The Developer Trends

An analysis of Stack Overflow Survey trends

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EXECUTIVE SUMMARY

- **Present vs. Future** : JavaScript and Python dominate current use and the future trends while Rust and Go are also the second tier of the developer choices for the coming year.

- **Database Dominance** : PostgreSQL has solidified its position as the most loved and most-used professional database, overtaking MySQL in developer preference

- **Cloud Dominance** : AWS remains the most-used cloud platform, but the Microsoft Azure and Google Cloud also play important role for most developers

- **Web Frame Popularity** : Node.js and React are the most loved and most-used among developer

INTRODUCTION

The "Why" : Understanding the developer landscape

What is the Problem?

The tech industry move incredibly fast. **Developers, Companies, and students** need to know where to focus their enery, skills, and resources.

What is the Goal?

To analyze the Stack Overfolw developer survey to find actionable insights. My project asks:

➢ What technologies are developers **using**?
➢ What do they **want** to use?
➢ What are the **future trends**

METHODOLOGY

1. The Data

Source: Stack Overflow Survey.

Challenge : Multi-select columns(e.g., "Python;SQL;JavaScript").

2. The Cleaning

Tool : Python(Pandas)

Process : "Unnested" (explode) nested columns to accurately count each technology individually.
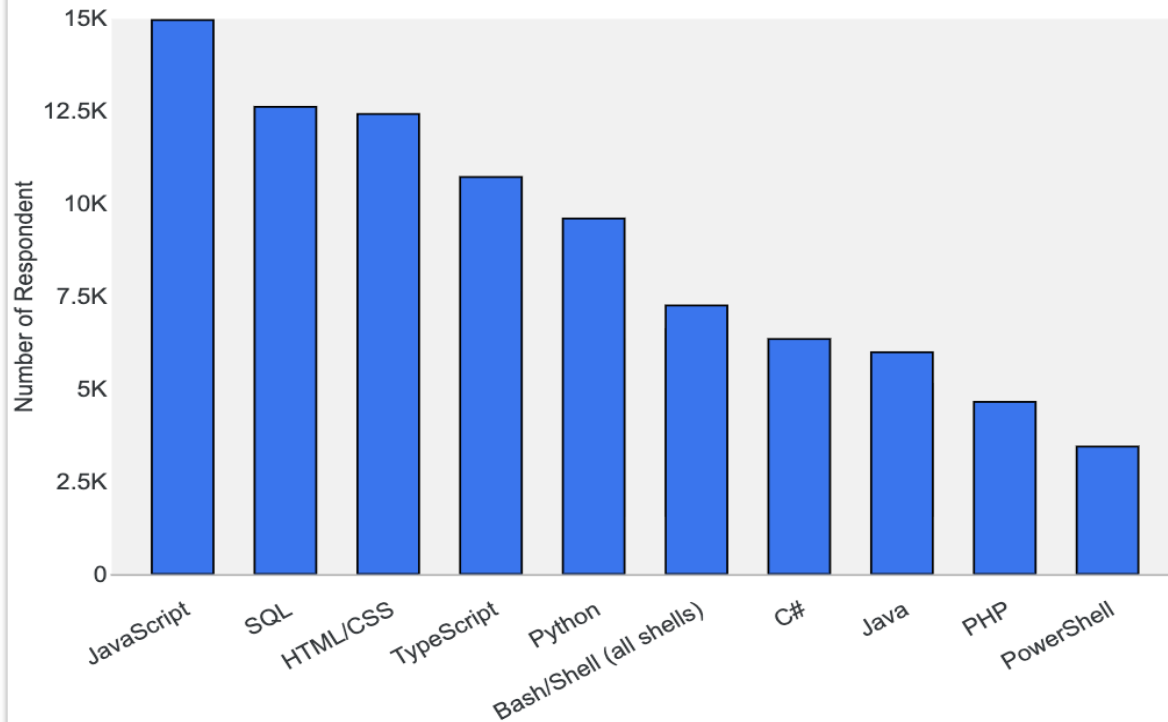
3. The Visualization

