# Sneak Peek into Technology Trends among Developer


**Miranti Puspitasari**

**November 27th, 2025**

# OUTLINE

- Executive Summary
- Introduction
- Methodology
- Results & Discussion
  - Visualization
    - Programming Language Trend
    - Database Trend
  - Dashboard
  - Overall Findings & Implications
- Conclusion
- Appendix

# EXECUTIVE SUMMARY

**The faster the better**

- Faster and good performance languages and technologies continue to be most used and most desired because it needed to support complex ecosystems.

**Free edition for cost effective project**

- Free editions" and "open-source software" are key strategies for cost-effective technology projects, as they eliminate licensing fees and leverage extensive community support. Many providers offer perpetually free tiers with limited features, ideal for small teams or initial project phases.

# INTRODUCTION

This report was created to provide an overview into the experiences, preferences, and technology trends among developers based on the survey result dataset, which can be used to:

(1) Analyse and determine the new focus of future technology developments.

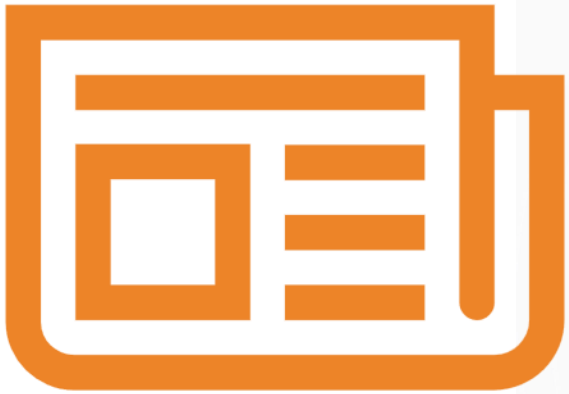
(2) Mapping of Training Need Analysis for developers based on needs (age, experience, language, database, platform, tools, etc.)

(3) Data-driven decision-making regarding hiring process of developers based on available demographic information.

(4) Understanding developer job satisfaction, compensation, and work environments.

(5) Studying global and regional differences in developer demographics and experience.

# METHODOLOGY



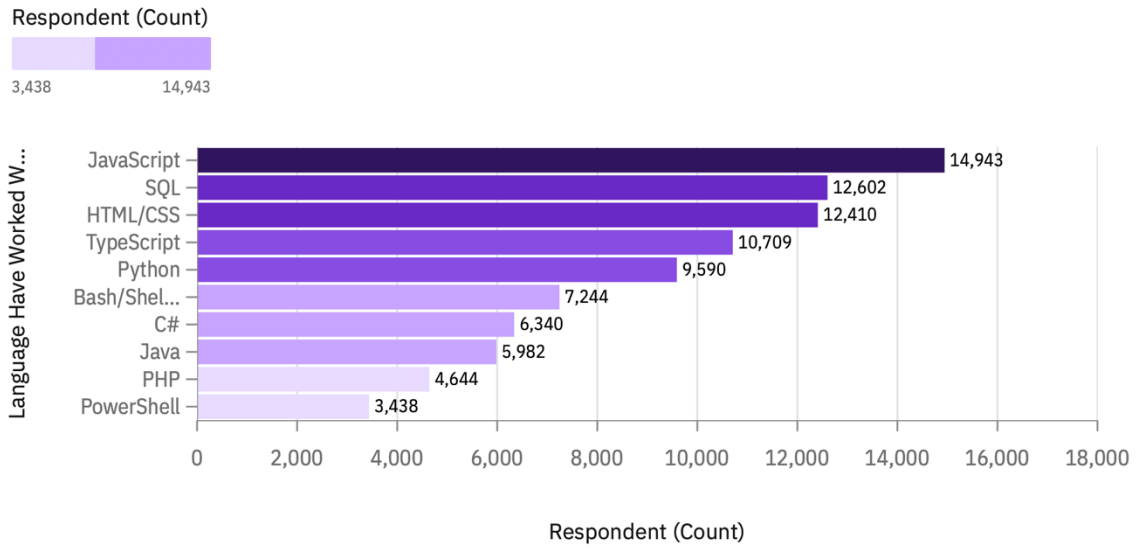
- Data sources
  - GitHub Jobs API
  - Programming language salaries from Web Scraping
  - Stack Overflow Developer Survey (https://survey.stackoverflow.co/)
- Collection methods
  - APIs
  - Web scrapping
- Data wrangling methods
  - Finding and removing duplicates
  - Finding missing value
  - Removing or imputing missing value
  - Normalizing data
- Data exploration and visualization methods
  - Analyzing data
  - Finding and handling outliers
- Dashboard creation tools
  - IBM Cognos Analytics

