Stack Overflow Survey Analysis

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OUTLINE

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EXECUTIVE SUMMARY

The latest Stack Overflow Survey was used to identify global trends. These global trends are crucial for informing sector area growth for the purposes of tech training expenditure:

- Programming languages:
  - Rust is an emerging skill requirement
  - Steady interest in top 5 languages
- Databases:
  - PostgreSQL will continue to dominate in skill requirement
  - Redis is forecasted to be in less demand

INTRODUCTION

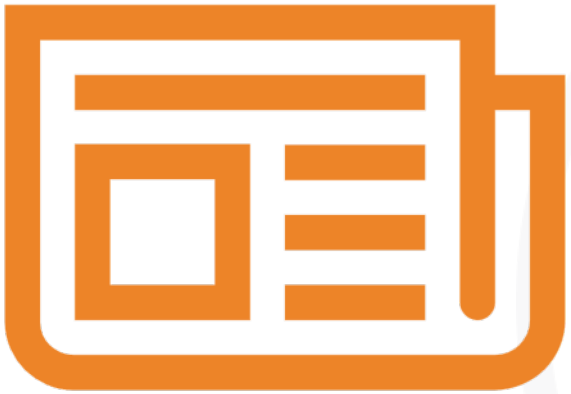
The latest Stack Overflow Survey describes global trends relevant to:

- Technologies in use
- Emerging technologies
- Demographics of technology users

Investigated tech landscapes:

- Programming languages
- Databases
- Platforms
- Web Frameworks

METHODOLOGY



Data Collection

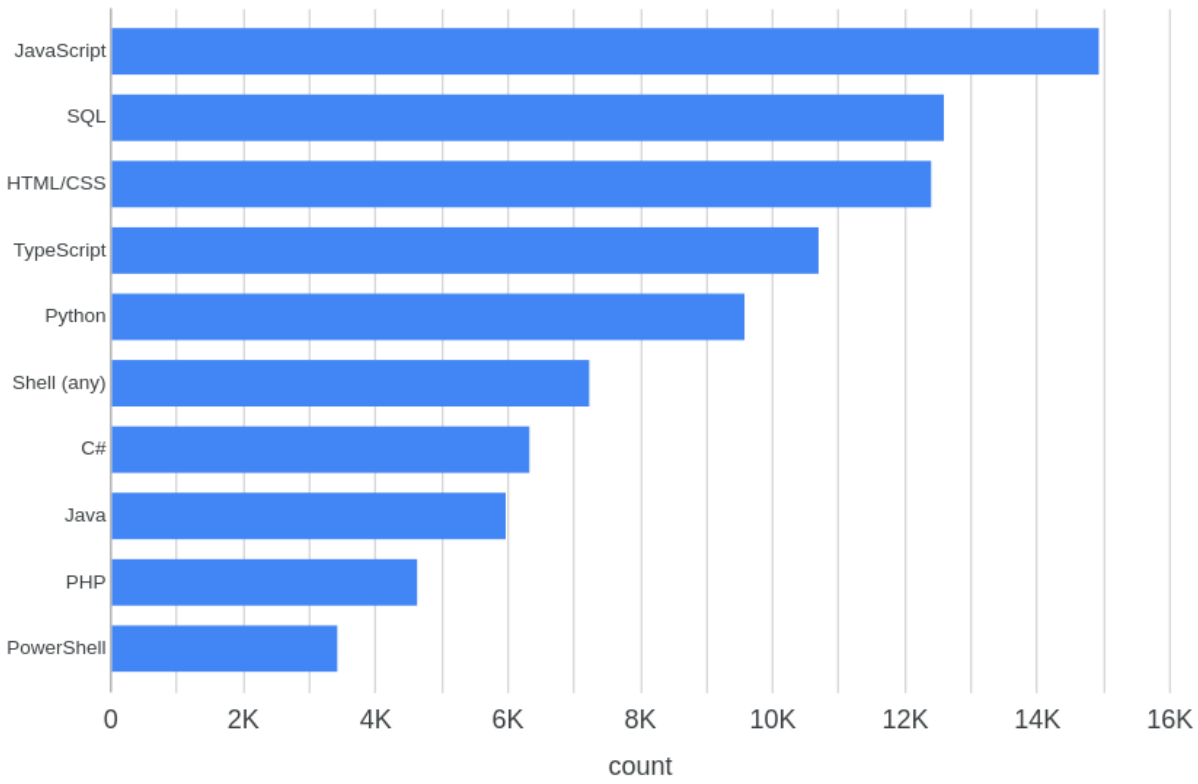
- The global (Appendix A) Stack Overflow Survey results are publicly available as a third-party dataset
- Popular language data was collected by web scraping
- Job postings data was collected using third-party api

Data Wrangling:

