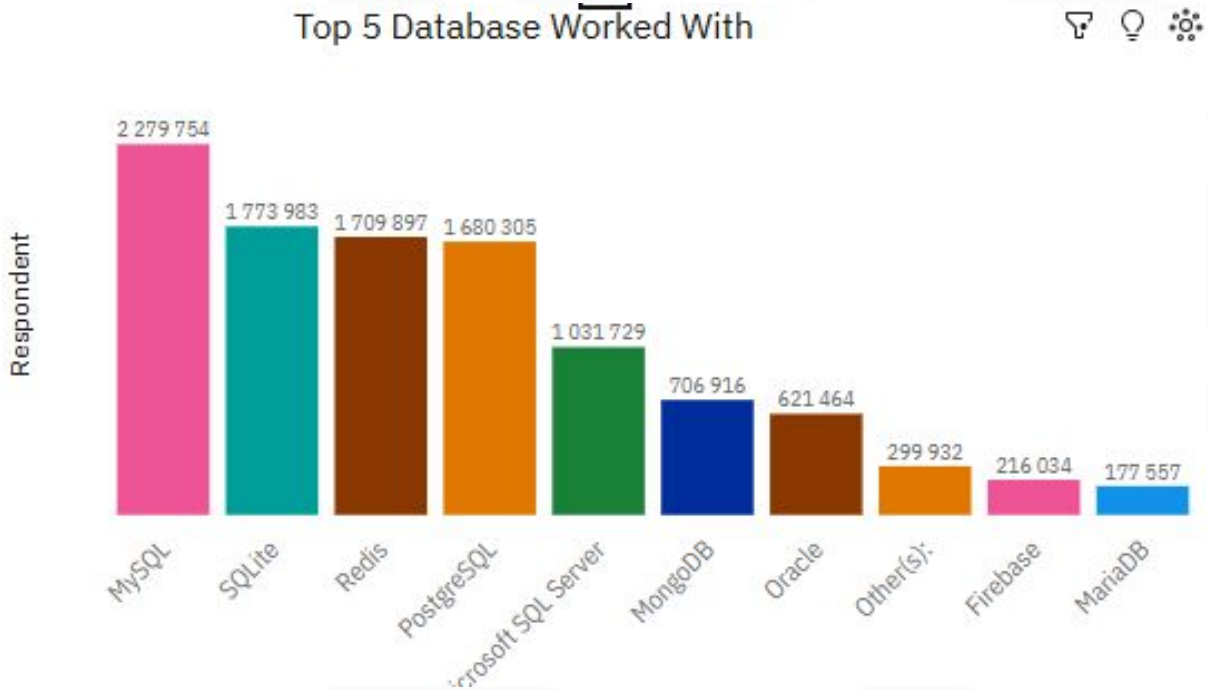
- JavaScript and HTML/CSS remain the top programming languages.
- SQL continues to be a dominant language and will likely stay that way.
- Python and TypeScript are on the rise, while Bash is declining in popularity.