# Result and Discussion

# PROGRAMMING LANGUAGE TRENDS

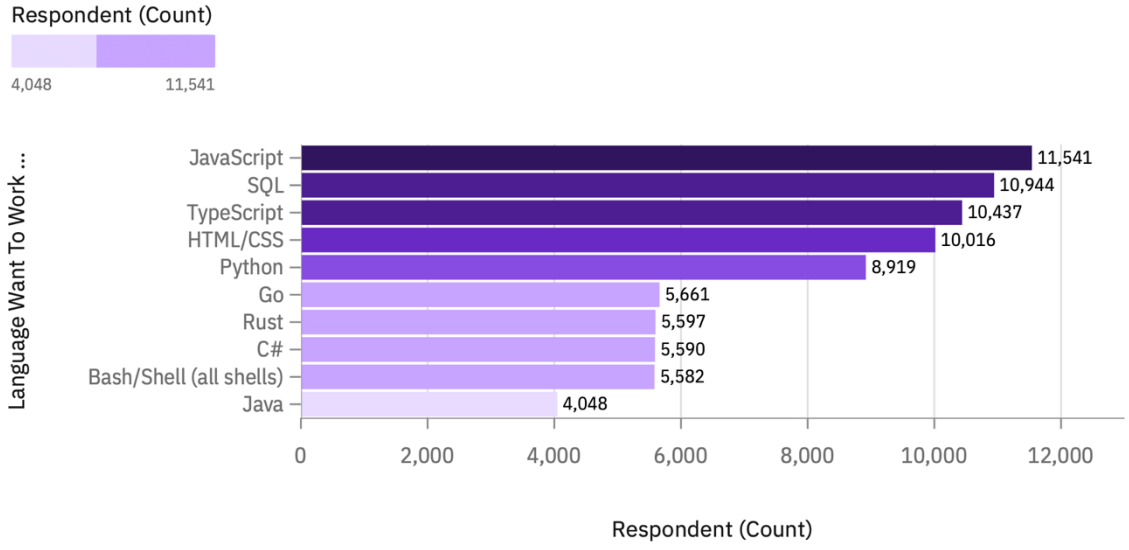
## Current Year

**Top 10 Language Respondent Have Worked With**




## Next Year

**Top 10 Language Respondent Want To Work With**



# PROGRAMMING LANGUAGE TRENDS

## Findings

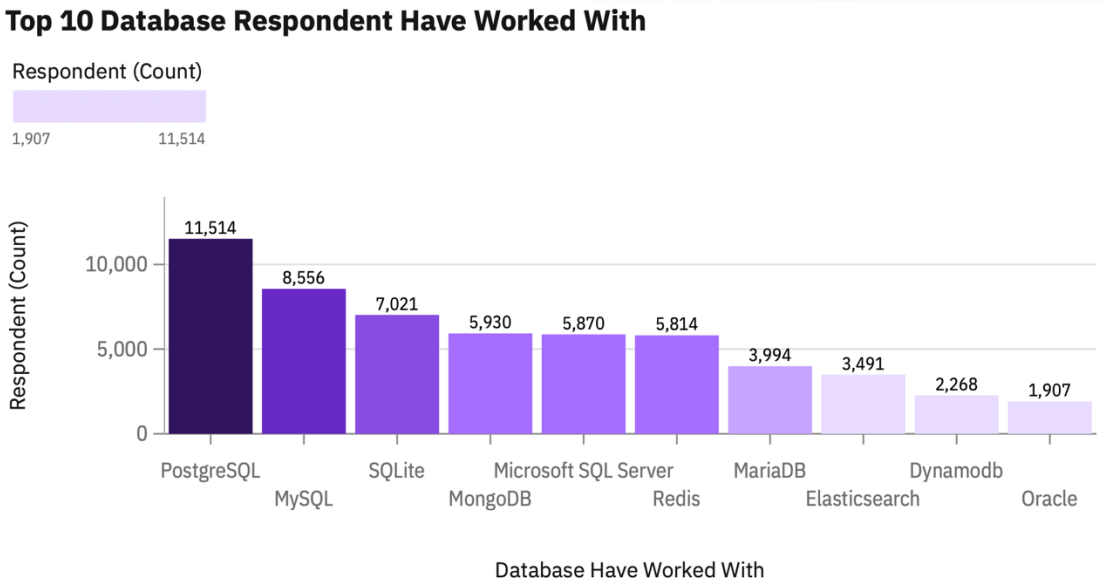
- Java Script, SQL, Type Script, HTML, CSS, and Python are the top 5 languages that are popularly used today and are expected to be used in the coming year, indicating continued strong interest in these languages.
