

Data analysis and insights for the tech industry

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OUTLINE



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

EXECUTIVE SUMMARY



- **Objective:** Highlight emerging tools, skills, and technologies to guide developers, educators, and recruiters.
- **Key Insights:**
 - Databases: PostgreSQL leads; Redis and Supabase are rising stars.
 - Languages: JavaScript and SQL dominate, with Rust and TypeScript gaining momentum.
 - Platforms: AWS remains top, but cloud-native solutions like Vercel are growing.
 - Frameworks: React and Node.js lead; Next.js and FastAPI are rapidly emerging.
- **Trend:** A clear industry shift toward lightweight, scalable, and developer-friendly technologies.



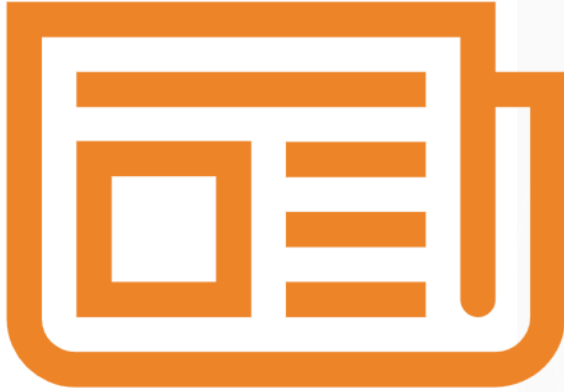
INTRODUCTION



- Source: Stack Overflow Developer Survey
- Objective of Analysis:
 - Highlight emerging skills and technologies shaping the industry.
 - Inform aspiring and active tech professionals on future trends and in-demand expertise.
 - Provide actionable insights for developers, educators, and tech recruiters to adapt to evolving demands.



METHODOLOGY

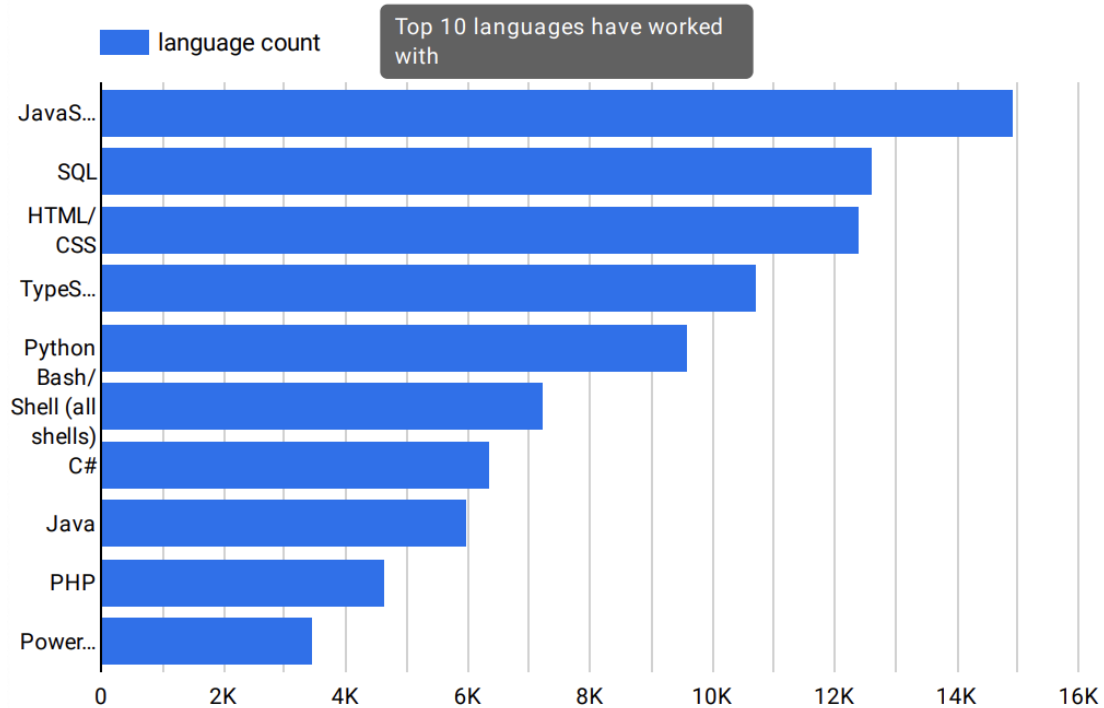


- Data collection
 - Survey data from <https://survey.stackoverflow.co/>
 - APIs and web scraping techniques
- Data wrangling
 - Removing duplication, imputing missing values, normalising data
- Exploratory data analysis
 - Analysing distribution, handling outliers, identifying correlation
- Data visualization
- Dashboard