Tool: Google Looker Studio

Process : Blended flattened data with the main dataset using "ResponseId" as the key
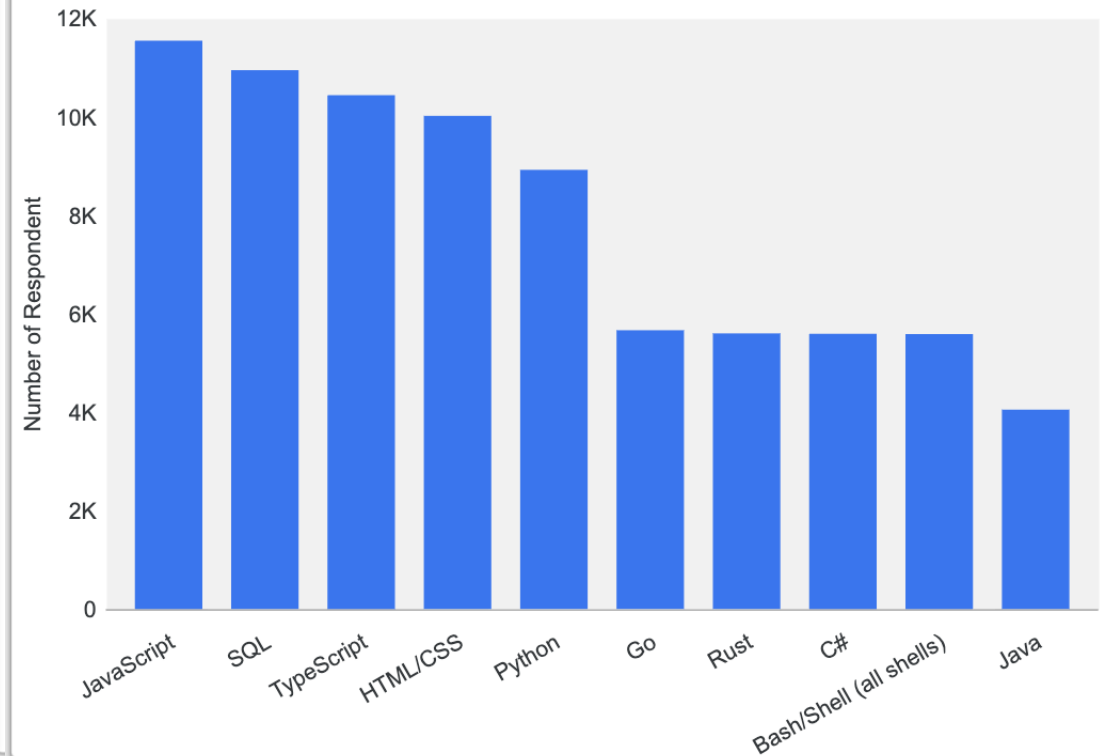
PROGRAMMING LANGUAGE TRENDS

Current Year

Next Year

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, Python** remain the most loved and used.

- **Go and Rust** surpass the C# and become the second-tier language for the coming year
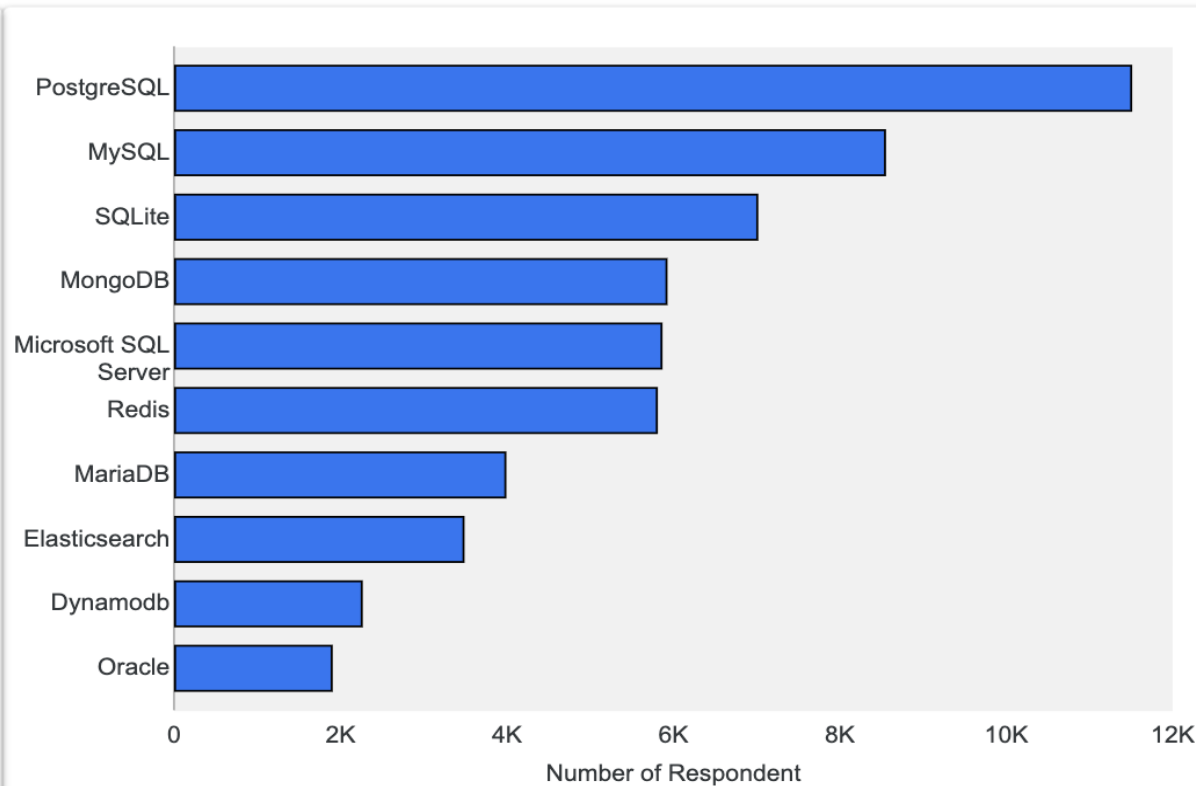
Implications

➢**Developers:** mastery full-stack (JS/Python/SQL) to secure entry and mid-level roles.

➢**Go & Rust:** Investing in these skills can access to to cutting-edge infrastructure projects.