Implications

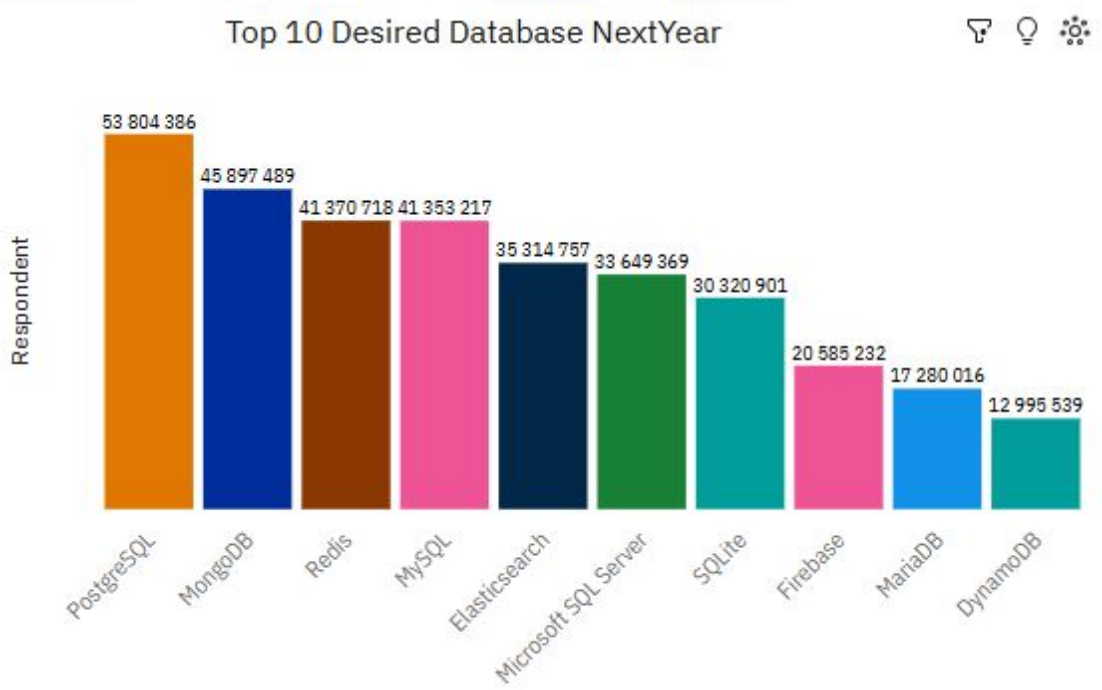
- Web development is highly sought after, with JavaScript and HTML leading the field.
- For big data and querying, SQL remains the most favored language.
- As AI and ML work expands, Python's popularity is set to keep rising.

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL, Microsoft SQL Server, PostgreSQL, SQLite, and MongoDB currently represent the top five most widely utilized databases.
- PostgreSQL's increasing popularity indicates that it is becoming the leading SQL database
- Meanwhile, MongoDB and Elasticsearch are also gaining traction.

Implications

- Open-source databases are the most preferred choice.
- NoSQL databases are rapidly gaining popularity, and future developers may need to be proficient in both SQL and NoSQL databases

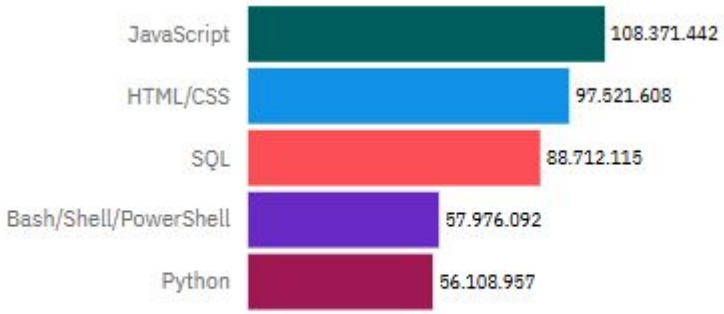
DASHBOARD

https://github.com/gabrielbichon/IBM-Capstone-Project/blob/main/Cognos%20Dashboard.pdf