PROGRAMMING LANGUAGE TRENDS

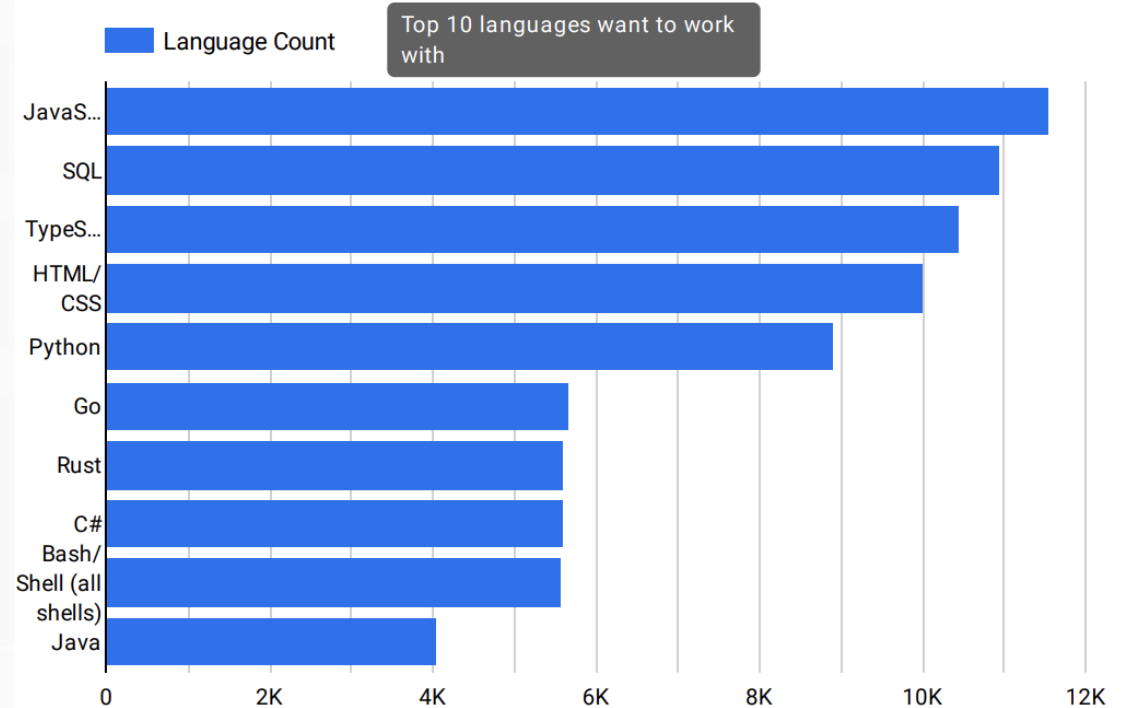
Current Year

Top 10 languages have worked with



Next Year

Top 10 languages want to work with



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

- **JavaScript and SQL Dominance:**

- Investing in training for JavaScript and SQL is a safe bet for individuals and organizations aiming to stay competitive in software and data-related fields.

- **Rising Popularity of Rust and Go:**

- Learning Rust and Go can open opportunities in emerging tech sectors, such as distributed systems, DevOps, blockchain and cloud computing.