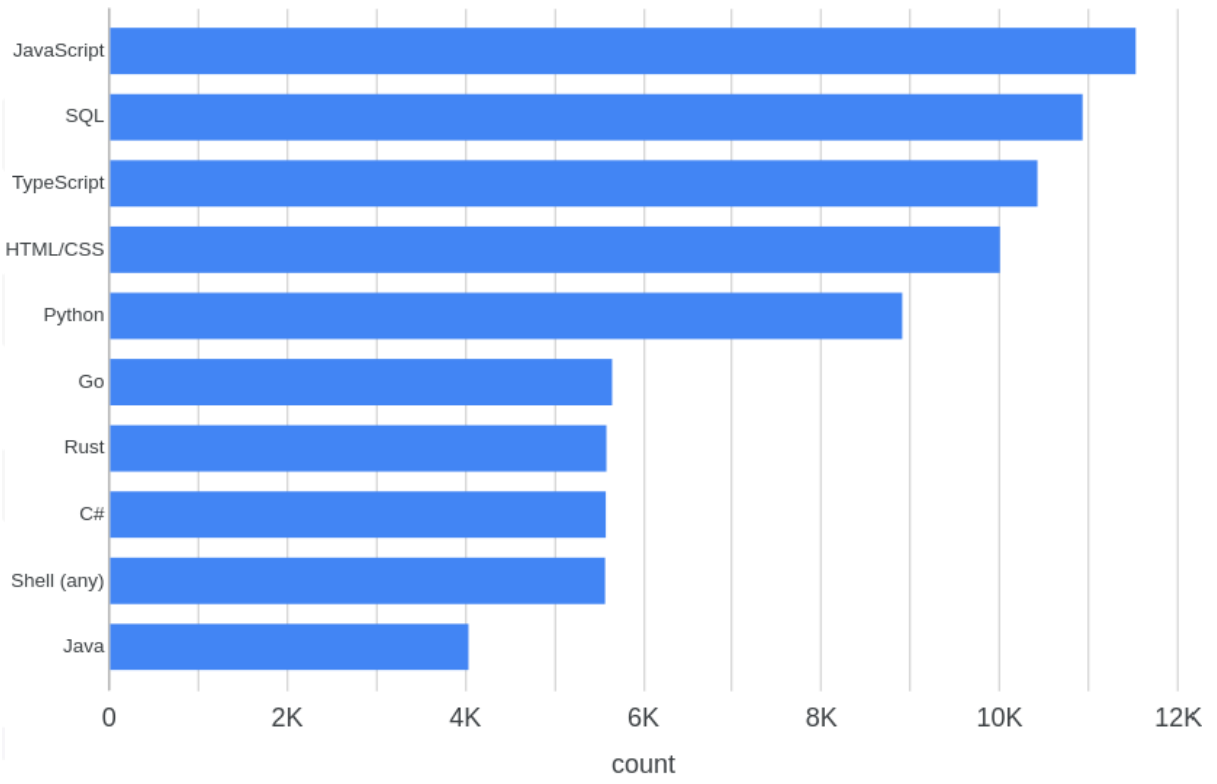
- Cleaning – duplicates and missing values handled
- Normalizing – key data points were normalized
- Discovery – outliers were handled and correlation investigated
- Transformation – engineered new features based on key data points

PROGRAMMING LANGUAGE TRENDS

Top 10 Languages Used



Top 10 Languages Desired Next Year



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PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

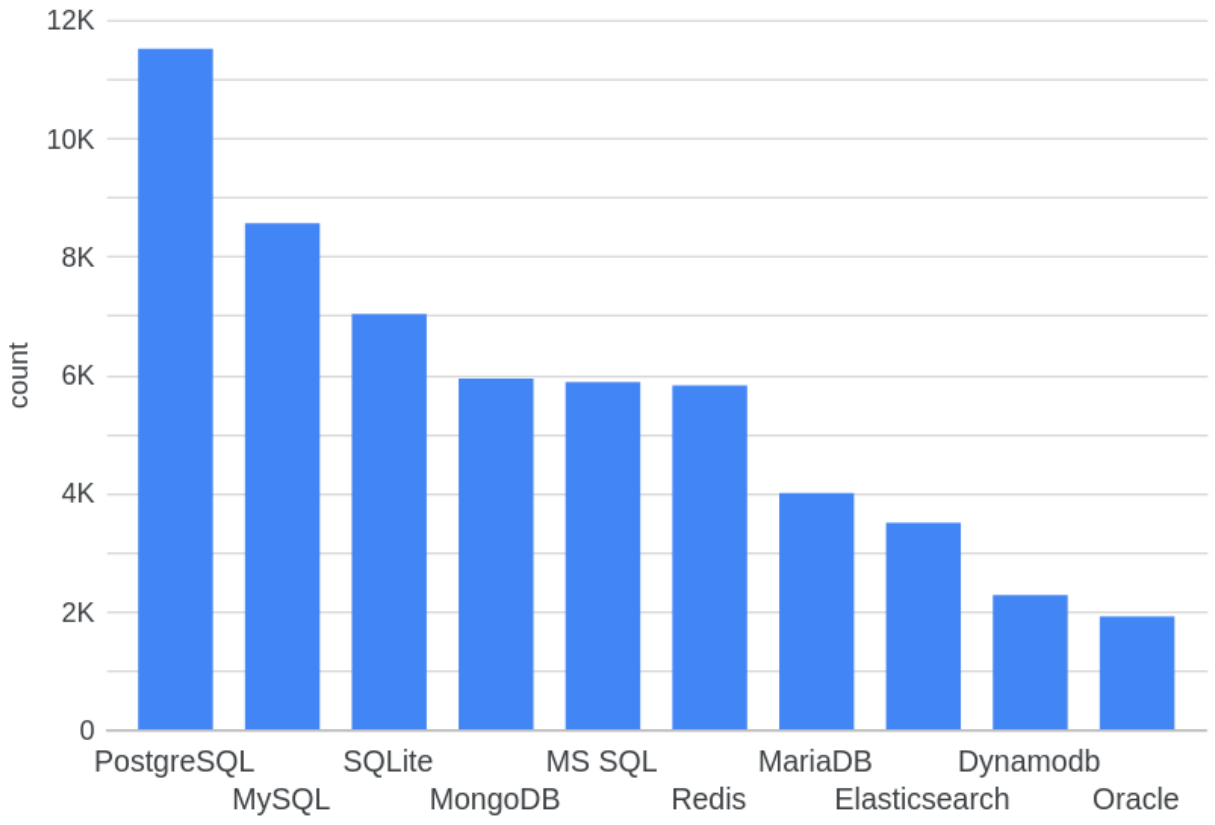
- JavaScript, SQL, HTML/CSS, TypeScript, and Python will continue to be the most needed
- Rust was identified as desired for next year but not identified as a top known language