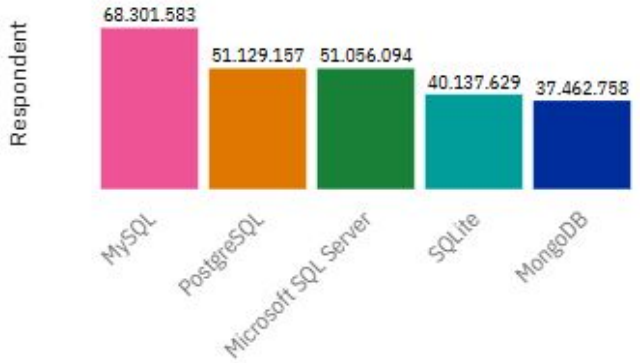
DASHBOARD TAB 1

Current Technology

Top 5 Programming Language Worked With



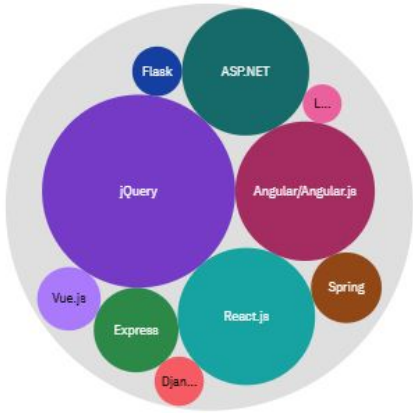
Top 5 Database Worked With



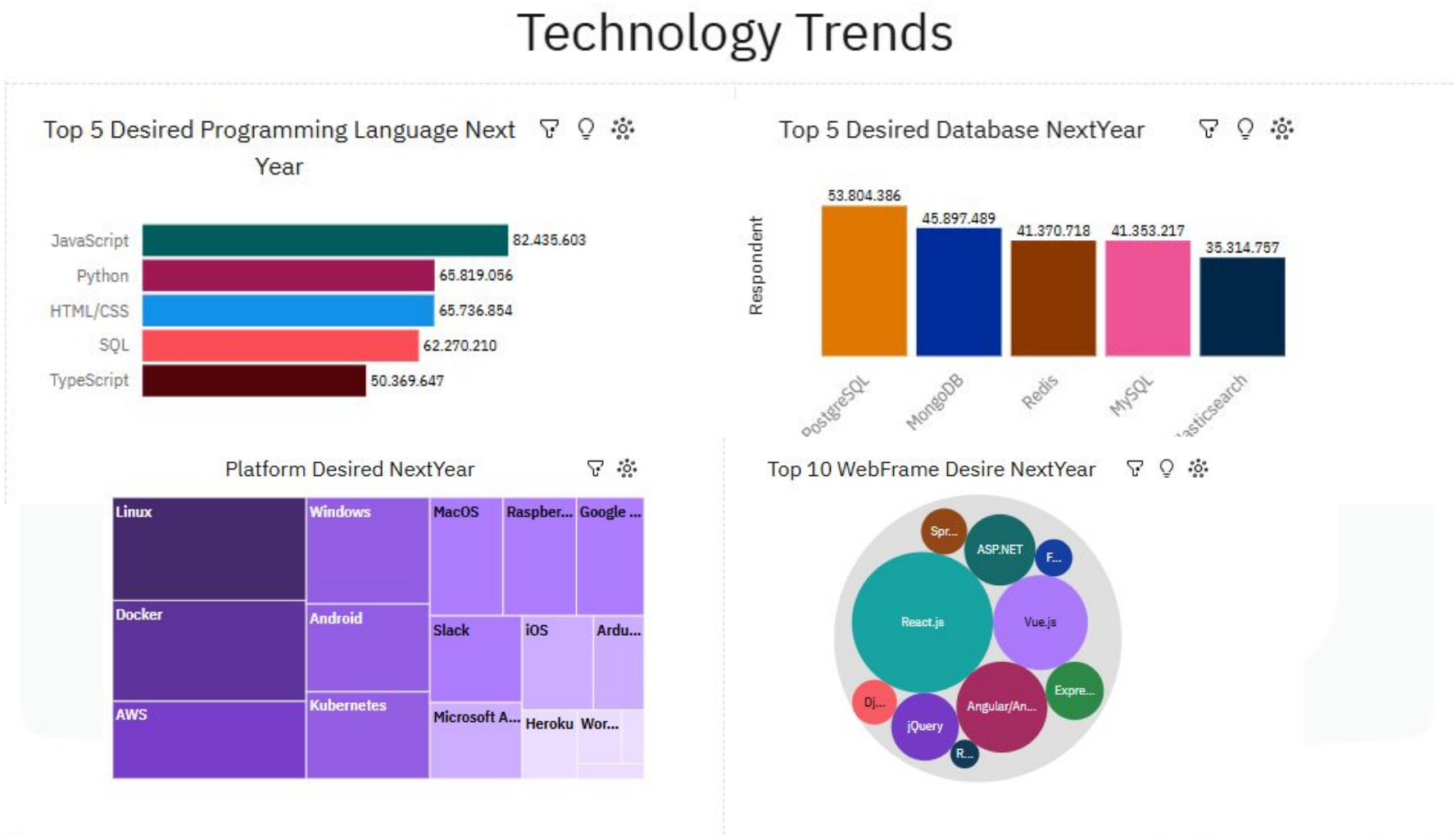
Respondent

Platform Worked With

Top 10 Webframes Used



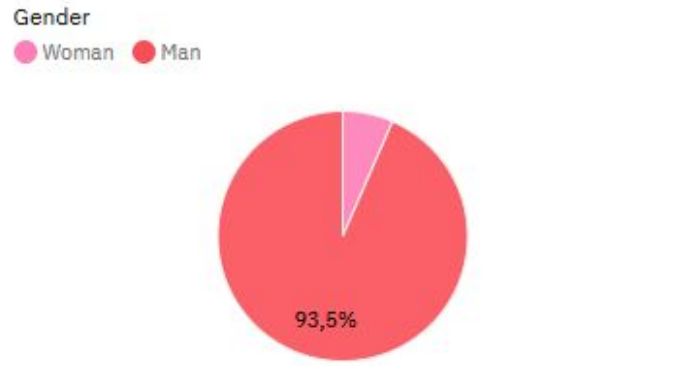
DASHBOARD TAB 2



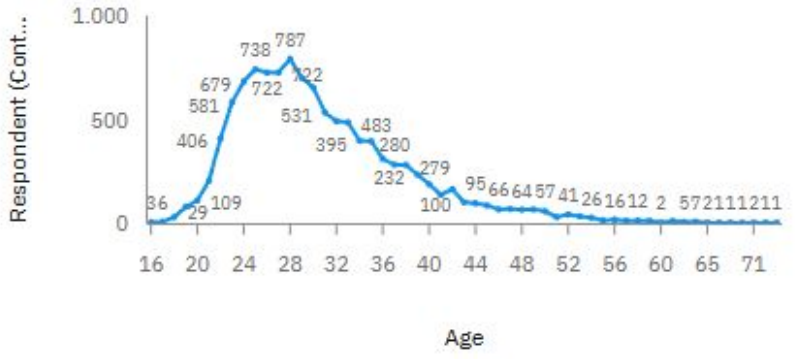
DASHBOARD TAB 3

Demographics

Respondent by Gender

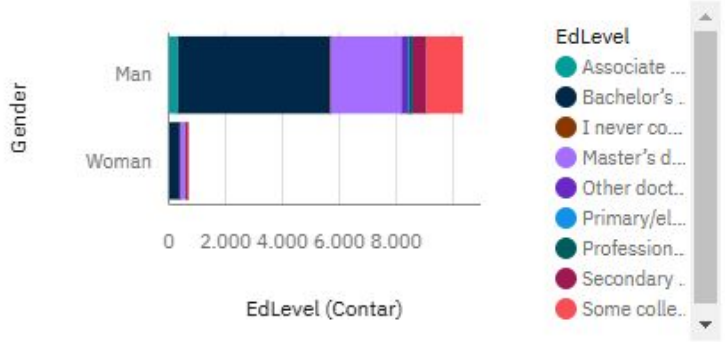


Respondent by Age



Respondent by Country

Education Level by Gender



DISCUSSION

- Based on the data presented, we can infer which technologies are the most prominent and the direction data professionals are likely to take in the future. Additionally, we can deduce that the majority of developers are 30-year-old males from the United States, and there may be some biases in the survey.

OVERALL FINDINGS & IMPLICATIONS

Findings

- JavaScript and HTML are currently the most popular technologies and are expected to remain so in the future.
- While SQL RDBMS are the most preferred, NoSQL databases are gaining momentum
- The majority of developers are middle-aged men from the United States.

Implications

- Web developers are among the most sought-after professionals in the IT field.
- Data professionals should learn both SQL and NoSQL databases.
- As technology evolves and becomes more mainstream, I believe the gender and country gap will narrow. However, it is essential for us to actively contribute to closing this gap by promoting equal opportunities.