➢**Companies** must expand their talent searches beyond the established "big five" to include niche expertise in languages like Rust and Go to future-proof their projects.
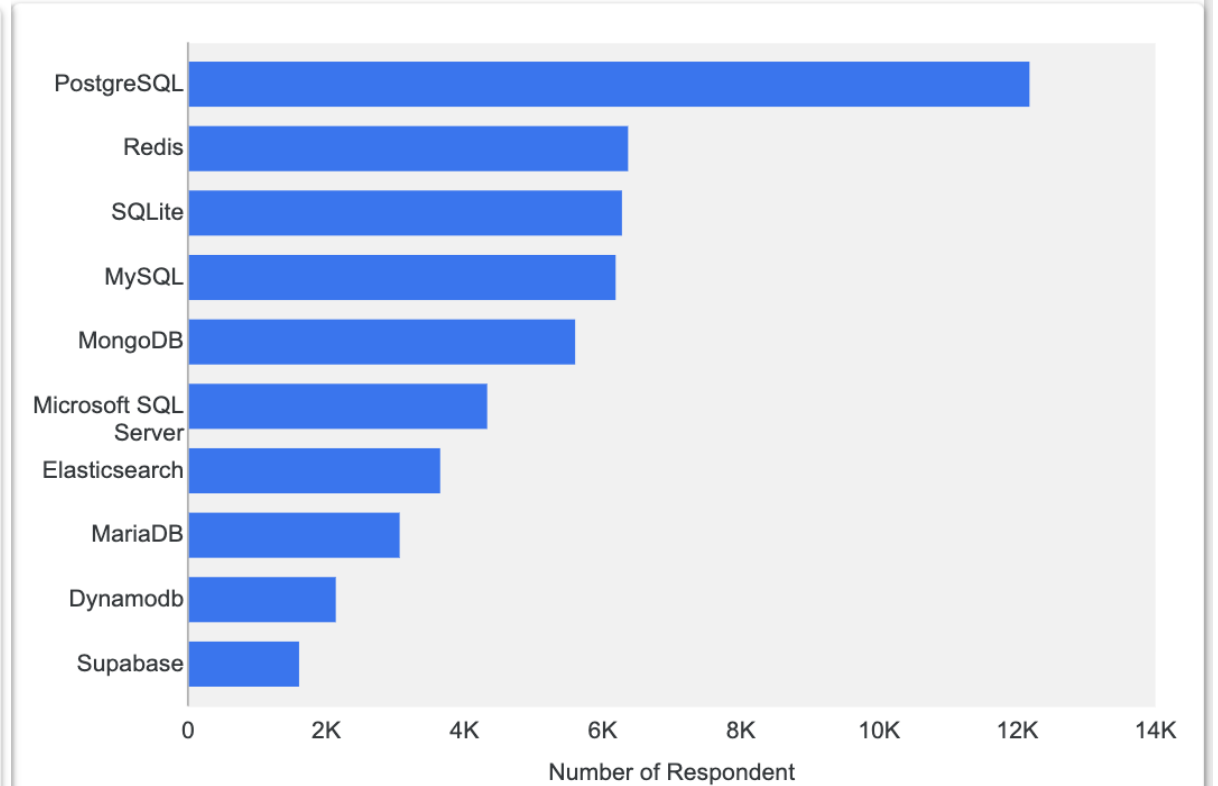
DATABASE TRENDS

Current Year

Next Year

DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- **PostgreSQL** is the most loved and used for current usage and the coming year
- **SQLite** and **Redis** surpass the MySQL for coming year
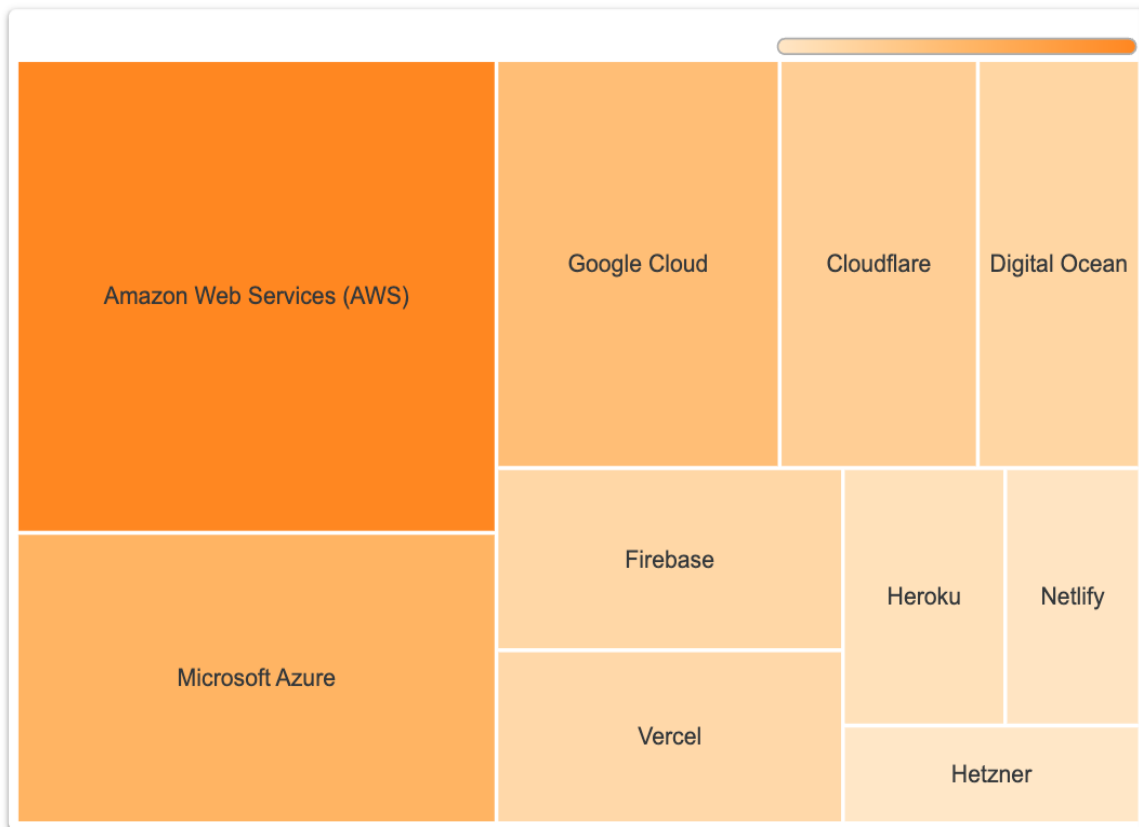
Implications:

Adopt a "Polyglot" Data Strategy

- **Speed Layer (Redis):** Use for caching, real-time data, and anything that needs sub-millisecond response times.
- **Core Layer (PostgreSQL):** Use for all complex, reliable, and structured transactional data.
- **Action:** Stop forcing one database to do everything. Master **PostgreSQL** for complexity and learn **Redis** for speed.
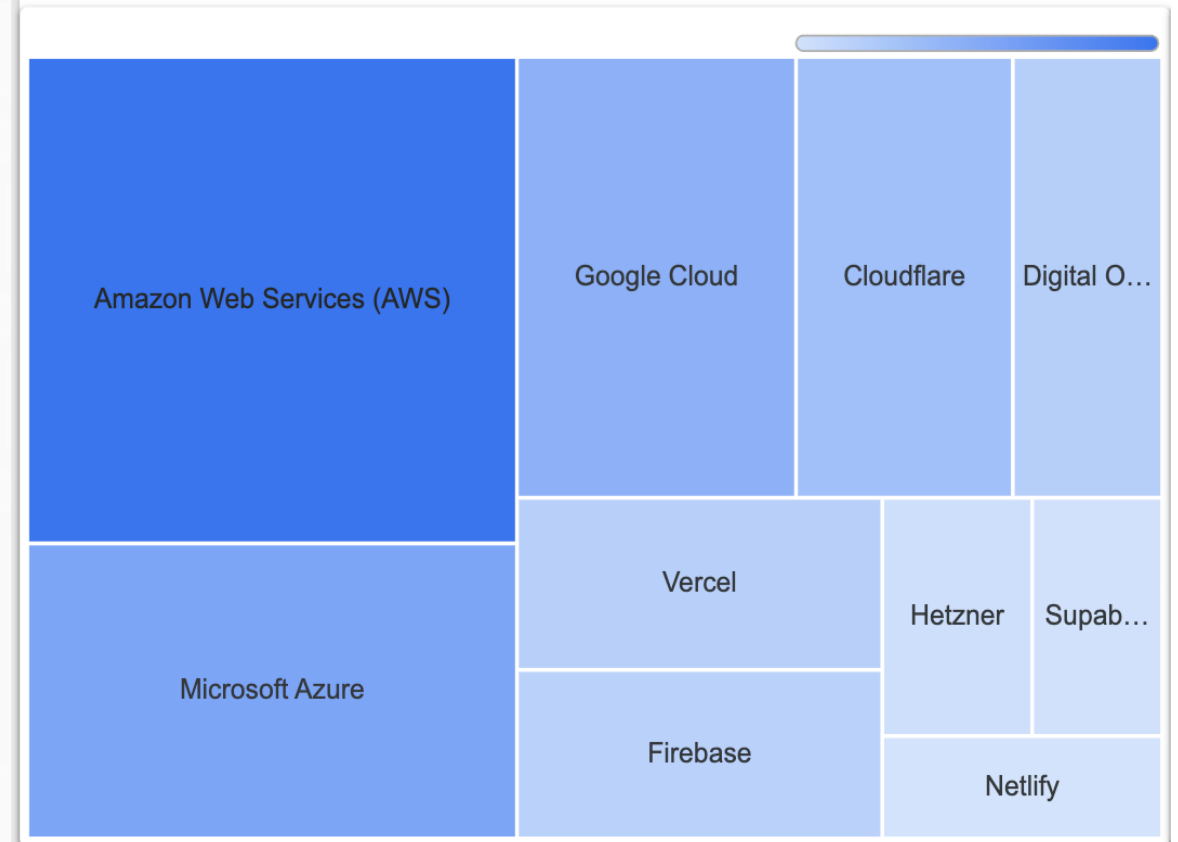
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PLATFORM TRENDS

Current Year

Top 10 Platforms Used

Next Year

Top 10 Desired Platforms

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PLATFORM TRENDS - FINDINGS & IMPLICATIONS