Implications

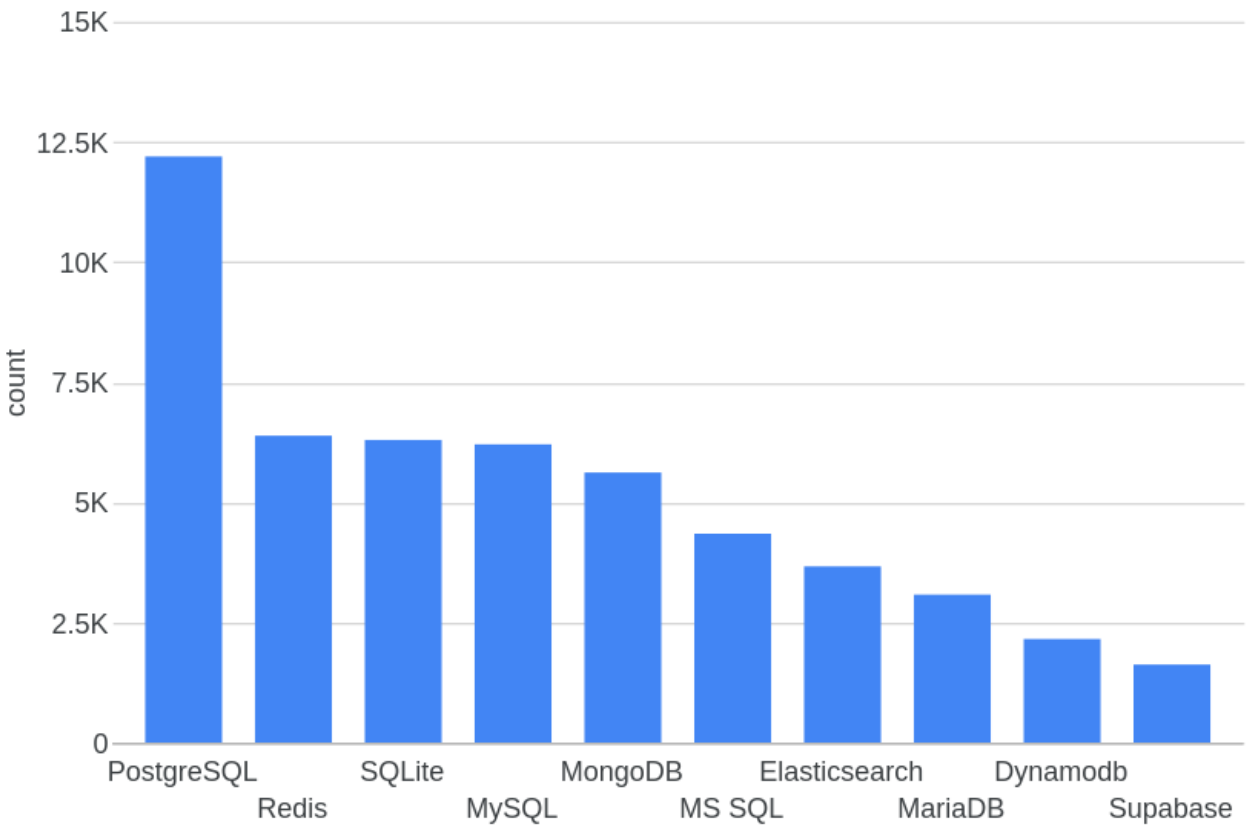
- No changes in the top 5 most sought after languages
- Rust is an emerging language