- There is a significant desire for less commonly used languages like **Go** and **Rust**, to use those language in the next year despite lower current usage

## Implications

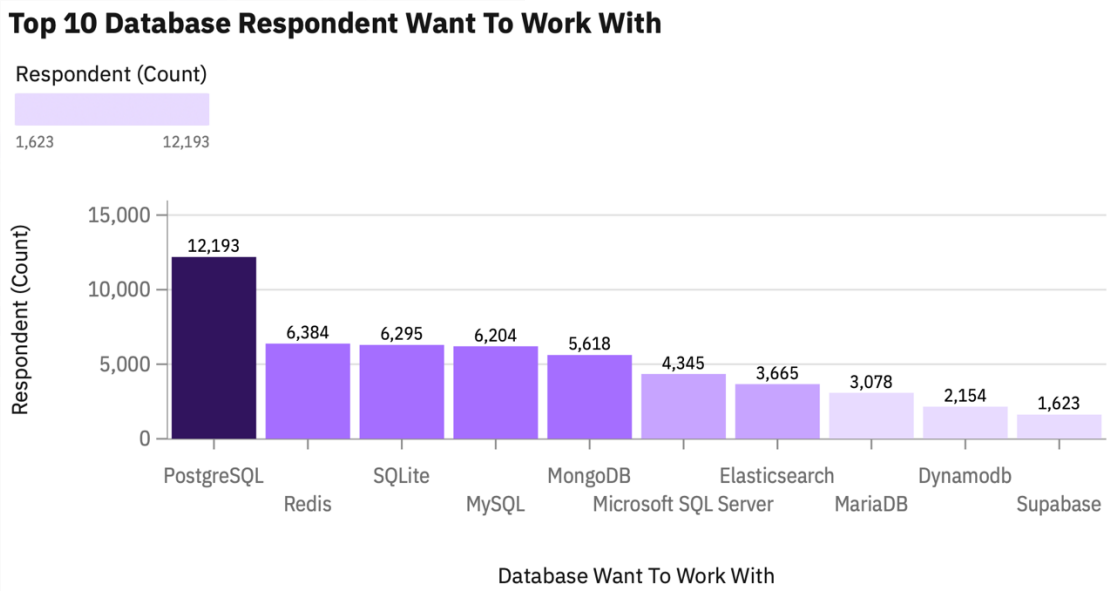
- Training for the top 5 languages can be continued and deepened considering their popularity until next year.
- Training for less commonly used language (**Go** and **Rust**) can be initiated this year to prepare for its use next year.
- PHP's performance is poor even though it is easy to use, so it does not support current technological developments and needs, so many developers are switching to other languages.