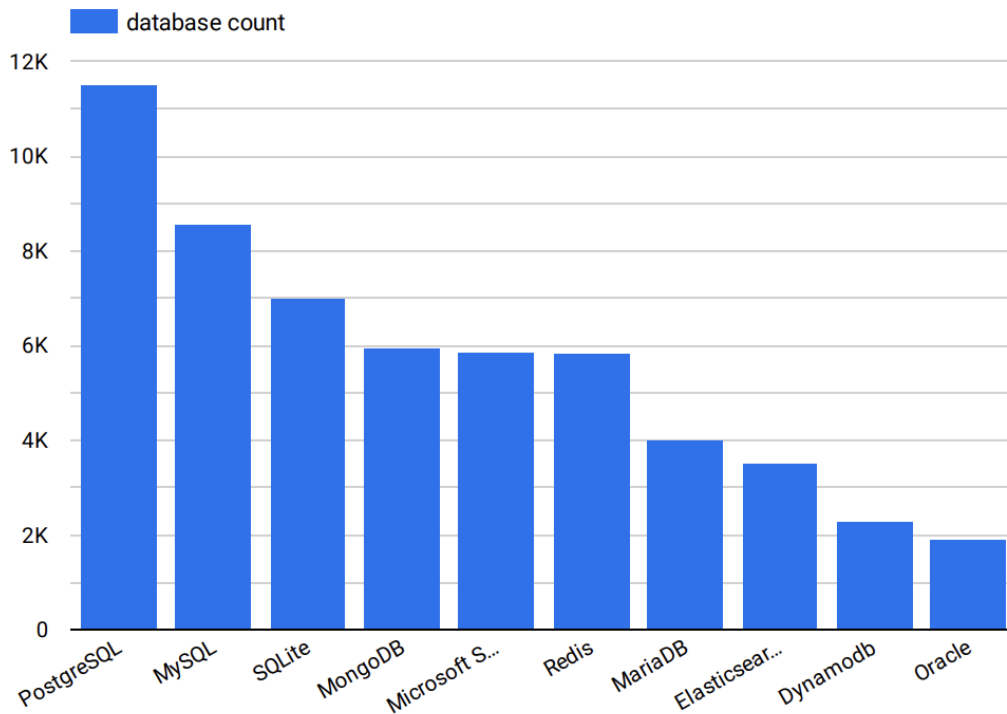
- **Decline of PHP and Java:**

- Organizations may start phasing out PHP and legacy Java systems in favor of modern tools, leading developers to adapt by learning newer technologies.