DATABASE TRENDS

Top 10 Databases Used



Top 10 Databases Desired Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

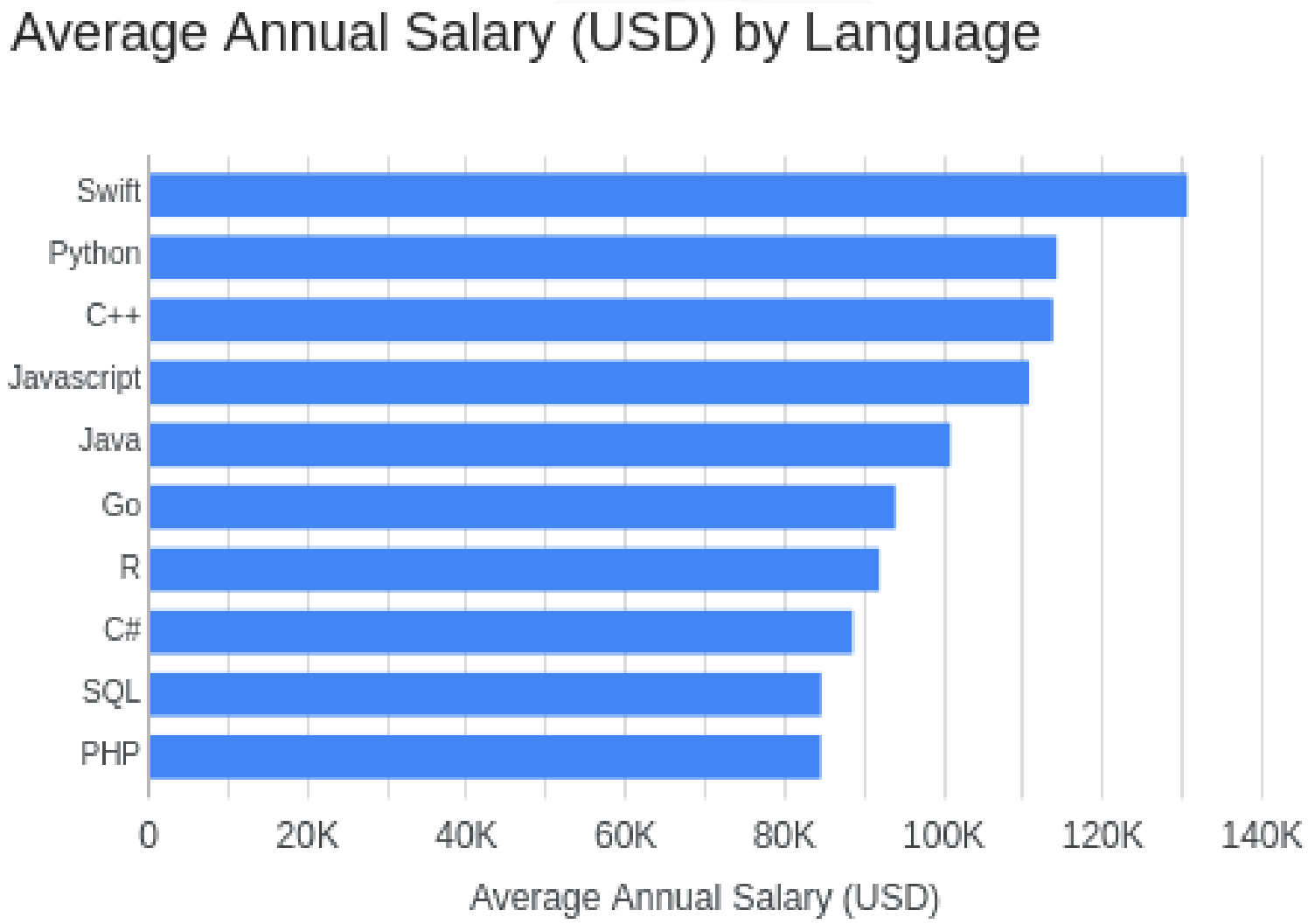
Findings

- Supabase was identified as desired for next year but not identified as a top known database
- Redis was identified 2nd most as desired for next year, as opposed to only ranked 6th in known
- PostgreSQL dominates in needs, current and future