Findings

❖ **AWS** remain the champion, followed by **Microsoft Azure** and **Google Cloud** for current year and the coming year
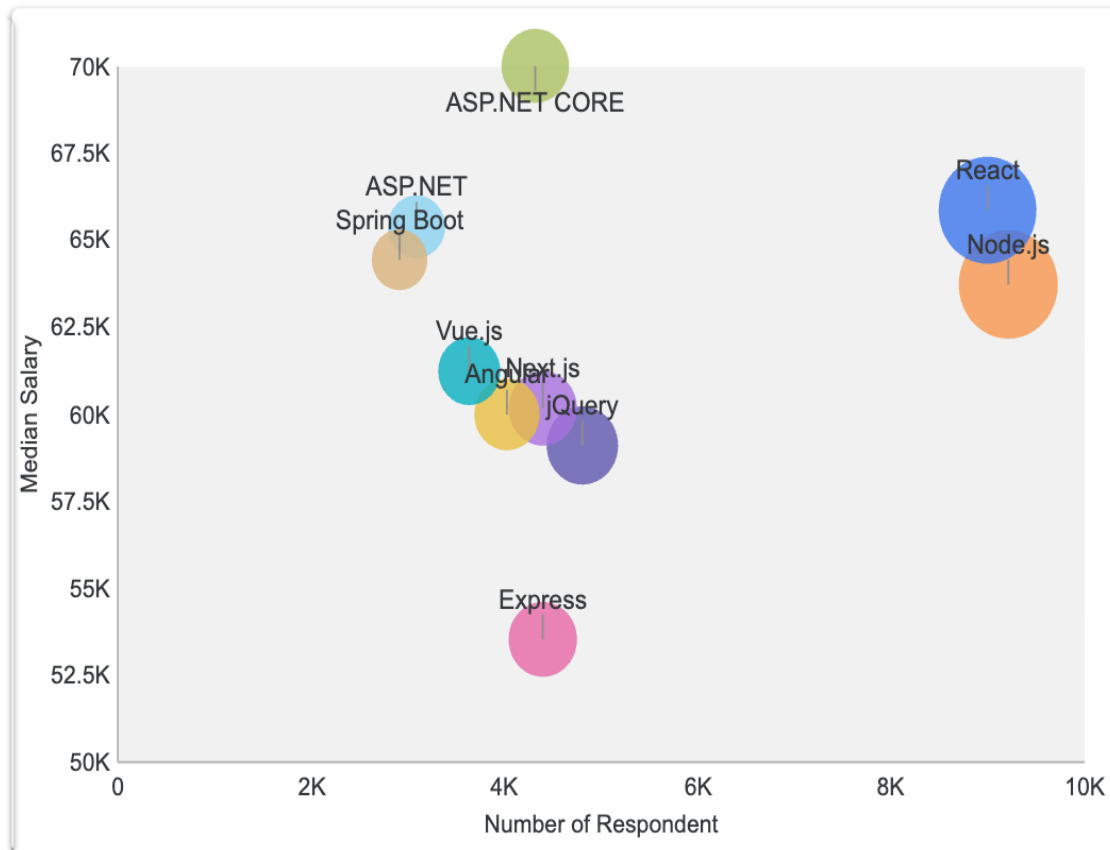
Implications:

Since **AWS** is the dominant platform to master for the majority of jobs, businesses must plan for **multi-cloud proficiency** to maintain strategic flexibility and specialized services.
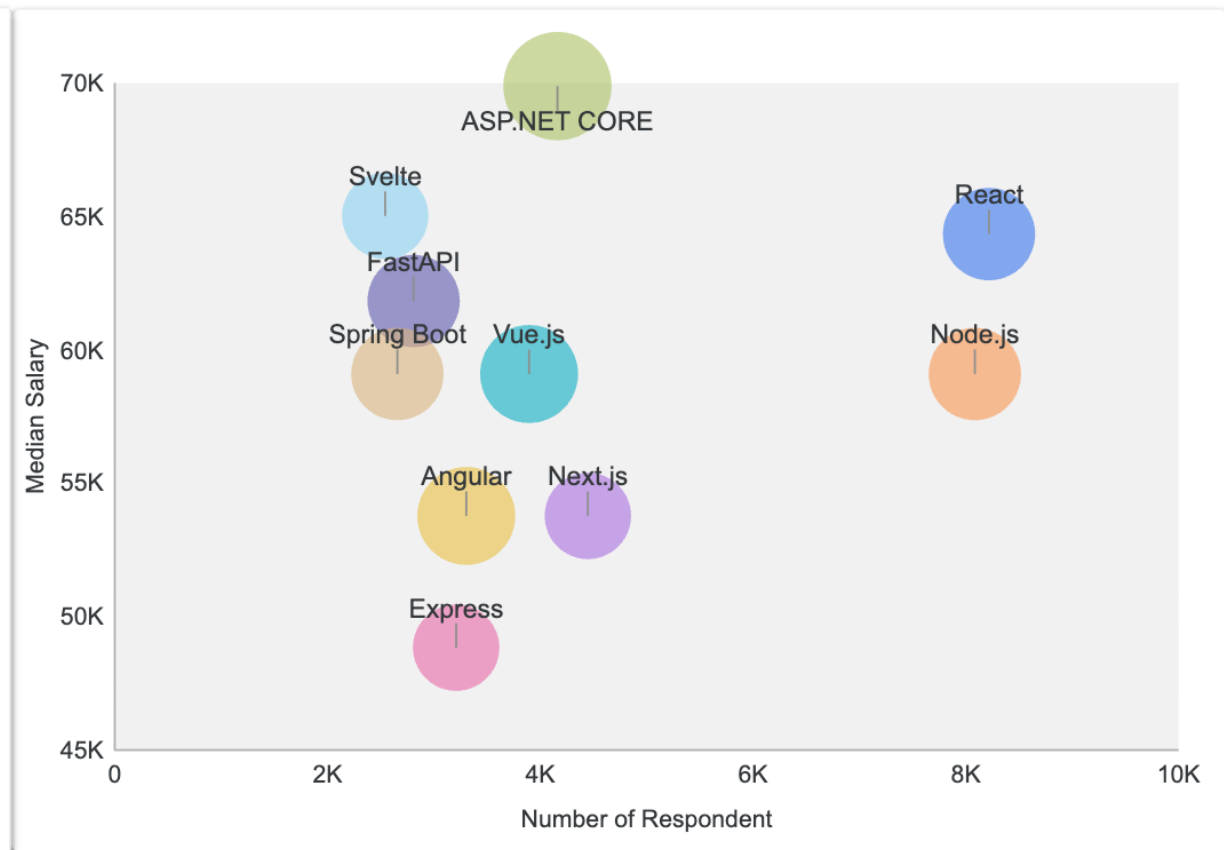
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WEB FRAMEWORKS TRENDS