# DATABASE TRENDS

## Current Year




## Next Year



# DATABASE TRENDS

## Findings

- **PostgreSQL**, **SQLite**, **MySQL** are a database that will remain popular for next year.
- Oracle, which was in the top 10 for the current year, is absent from the top 10 list for the next year, indicating declining interest.
- Redis show significant increases in interest for the next year, moving up the rankings.

## Implications

- Training for **PostgreSQL**, **SQLite**, and **MySQ**L can be continued and deepened considering their popularity until next year.
- Shift investment from **Oracle** to **PostgreSQL** or **MySQL** because Oracle is paid database, even though both have good performance.
- Redis stores data in device memory so it has faster performance even though the data is not permanent, so many developers are starting to be interested in using Redis as session storage.

# DASHBOARD

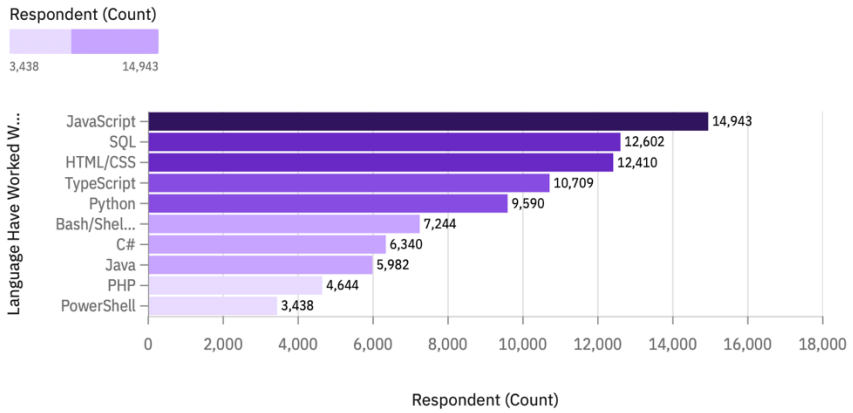
Technology Trend Dashboard

Click here ☺

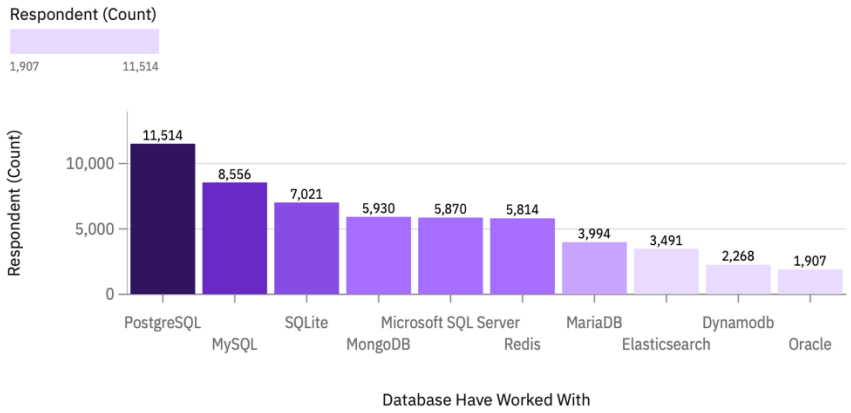
# DASHBOARD TAB 1

Current Technology Usage

**Top 10 Language Respondent Have Worked With**

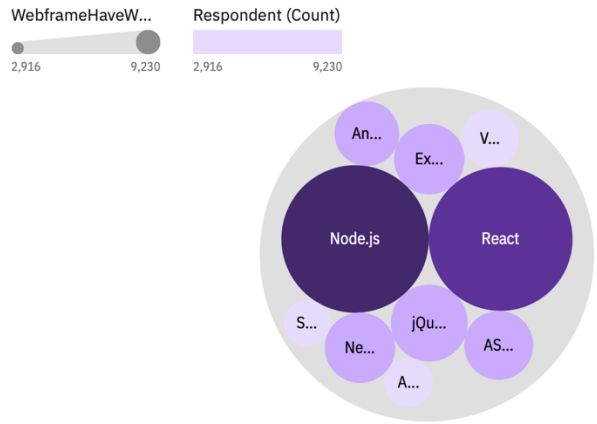



**Top 10 Database Respondent Have Worked With**




**Top 10 Platform Respondent Have Worked With**

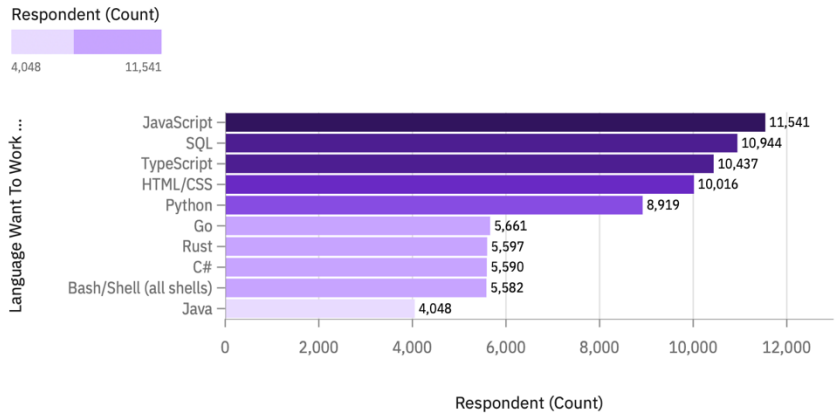

**Top 10 Webframe Respondent Have Worked With**



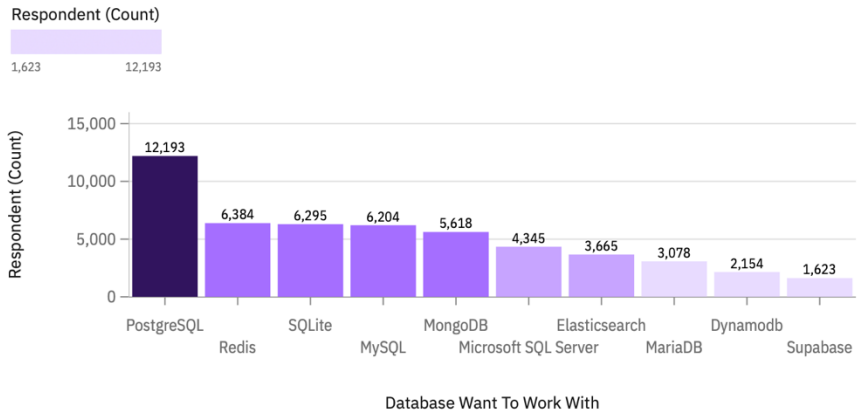
# DASHBOARD TAB 2

Future Technology Trend

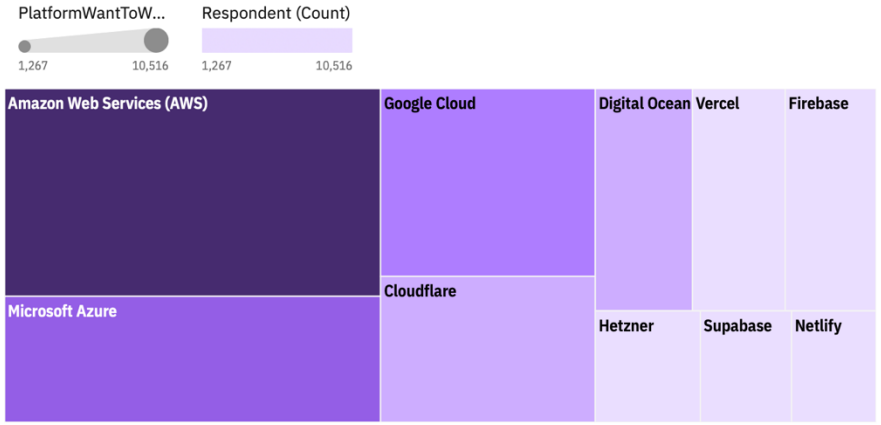
### Top 10 Language Respondent Want To Work With