DATABASE TRENDS

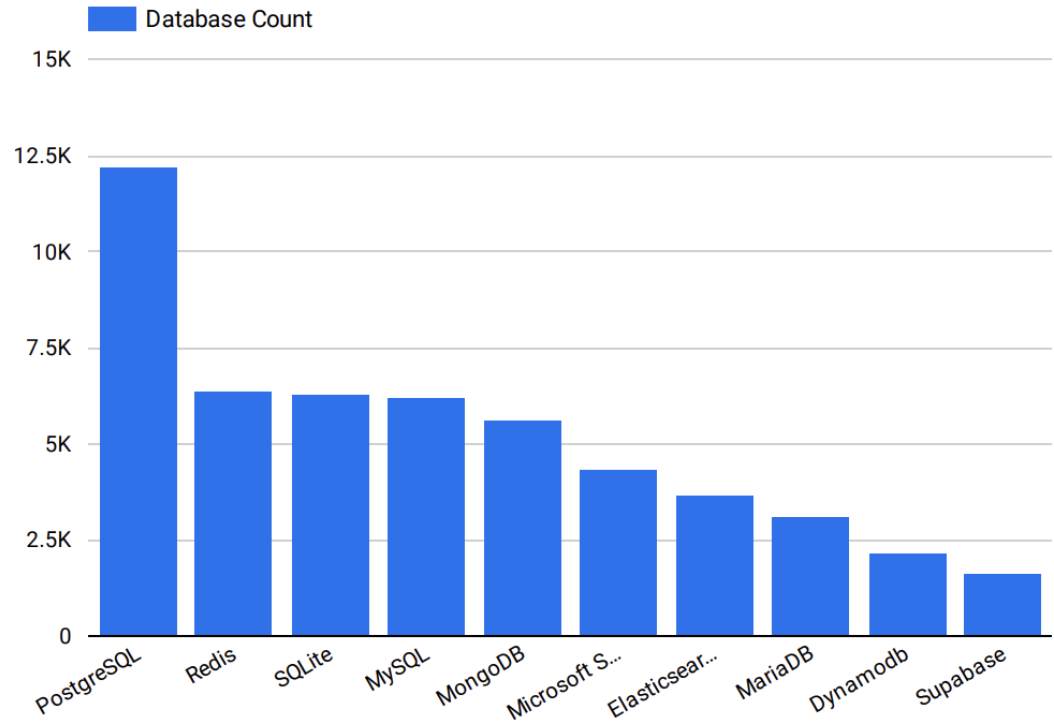
Current Year

Top 10 databases have worked with



Next Year

Top 10 databases want to work with



DATABASE TRENDS - FINDINGS & IMPLICATIONS

- **Continued Dominance of PostgreSQL:**

- Organizations and developers may prioritize PostgreSQL for its proven reliability, scalability, and widespread adoption.

- **Emerging Popularity of Redis:**

- Companies might consider Redis for use cases requiring high-speed operations like caching, real-time analytics, and session management.

- **Steady popularity of SQLite, MySQL, and MongoDB:**

- These databases continue to be reliable and widely used, suggesting they will remain important choices for specific use cases:
- **SQLite** for lightweight, embedded database needs.
- **MySQL** for traditional relational database applications.
- **MongoDB** for NoSQL solutions, particularly where flexibility in schema design is required.



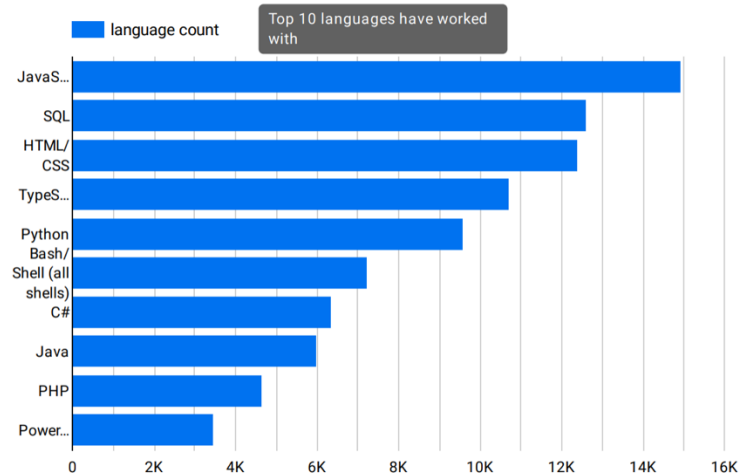
DASHBOARD



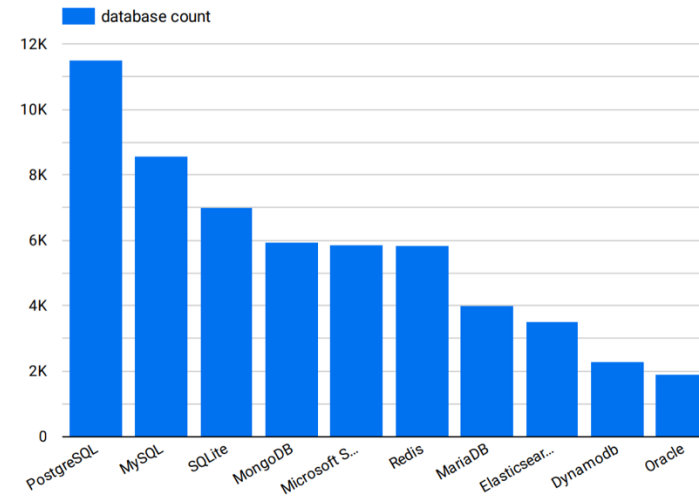
<https://github.com/Laamkh/ibm-data-analyst-coursera.git>