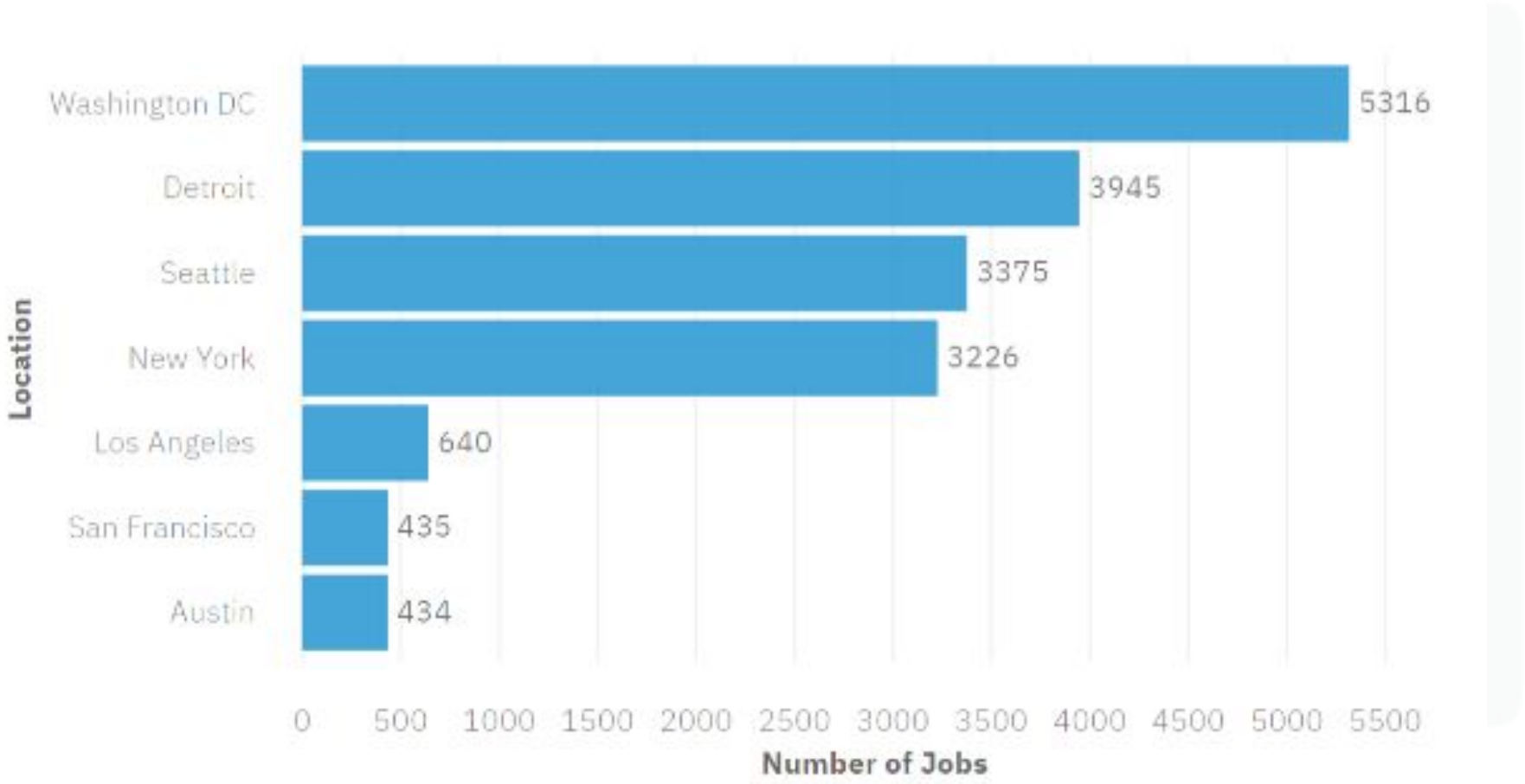
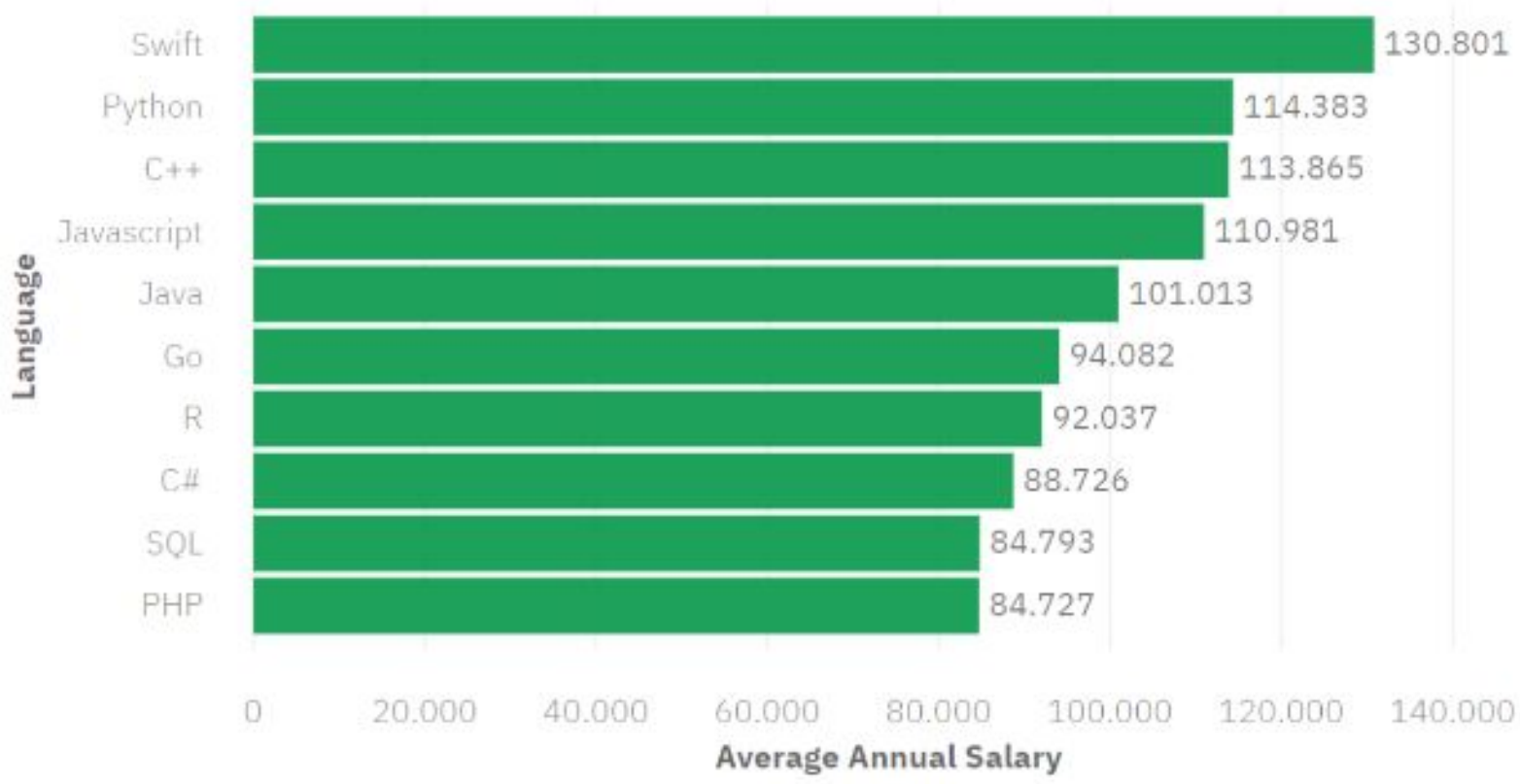
CONCLUSION

- After reviewing and analyzing the survey subset conducted by Stack Overflow in 2019, we can identify the most rewarding languages, databases, platforms, and web frameworks for current and future use.
- Technology is continually evolving, and developers need to enhance their skills in technologies that are gaining popularity and may shape the future.

APPENDIX

Additional Charts

JOB POSTINGS



POPULAR LANGUAGES