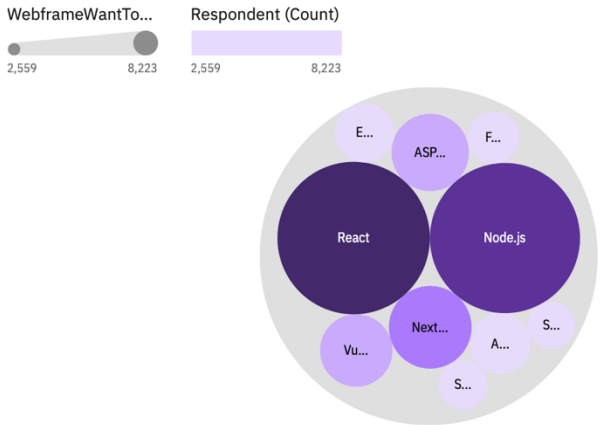

### Top 10 Database Respondent Want To Work With




### Top 10 Platform Want To Work With



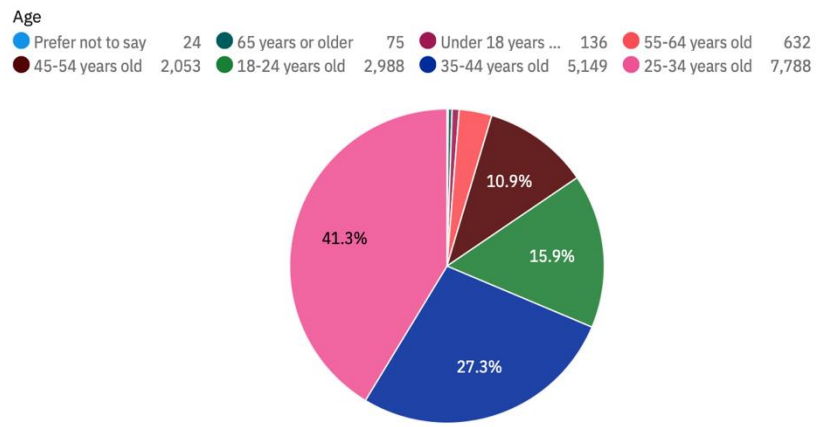

### Top 10 Webframe Respondent Want To Work With



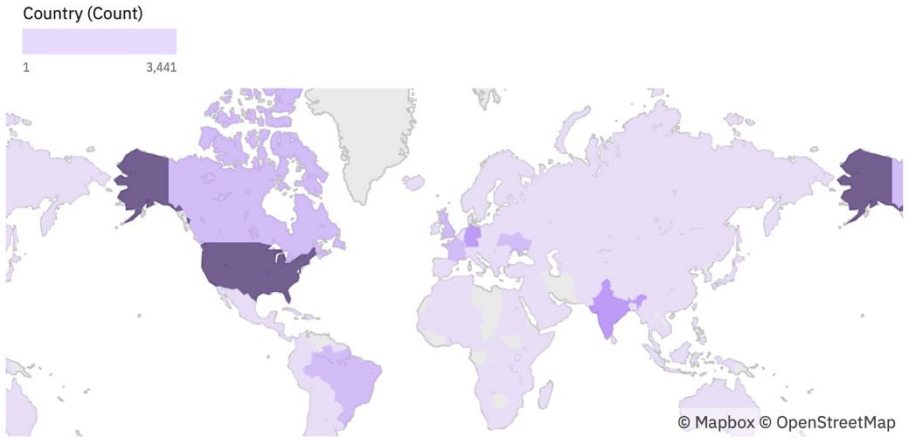
# DASHBOARD TAB 3

Demographics

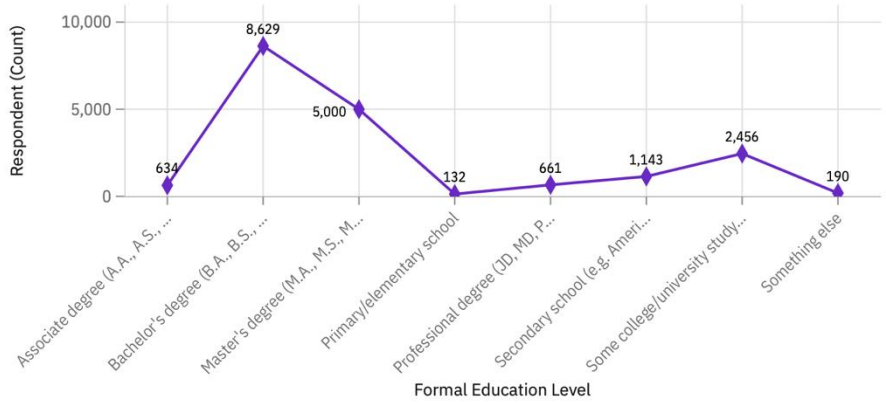
**Respondent Distribution by Age**



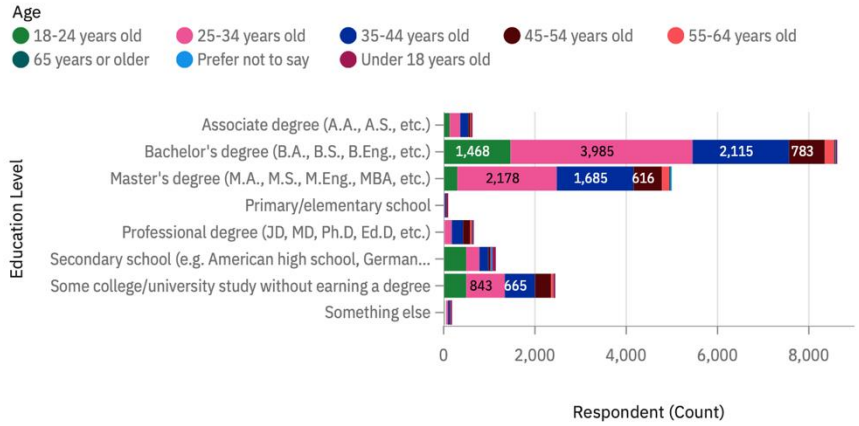

**Respondent Count by Country**




**Respondent Distribution by Formal Education Level**




**Respondent by Age Classified by Education Level**



# DISCUSSION

- **Amazon Web Services (AWS)** and **Microsoft Azure** are platform that continue to be popular for the next year.
- **Node.js** and **React** are web frame that continue to be popular for the next year.
- Respondents were dominated by developers with an age range of **25-34 years** (41.3%) and followed by age range **35-44 years** (27.3%).
- Most of the respondents had a formal education as a **Bachelor's degree** and followed by a formal education as a **Master's degree**, which indicates that this profession requires a good formal educational backbone.
- Most of the respondents  were from the **USA** and **Europe**. This is good information for HR team for the recruitment process related to developer needs.

# OVERALL FINDINGS & IMPLICATIONS

## Findings

- **Amazon Web Services (AWS)** and **Microsoft Azure** are platform that continue to be popular for the next year.
- **Node.js** and **React** are web frame that continue to be popular for the next year.
- Developers with a **Bachelor's degree** educational background have the largest age group, while developers with a **primary school** educational background consist of the age group under 18 years.