Current Year

Next Year

Top 10 Web Frameworks Used

Top 10 Desired Web Frameworks

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WEB FRAMEWORKS TRENDS - FINDINGS & IMPLICATIONS

Findings

❖ **Node.js** and **Reach** are the significant dominance for current year and the coming year

Implications:

➢ The JavaScript ecosystem (**React and Node.js**) has become the **default standard** for web application development.

➢ Businesses and developers must prioritize **full-stack JavaScript proficiency** to maximize hiring potential and leverage the superior efficiency of a unified language across the entire application.
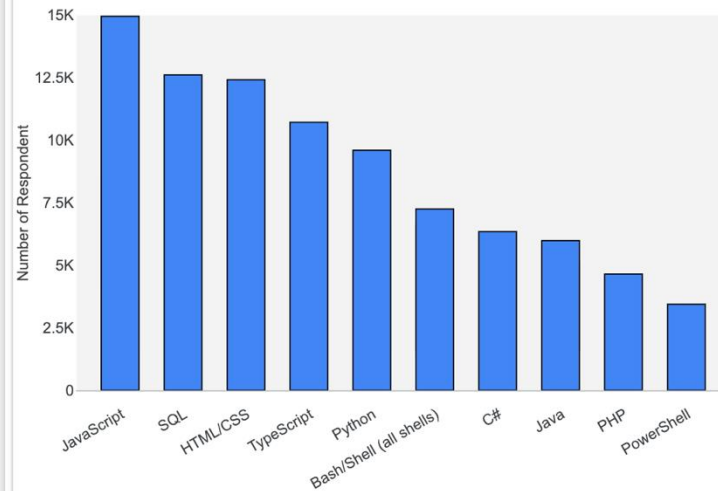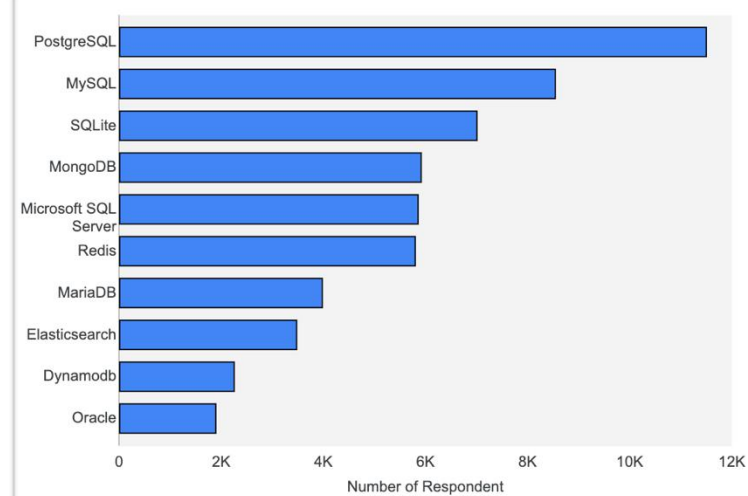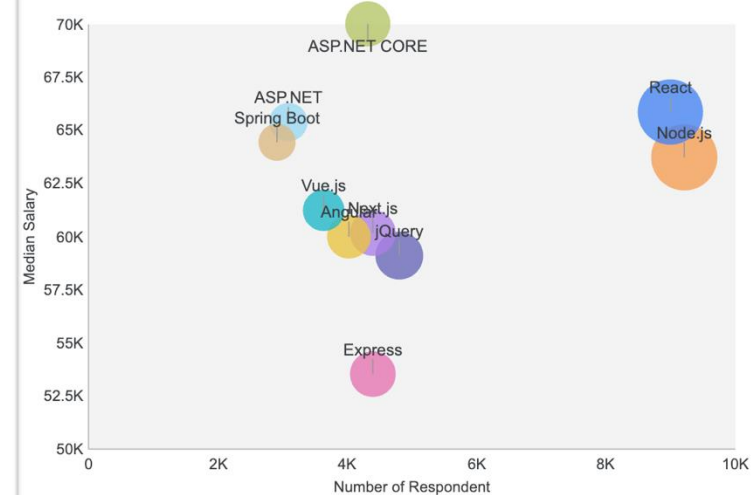
DASHBOARD