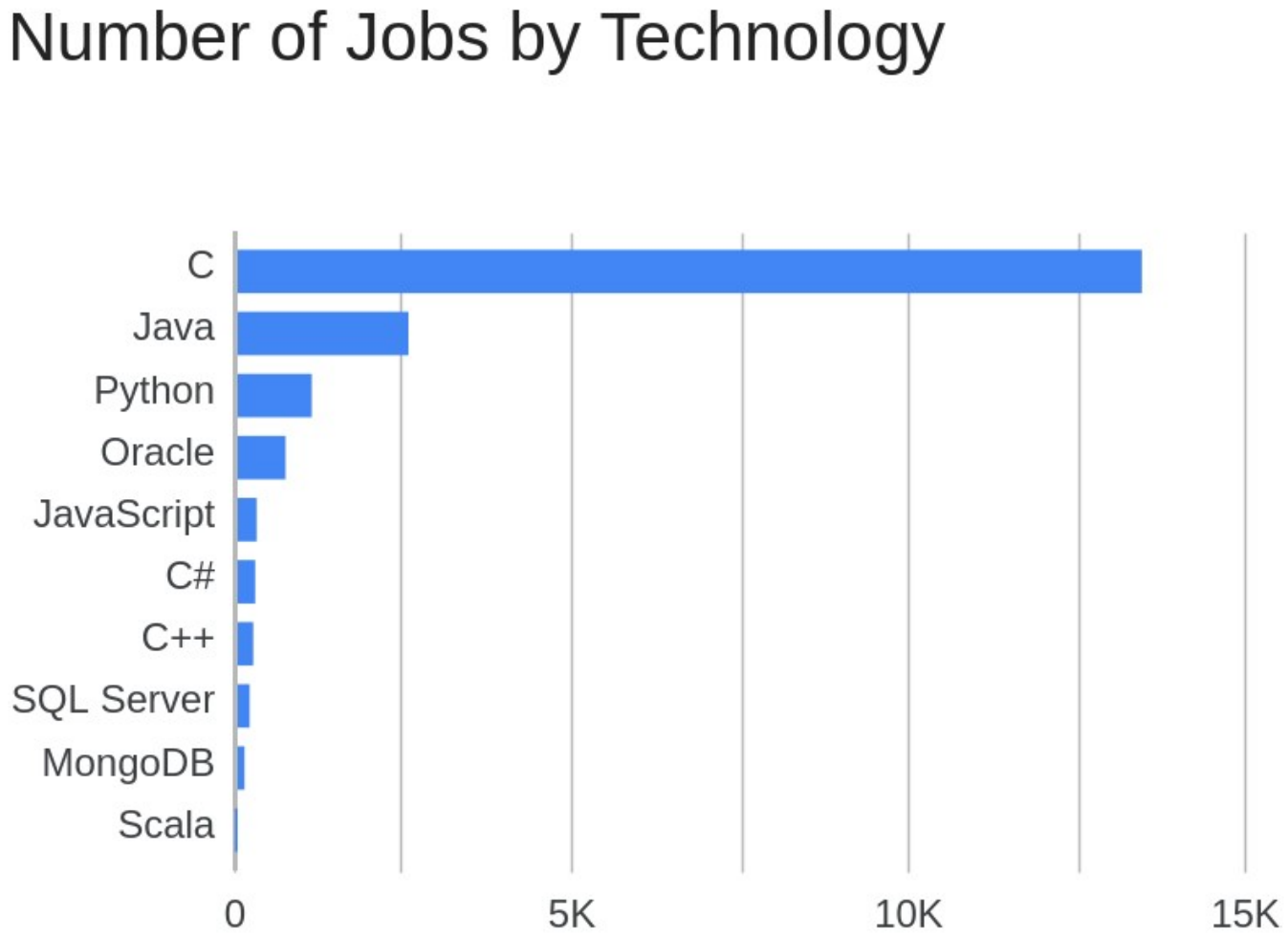
Implications

- Supabase is an emerging database
- Redis is forecasted to increase in popularity
- No database will surpass PostgreSQL's popularity next year

