OUTLINE

- Executive Summary

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  - Visualization – Charts
  - Dashboard

- Discussion
  - Findings & Implications

- Conclusion

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EXECUTIVE SUMMARY

Observations

- Web dev languages slightly decreased in popularity but stayed on top, while Python's popularity significantly increased.

- PostgreSQL and MongoDB replaced MySQL and SQL Server as top DBs.

Proposed Explanations of Observations

- Web dev remains top focus for most, while Python's low-learning curve and versatility make Python itself and Python-friendly DBs especially popular.

Prediction

- Together, Python's ascendency and the continued widespread interest in web dev suggest that Python-based web dev languages like Django and Flask and Python-friendly relational and non-relational DBs could increase in popularity.

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INTRODUCTION

Guiding Question

- What are likely near-term future trends in programming language and DB use?

Target Audience

- Python developers

- Database developers

Purpose

- To suggest directions for further development of Python libraries and Python-friendly databases

METHODOLOGY

Data Source

- Reponses from Stack Overflow's Developer Survey with 90,000 respondents

Questions Used for this Report

- Which languages and DBs do respondents currently use?
- Which languages and DBs do respondents desire to learn next year?

Plan

- Compare responses to predict likely near-term trends in programming language and DB use.

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RESULTS

Languages

- HTML/CSS and JavaScript:
  - Most widely used
  - Most widely desired to be learned

- Python:
  - 5th most widely used
  - But 3rd most widely desired to be learned

Databases

- MySQL and MS SQL Server:
  - Most widely used
  - But only 4th and 6th most widely desired to be learned

- PostgreSQL and MongoDB:
  - 3rd and 5th most widely used
  - But most widely desired to be learned
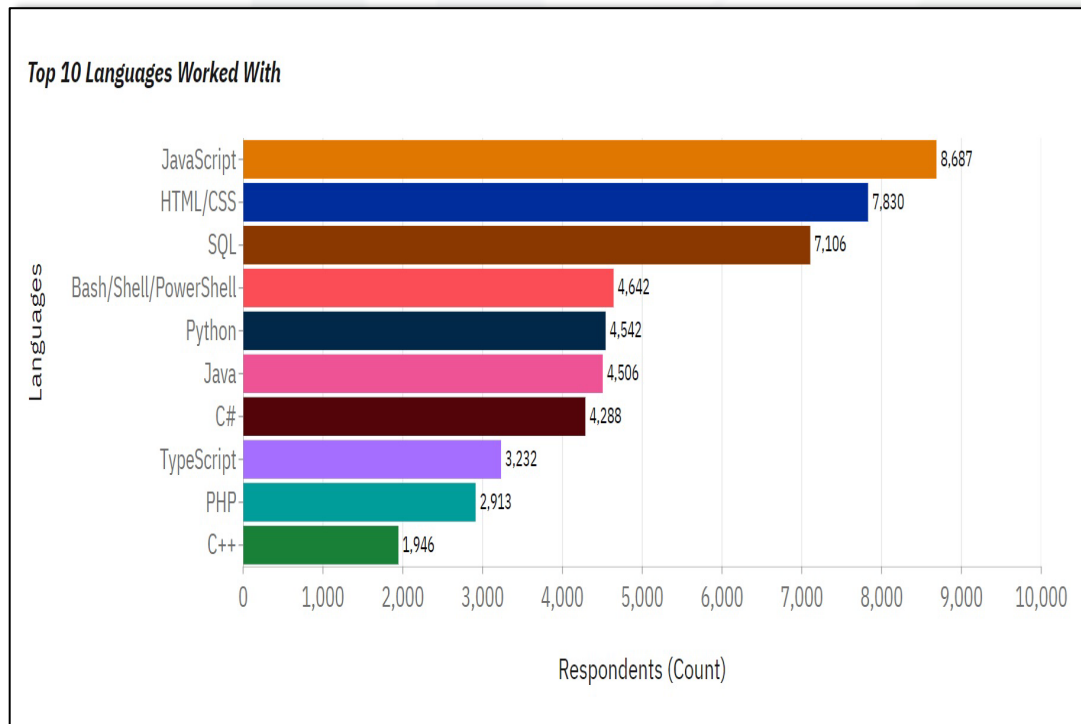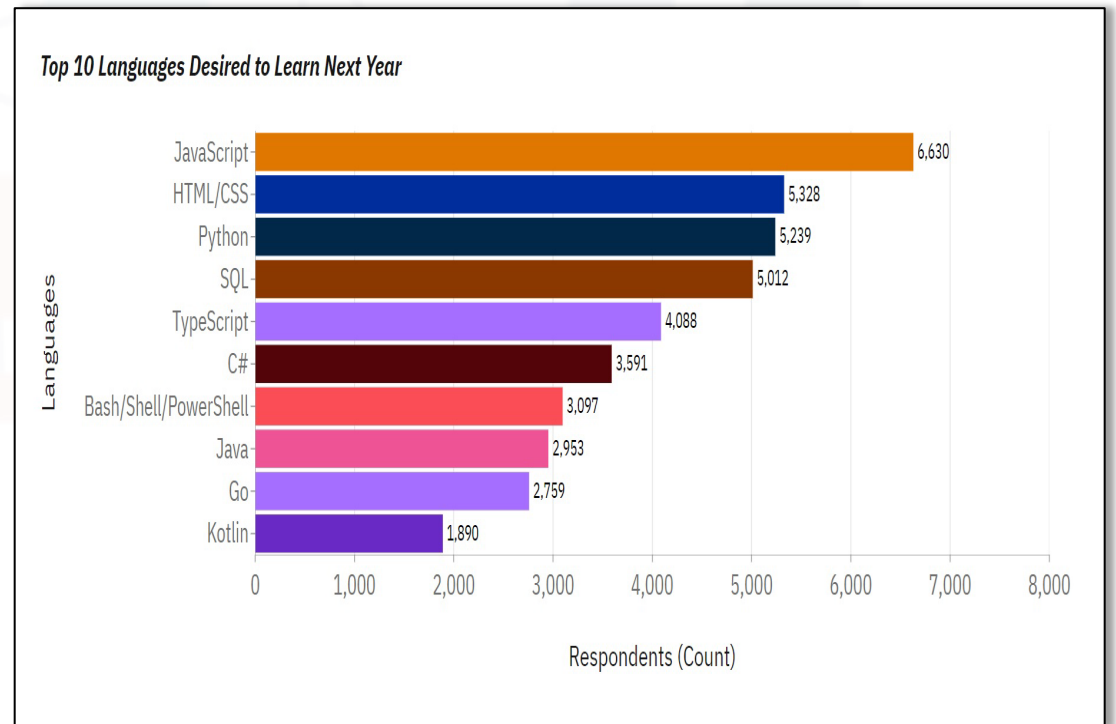
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PROGRAMMING LANGUAGE TRENDS