DASHBOARD TAB 1
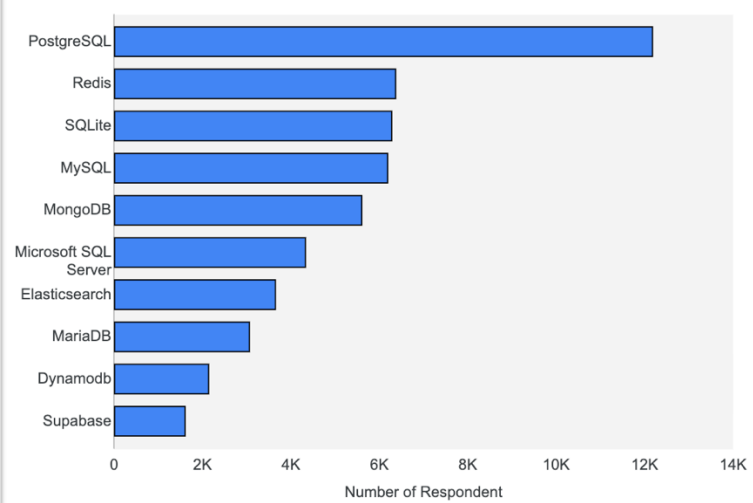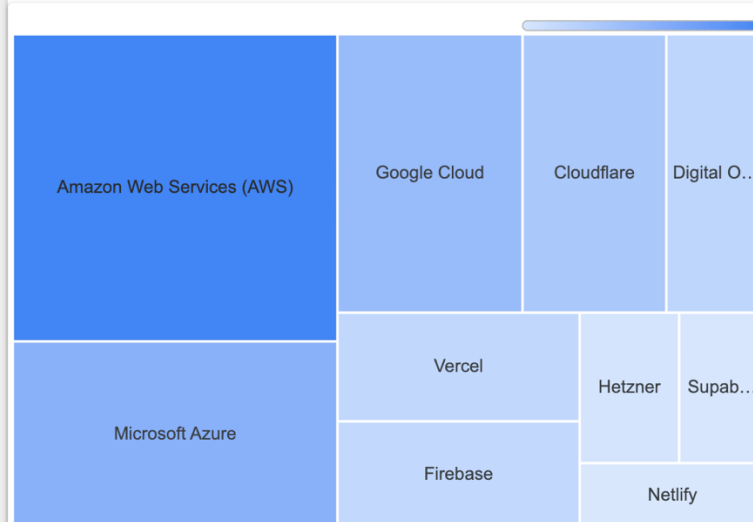
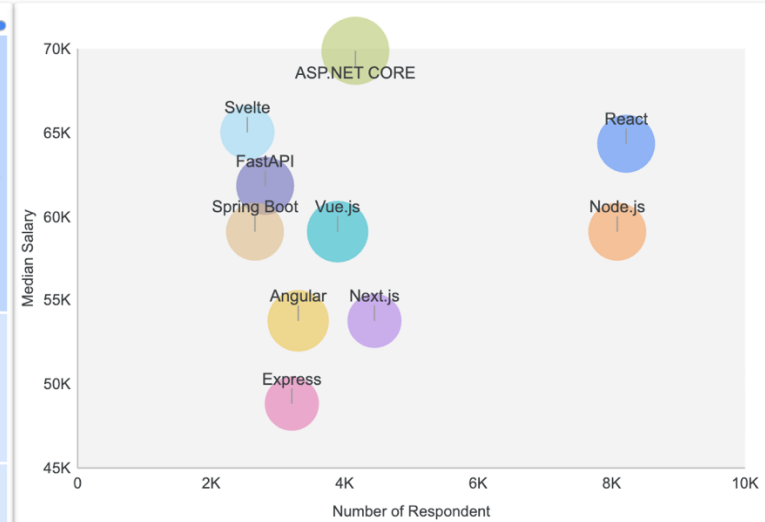# DASHBOARD TAB 2

Top 10 Languages Desired Next Year
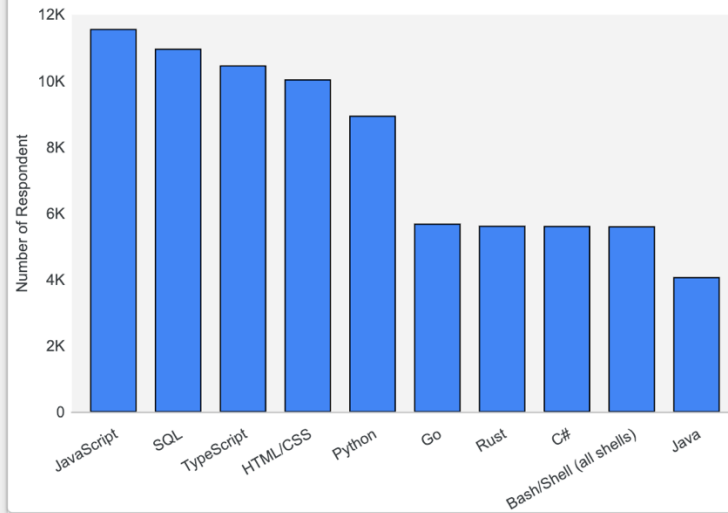
Top 10 Databases Desired Next Year