POPULAR LANGUAGES



JOB POSTINGS

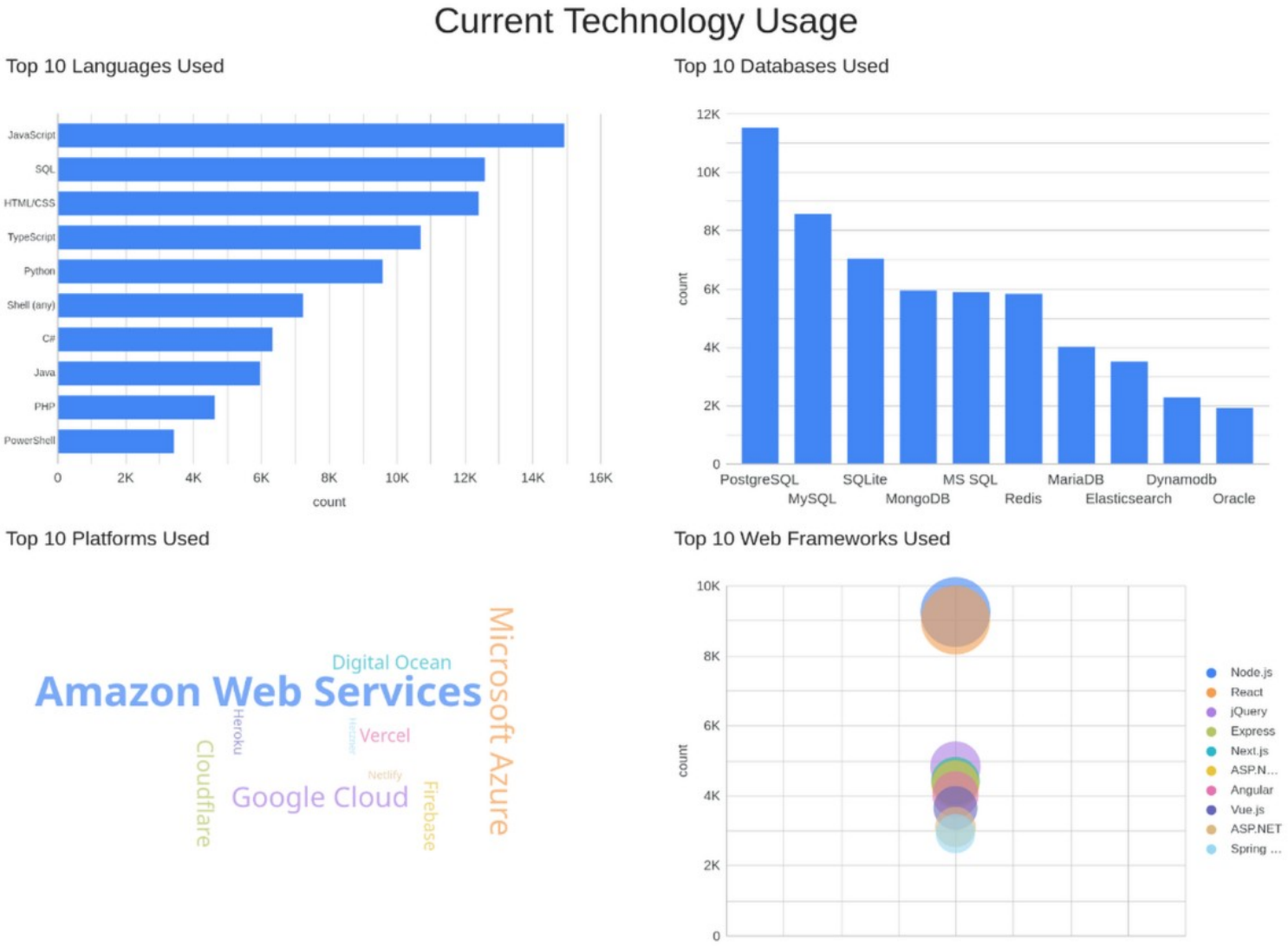


DASHBOARD

Github hyperlink for dashboard pdf:

https://github.com/nickpater1999/IBM-Data-Analyst-Cert

DASHBOARD TAB 1



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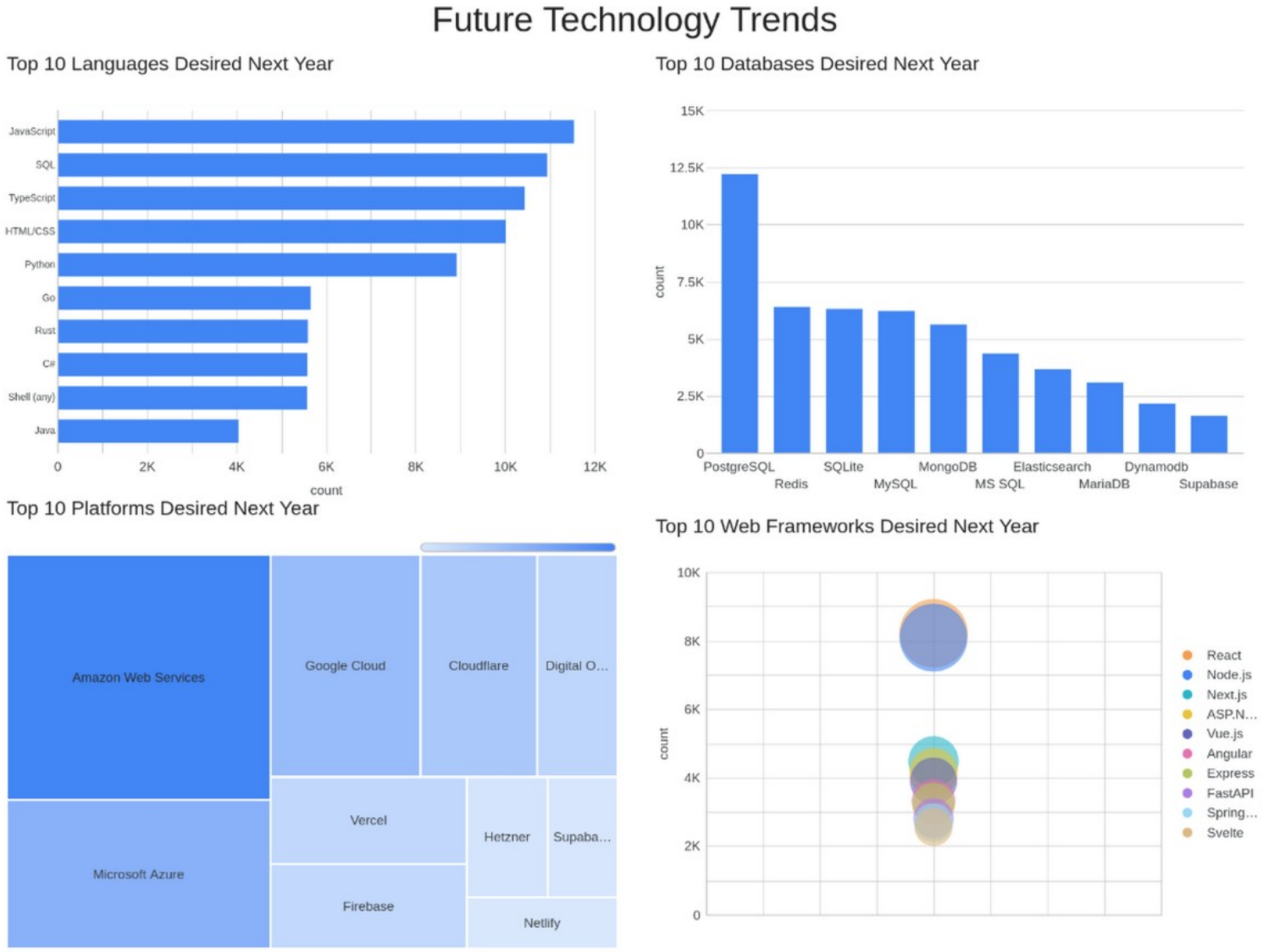
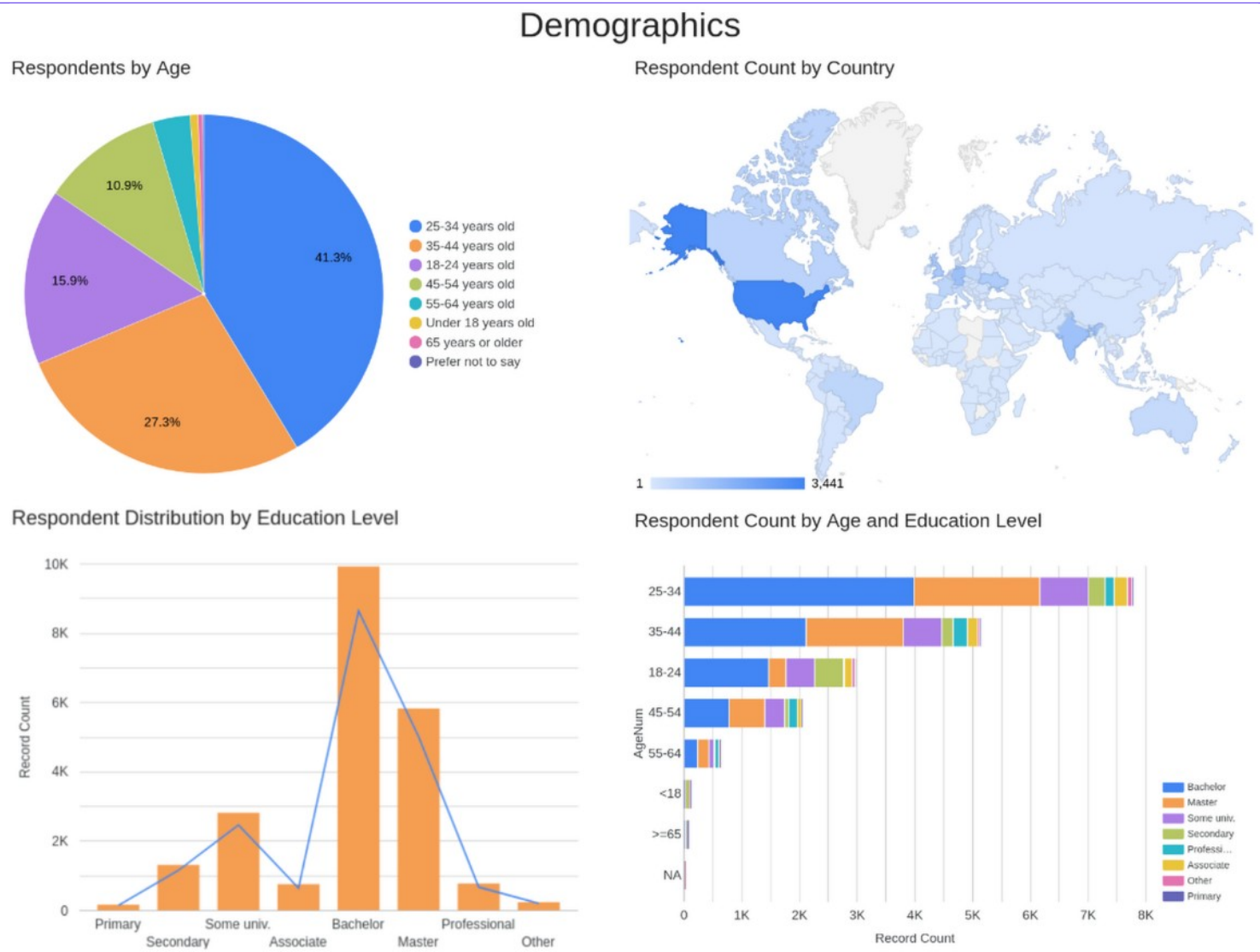
DASHBOARD TAB 2