Current Year

Top 10 Languages Worked With

Language	Respondents (Count)
JavaScript	8,687
HTML/CSS	7,830
SQL	7,106
Bash/Shell/PowerShell	4,642
Python	4,542
Java	4,506
C#	4,288
TypeScript	3,232
PHP	2,913
C++	1,946

Next Year

Top 10 Languages Desired to Learn Next Year

Language	Respondents (Count)
JavaScript	6,630
HTML/CSS	5,328
Python	5,239
SQL	5,012
TypeScript	4,088
C#	3,591
Bash/Shell/PowerShell	3,097
Java	2,953
Go	2,759
Kotlin	1,890

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PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- HTML/CSS and JavaScript are the most used and the most highly desired to learn.

- Python is less used but learning Python is highly desired.

Implications

- Together, the findings suggest that Python-based web development languages—like **Django** and **Flask**—could increase in popularity.
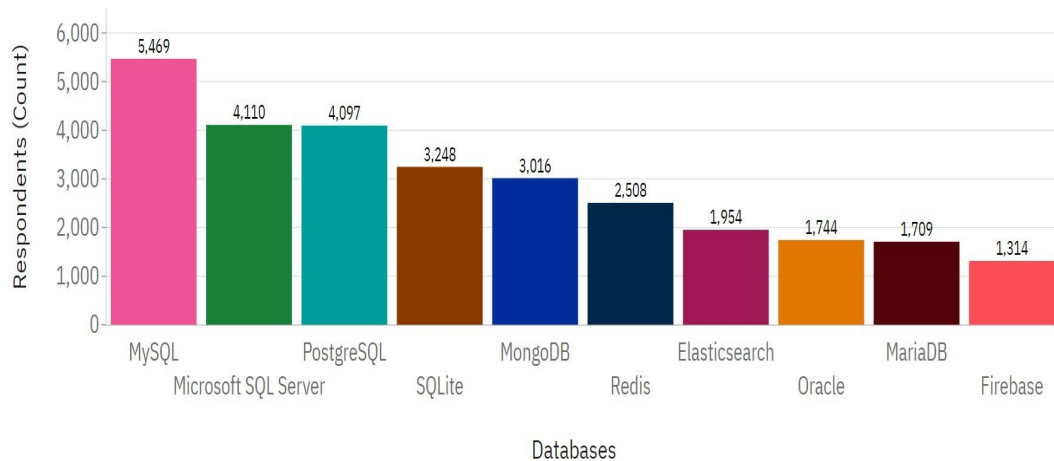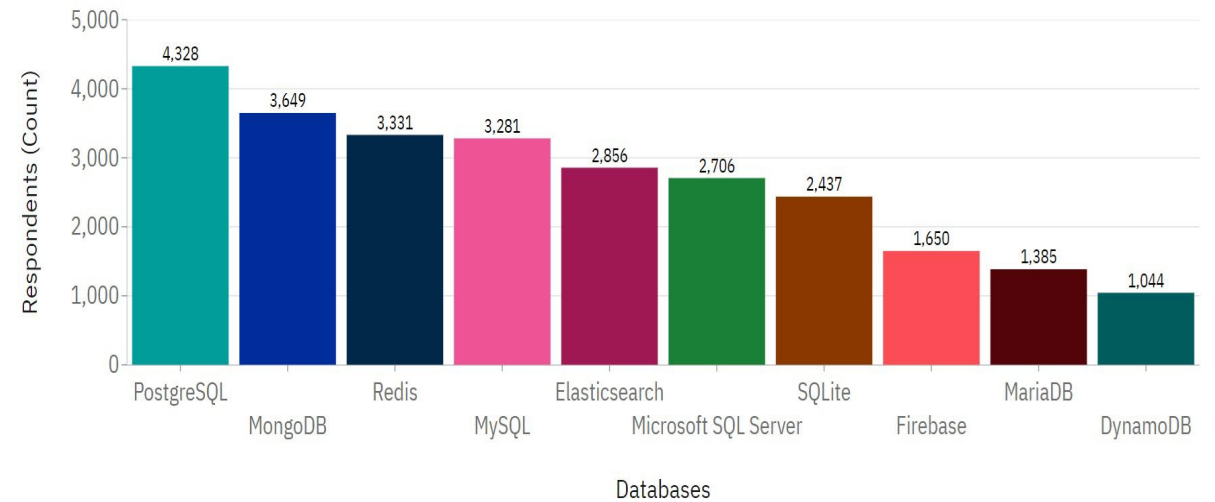
DATABASE TRENDS

Current Year

Top 10 Databases Worked With

Next Year

Top 10 Databases Desired to Learn Next Year

DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL and MS SQL Server are the most widely used but are not the most widely desired to learn.

- Python-friendly PostgreSQL and Mongo DB are the most widely desired to learn.