Current technology usage

Top 10 languages have worked with



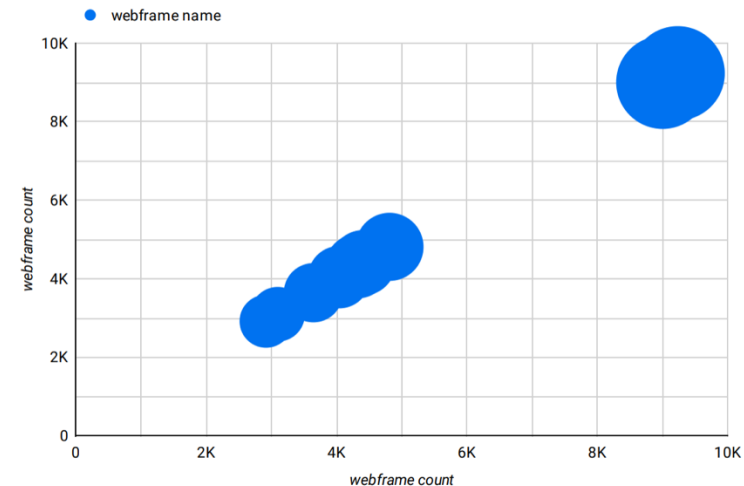
Top 10 databases have worked with



Top 10 platforms have worked with

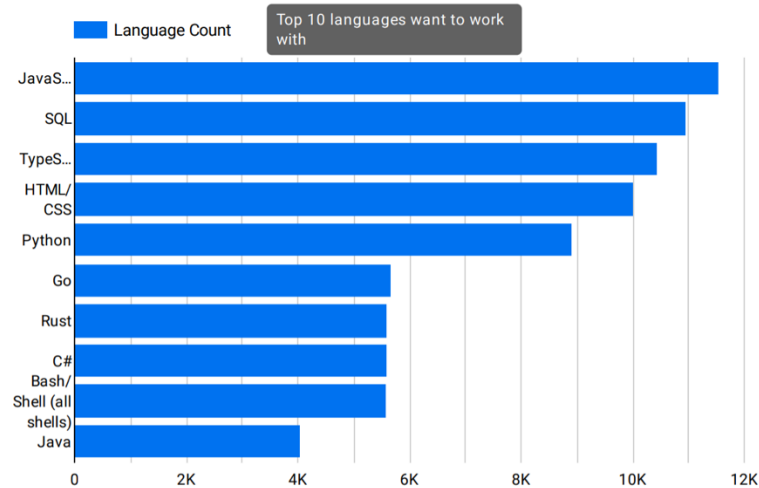


Top 10 webframes have worked with

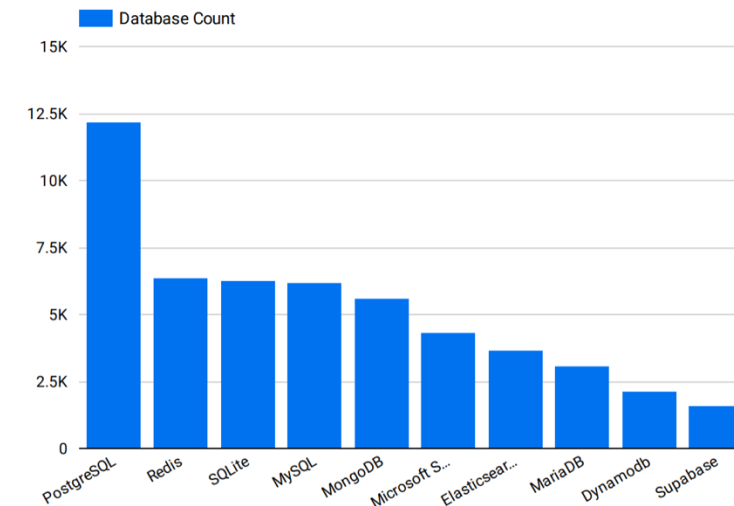


Future technology trend

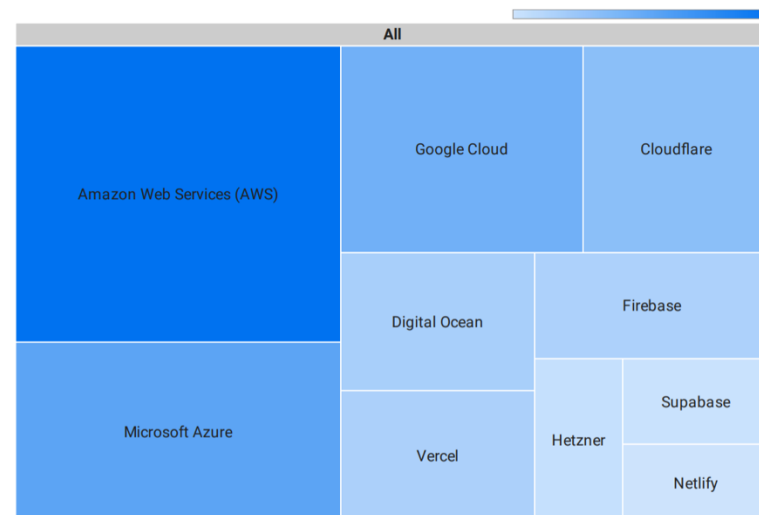
Top 10 languages want to work with



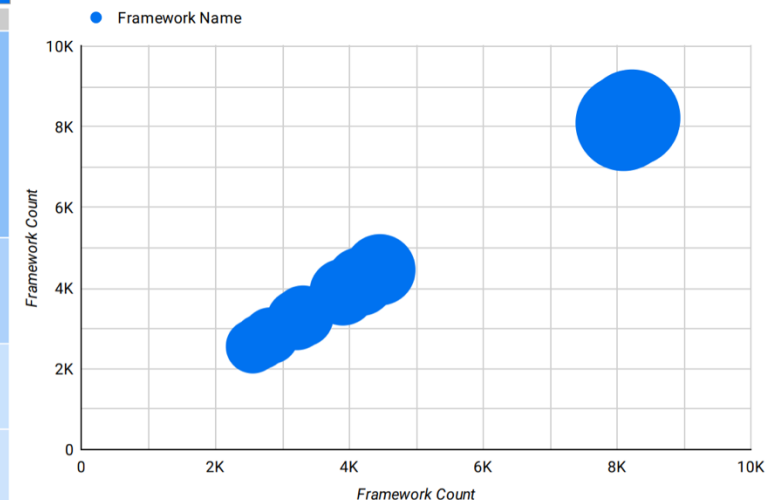
Top 10 databases want to work with



Top 10 platforms want to work with

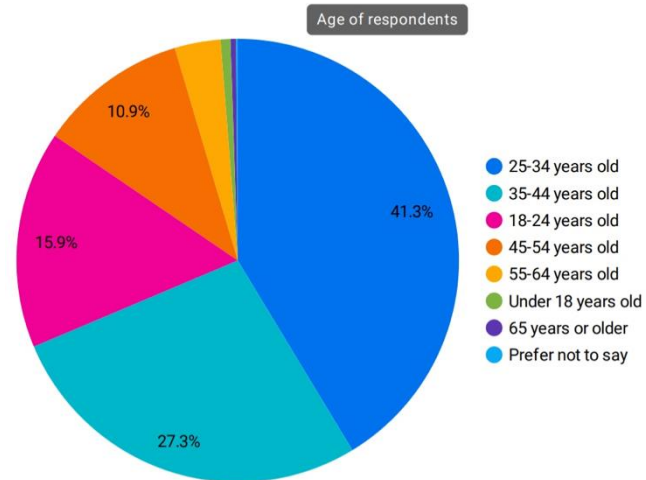


Top 10 webframes want to work with

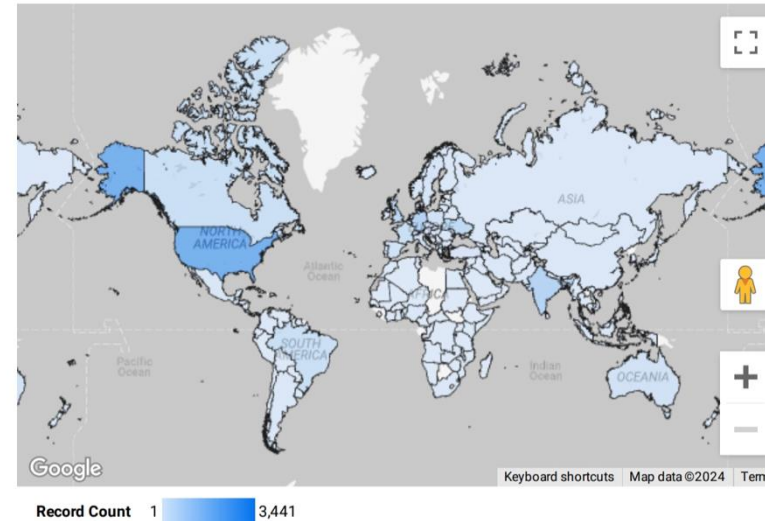


Demographics of respondents

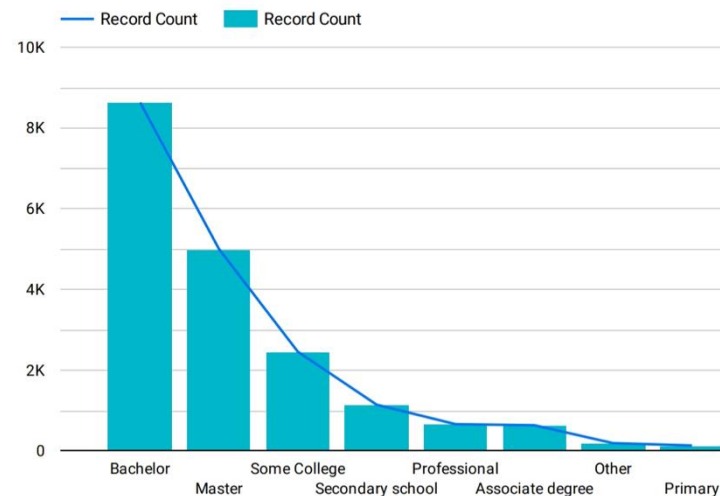