DASHBOARD TAB 3



OVERALL FINDINGS & IMPLICATIONS

Findings

- Rust appears only in top desired languages
- Supabase appears only in top desired databases
- Demographics show wide coverage of age, location, and education
- Number of respondents is statistically significant (see Appendix B)

Implications

- Rust is emerging tech
- Supabase is emerging tech
- Survey results are representative of global population

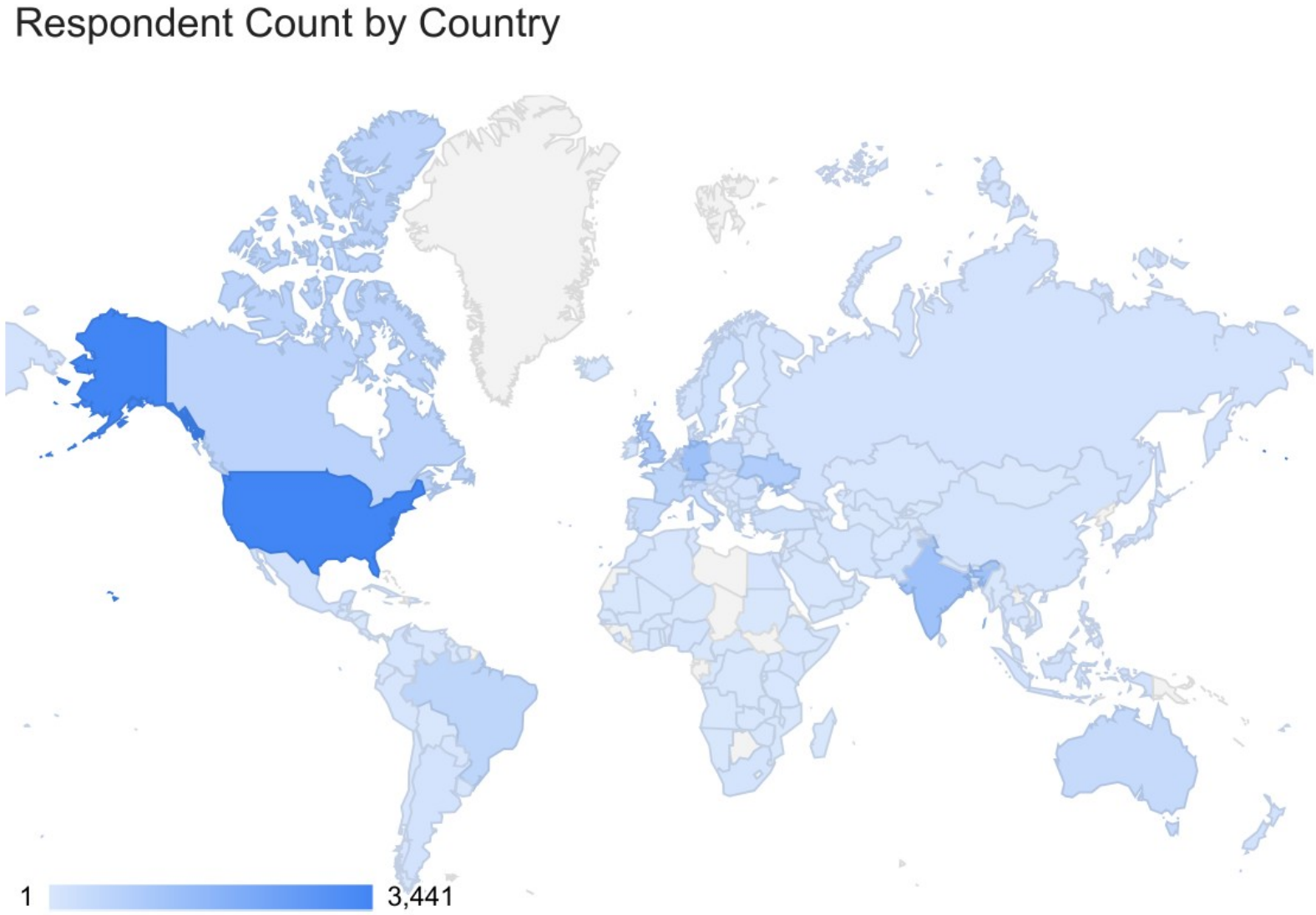
CONCLUSION

- Language Rust and database Supabase are emerging technologies which are likely to require future skill requirements
- Database Redis will increase notably in skill requirements

DISCUSSION

- Questions?
- Concerns?
- Suggestions?

APPENDIX A: GLOBAL RESPONDENT DISTRIBUTION



APPENDIX B: Statistical Significance in Survey

Global Population of Developers (jetbrains.com):

19.6 M

Stack Overflow Survey Respondents Count:

18,845