Implications

- Python-friendly relational *and* non-relational DBs will likely increase in popularity.
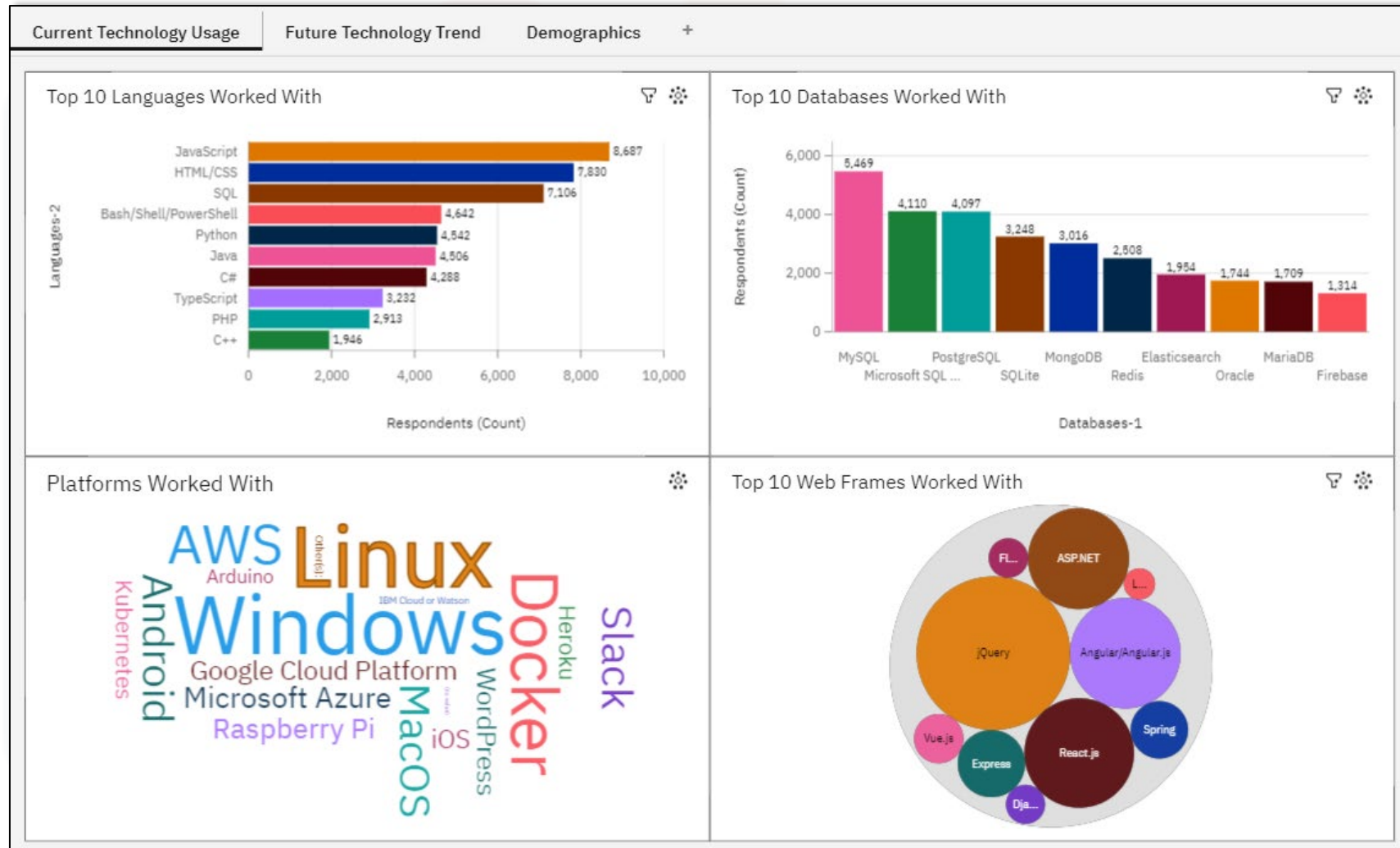
DASHBOARD