Age of respondents



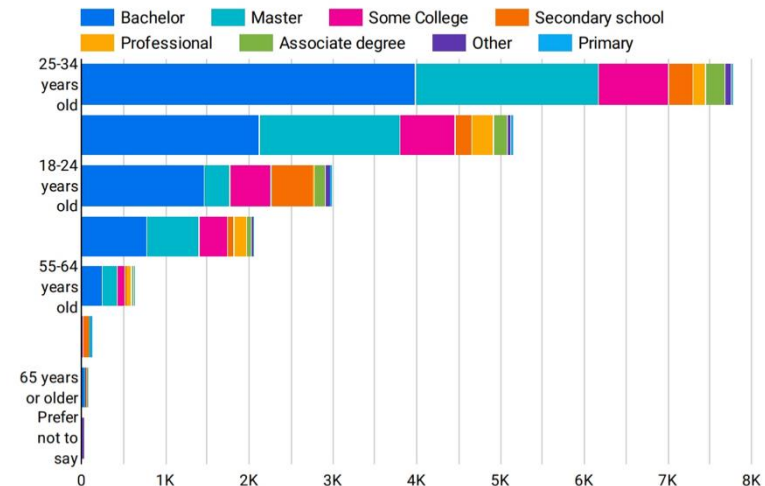
Respondents by countries



Respondents by Educational Level



Age and Educational Level of respondents



DISCUSSION



- **PostgreSQL's Leadership:** It's likely to remain the top choice for developers, but there's a clear push toward modern solutions like Redis and Elasticsearch.
- **Programming Trends:** Languages like Rust, Go, and TypeScript are emerging as the future, especially for performance-critical applications.
- **Cloud Platforms Evolution:** While AWS dominates, smaller and modern platforms like Supabase are rapidly gaining interest.
- **Framework Shifts:** Developers are leaning toward modern frameworks like Next.js, FastAPI, and Svelte for flexibility, performance, and simplicity.



OVERALL FINDINGS & IMPLICATIONS

- 1. Shift Toward Modernity:** Developers prefer tools that are efficient, scalable, and developer-friendly, moving away from legacy systems.
- 2. Performance and Simplicity:** There's a clear trend toward technologies that balance high performance (Rust, Redis) with ease of use (Supabase, Next.js).
- 3. Cloud-Native Ecosystem:** Interest in lightweight, serverless, and cloud-native platforms and tools is growing across databases, platforms, and frameworks.
- 4. Full-Stack Integration:** Popular tools show a focus on seamless frontend-backend integration (e.g., TypeScript with Next.js).