Top 10 Desired Platforms

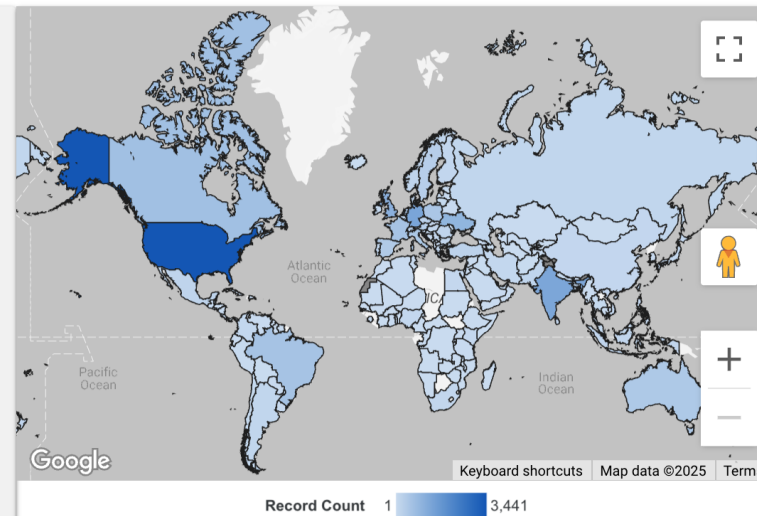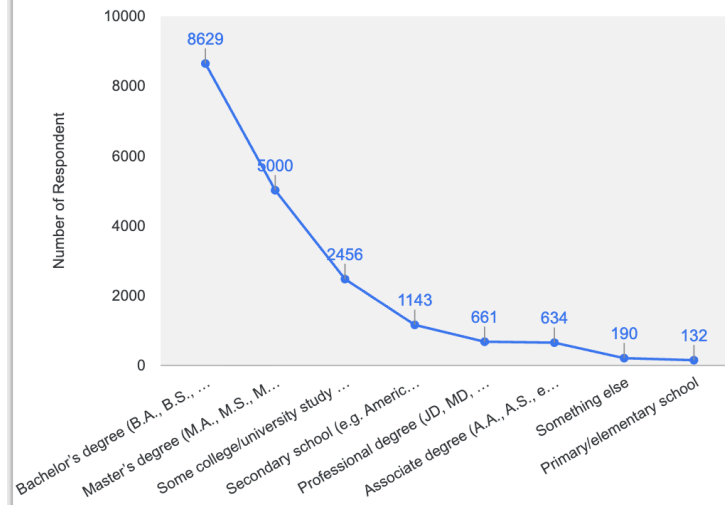## Top 10 Desired Web Frameworks
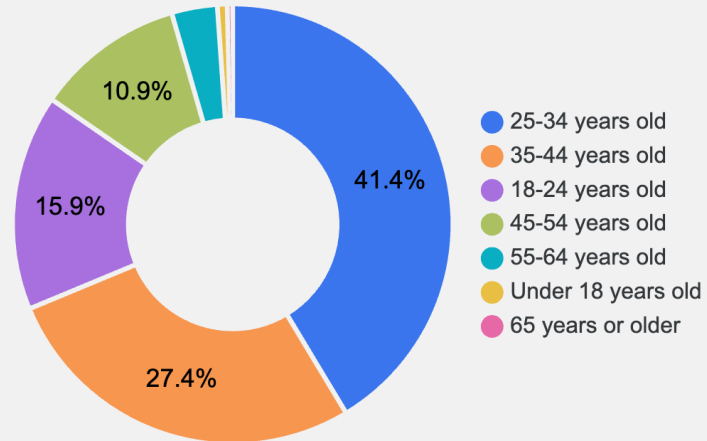
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DASHBOARD TAB 3
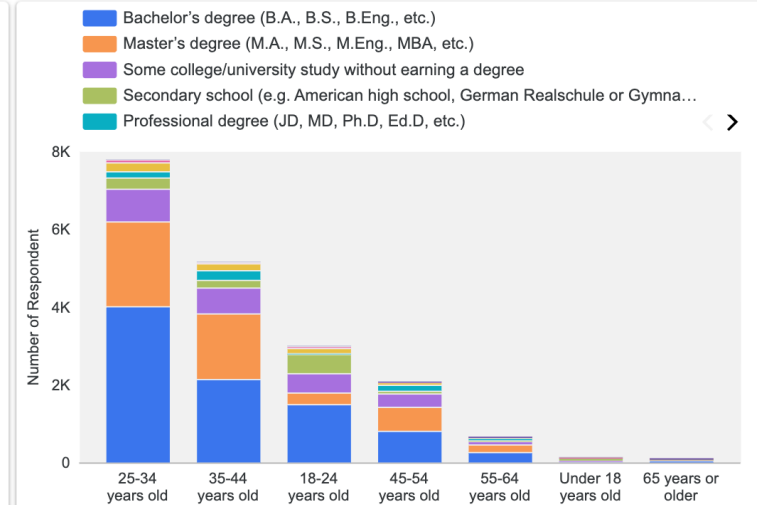
DISCUSSION

OVERALL FINDINGS & IMPLICATIONS

➤ **Websites (Frontend):** Master **JavaScript** and **React**. This combination builds the part of the website that users actually see and interact with.

➤ **Backend Logic:** Learn **Python**. It's easy to start and powers most of the intelligent systems, data work, and APIs (the communication layer).

➤ **Data Storage:** Master **PostgreSQL** . It is the most reliable and popular database for storing all serious company information.

➤ **Cloud Platform:** Get comfortable with **AWS** (Amazon Web Services). This is the largest and most-used platform for running applications online.

CONCLUSION

1. Master the Basics: Start by becoming highly proficient in **JavaScript/React**, **Python**, and the **PostgreSQL** database. Due to it is foundation for nearly all modern jobs.

2. Invest in Speed: Once you have the basics, begin learning performance-focused languages like **Rust** or **Go**, and specialized speed tools like **Redis**.

In short: Learn the core well, then learn the specialized tools that make things fast.

APPENDIX

- Include any relevant additional charts, or tables that you may have created during the analysis phase.

JOB POSTINGS

Number of Job Posting

Category	Value
C	25114
Java	3428
JavaScript	2248
Python	1173
Oracle	899
C#	526
C++	506
SQL Server	423
MongoDB	208
Scala	138
PostgreSQL	86
MySQL Server	0

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POPULAR LANGUAGES

Average Annual Salary (USD)