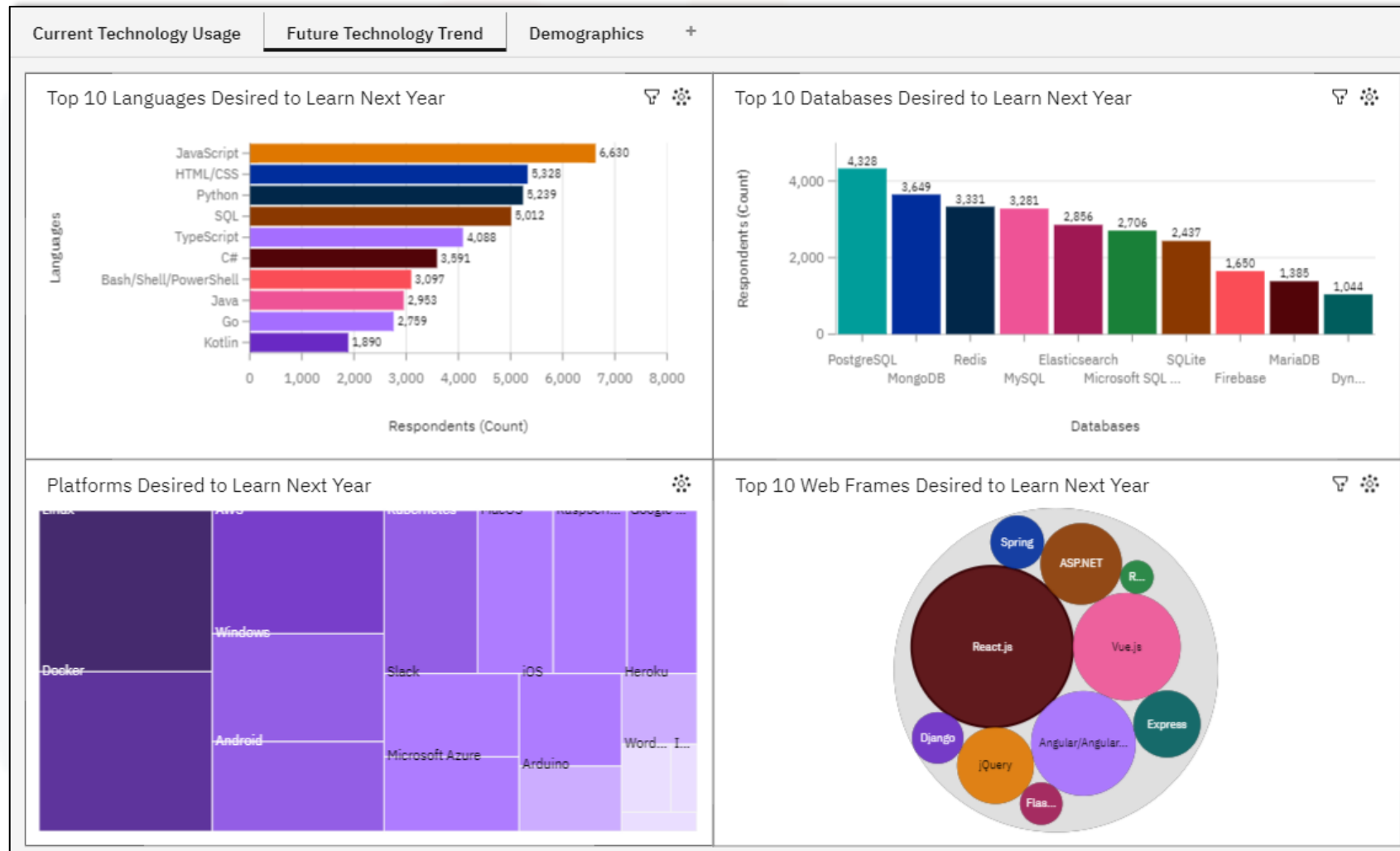https://github.com/meta-joe/ibm_data_analyst_final_proj/blob/e296ebe46d6608ead081865c4f9a270b09f4e1ec/Screenshots-2024-05-25.pdf