CONCLUSION



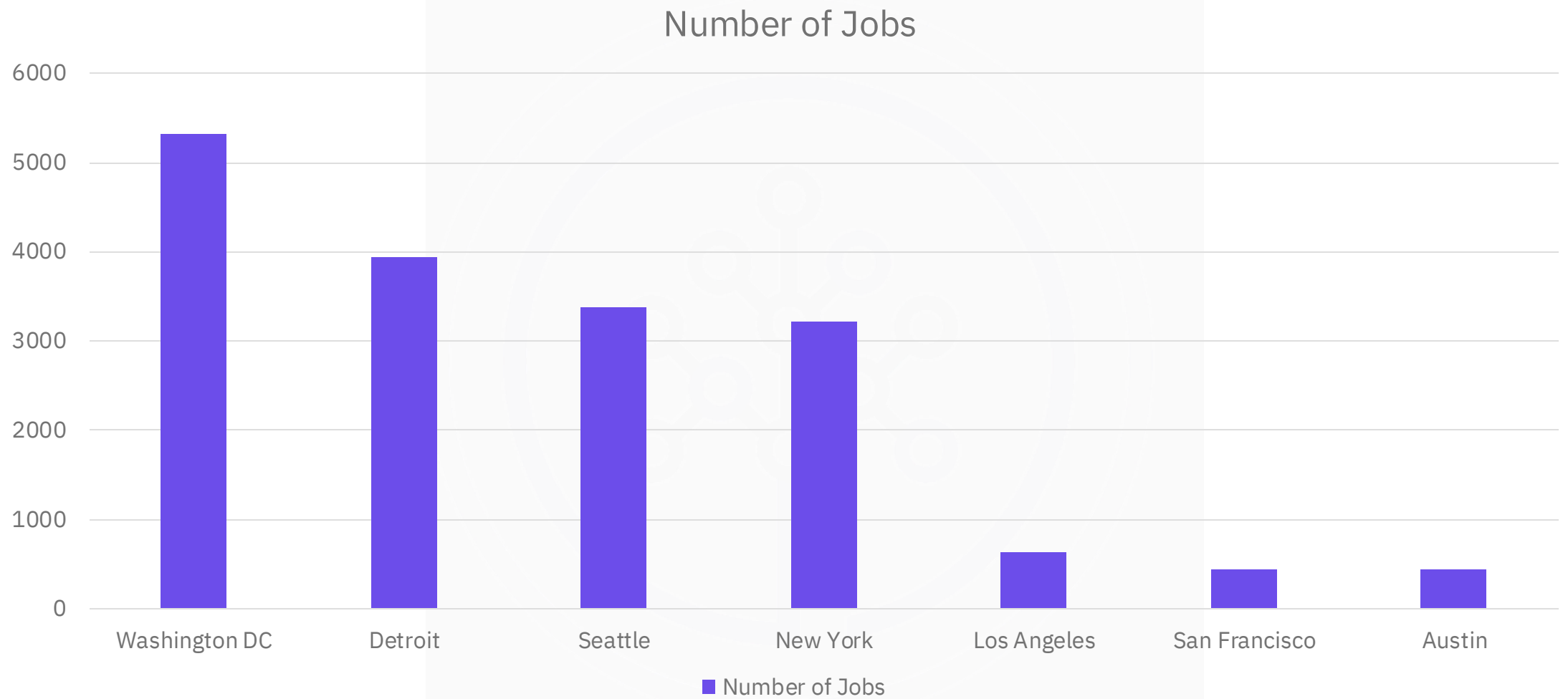
- **Key Takeaways:**
 - Established tools (e.g., PostgreSQL, JavaScript, React, AWS) remain dominant.
 - Emerging technologies (e.g., Rust, Redis, Next.js) are gaining traction, reflecting industry shifts.
- **Implications:**
 - Developers: Focus on in-demand skills and explore emerging technologies.
 - Educators/Recruiters: Align strategies with industry trends to address future needs.
- **Final Note:**

Adaptability and continuous learning are essential to thrive in the ever-evolving tech landscape.

APPENDIX



JOB POSTINGS



POPULAR LANGUAGES