DASHBOARD TAB 1
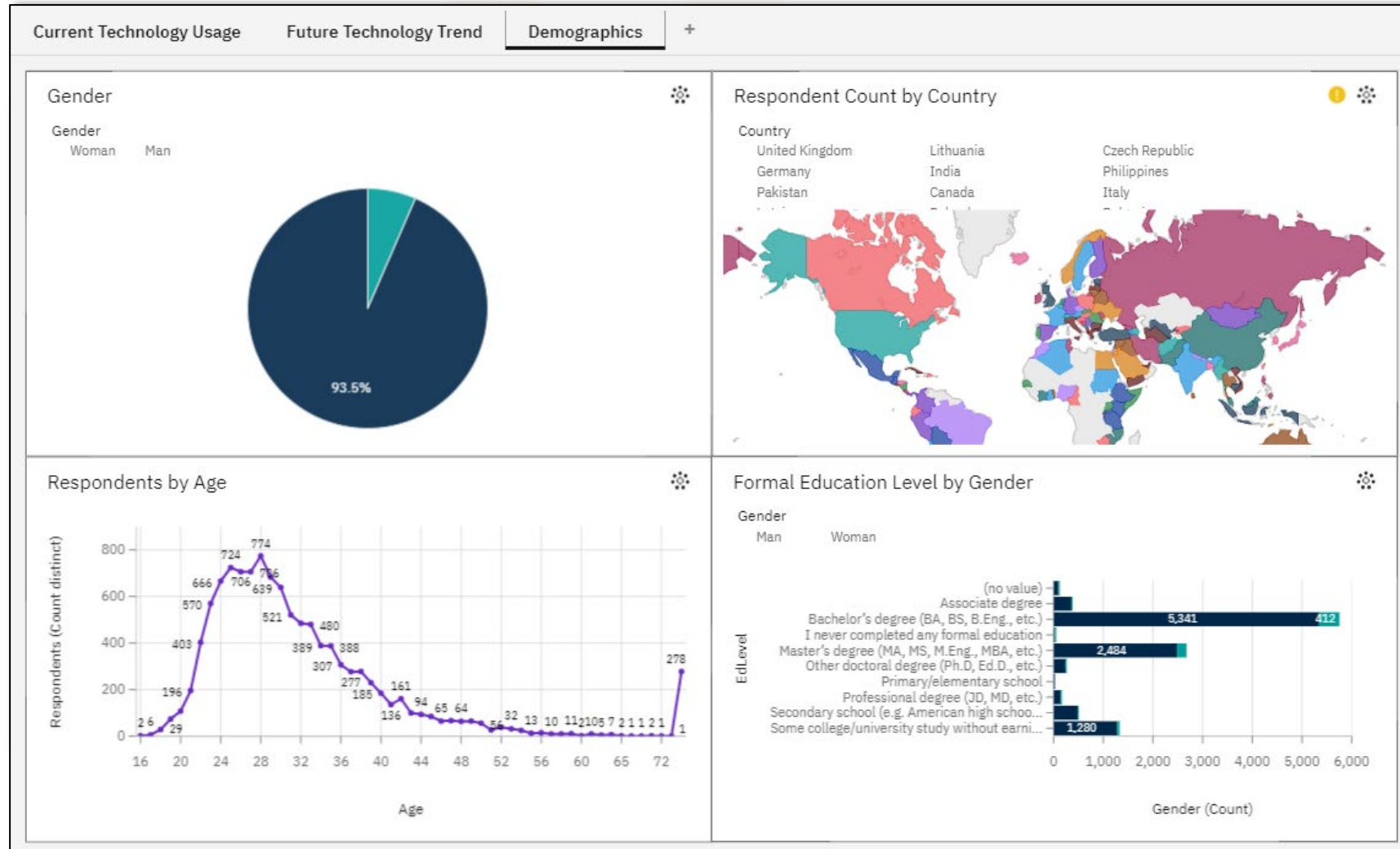
DASHBOARD TAB 2

Current Technology Usage   **Future Technology Trend**   Demographics   +

Top 10 Languages Desired to Learn Next Year

- JavaScript — 6,630
- HTML/CSS — 5,328
- Python — 5,239
- SQL — 5,012
- TypeScript — 4,088
- C# — 3,691
- Bash/Shell/PowerShell — 3,097
- Java — 2,953
- Go — 2,759
- Kotlin — 1,890

Languages / Respondents (Count)

Top 10 Databases Desired to Learn Next Year

- PostgreSQL — 4,328
- MongoDB — 3,649
- Redis — 3,331
- MySQL — 3,281
- Elasticsearch — 2,856
- Microsoft SQL ... — 2,706
- SQLite — 2,437
- Firebase — 1,650
- MariaDB — 1,385
- Dyn... — 1,044

Respondents (Count) / Databases

Platforms Desired to Learn Next Year

Linux, AWS, Kubernetes, MacOS, Raspberr..., Google..., Docker, Windows, Slack, iOS, Heroku, Android, Microsoft Azure, Arduino, Word..., I...

Top 10 Web Frames Desired to Learn Next Year

Spring, ASP.NET, R..., React.js, Vue.js, Django, jQuery, Angular/Angular..., Express, Flas...

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DASHBOARD TAB 3

DISCUSSION

Recall Guiding Question

What are likely near-term future trends in programming language and DB use?

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OVERALL FINDINGS & IMPLICATIONS

Findings

- A strong rise in Python's popularity

- A continued preference for web development languages

- An increased interest in Python-friendly DBs

Implications

- We can expect a possible future increase in reliance upon Python for both of the following:

  ➢ web development

  ➢ relational and non-relational database management.
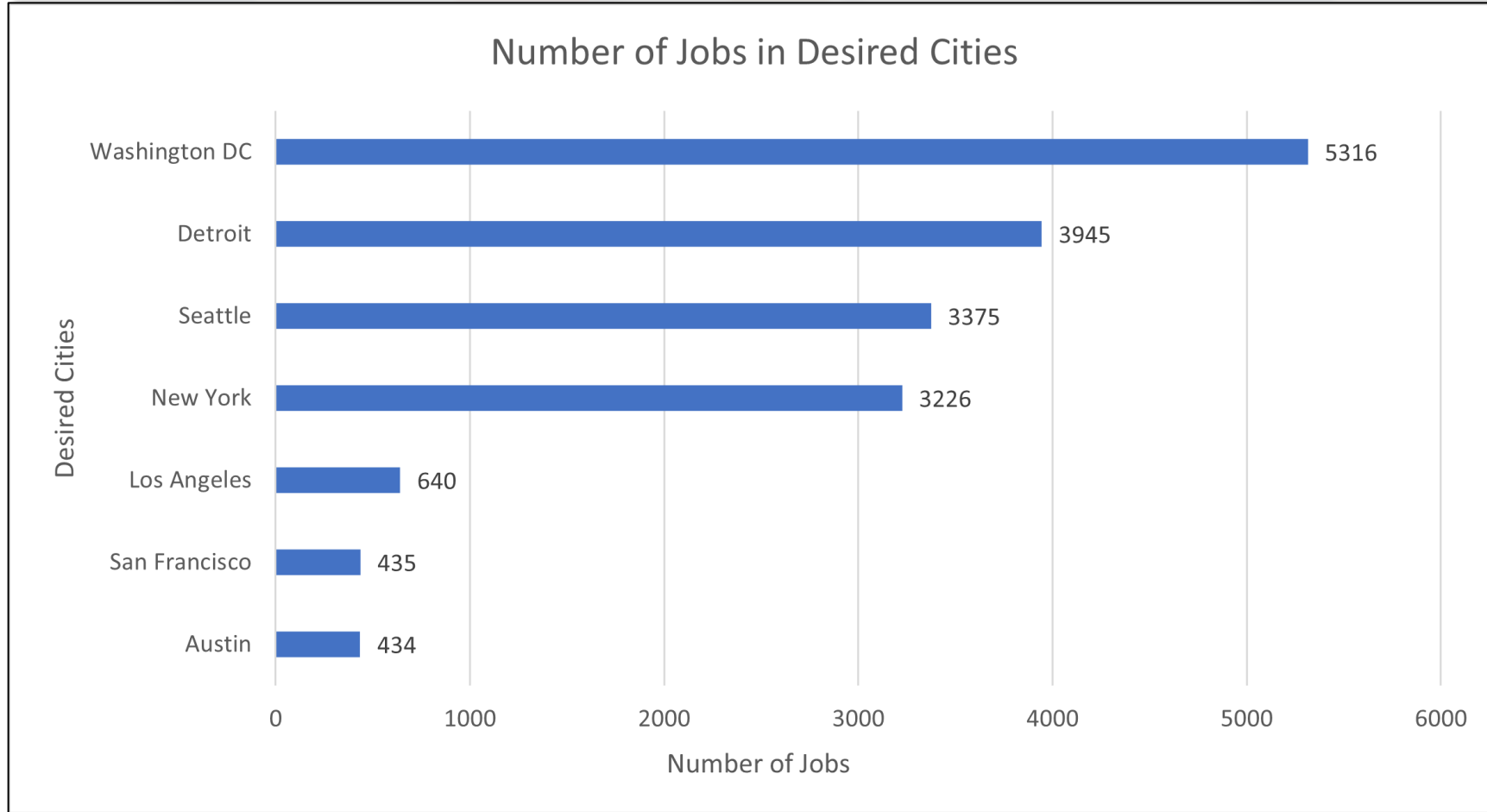
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CONCLUSION

Recommendations

- Focus on further developing Python's web development libraries.

- Focus on further developing Python's usefulness for relational and non-relational DB management.

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JOB POSTINGS

Number of Jobs in Desired Cities

POPULAR LANGUAGES

Average Annual Salary of Popular Languages