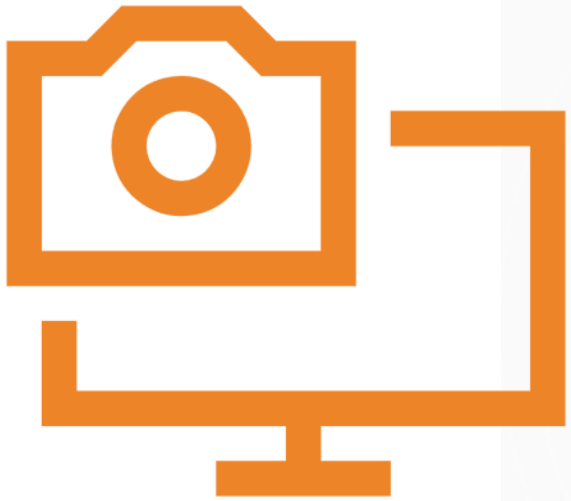
## Implications

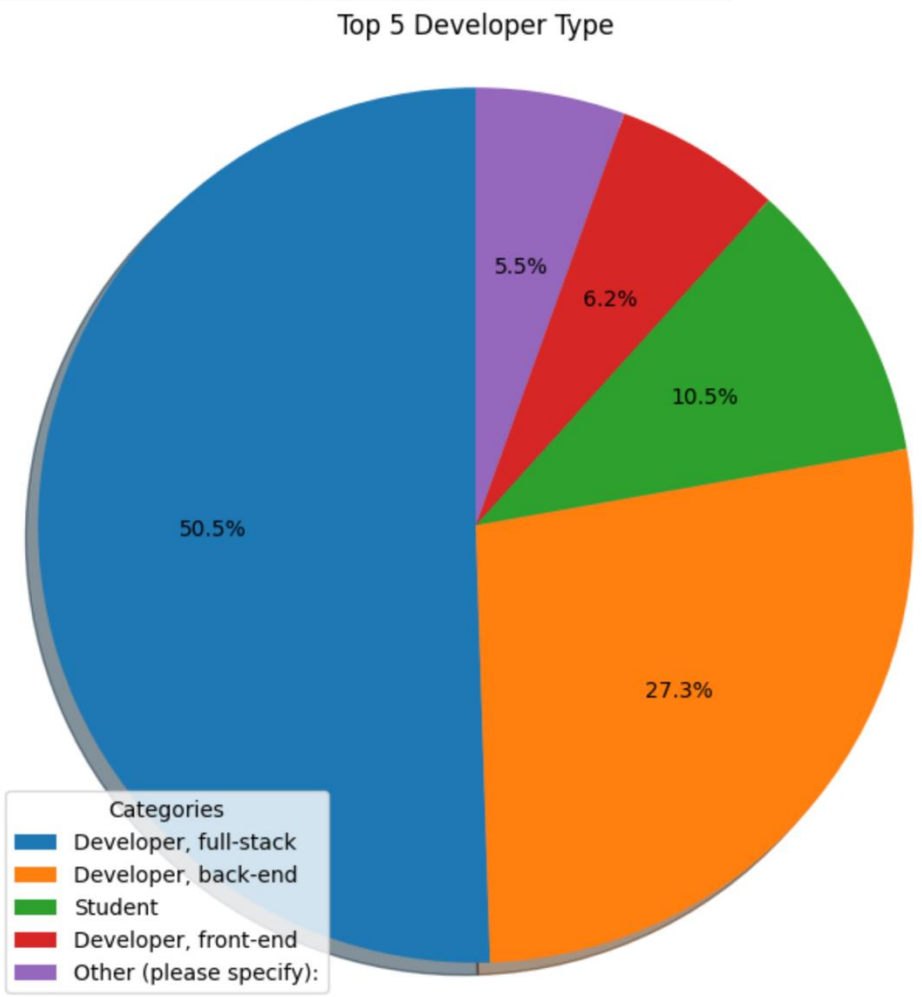
- Training for **WAS**, **Microsoft Azure**, **Node.js**, and **React** can be continued and deepened considering their popularity until next year.
- Developers with a **primary school** education background and **under the age of 18 years** have great potential to develop very well if they continue to a higher level of education while still pursuing the developer profession.

# CONCLUSION

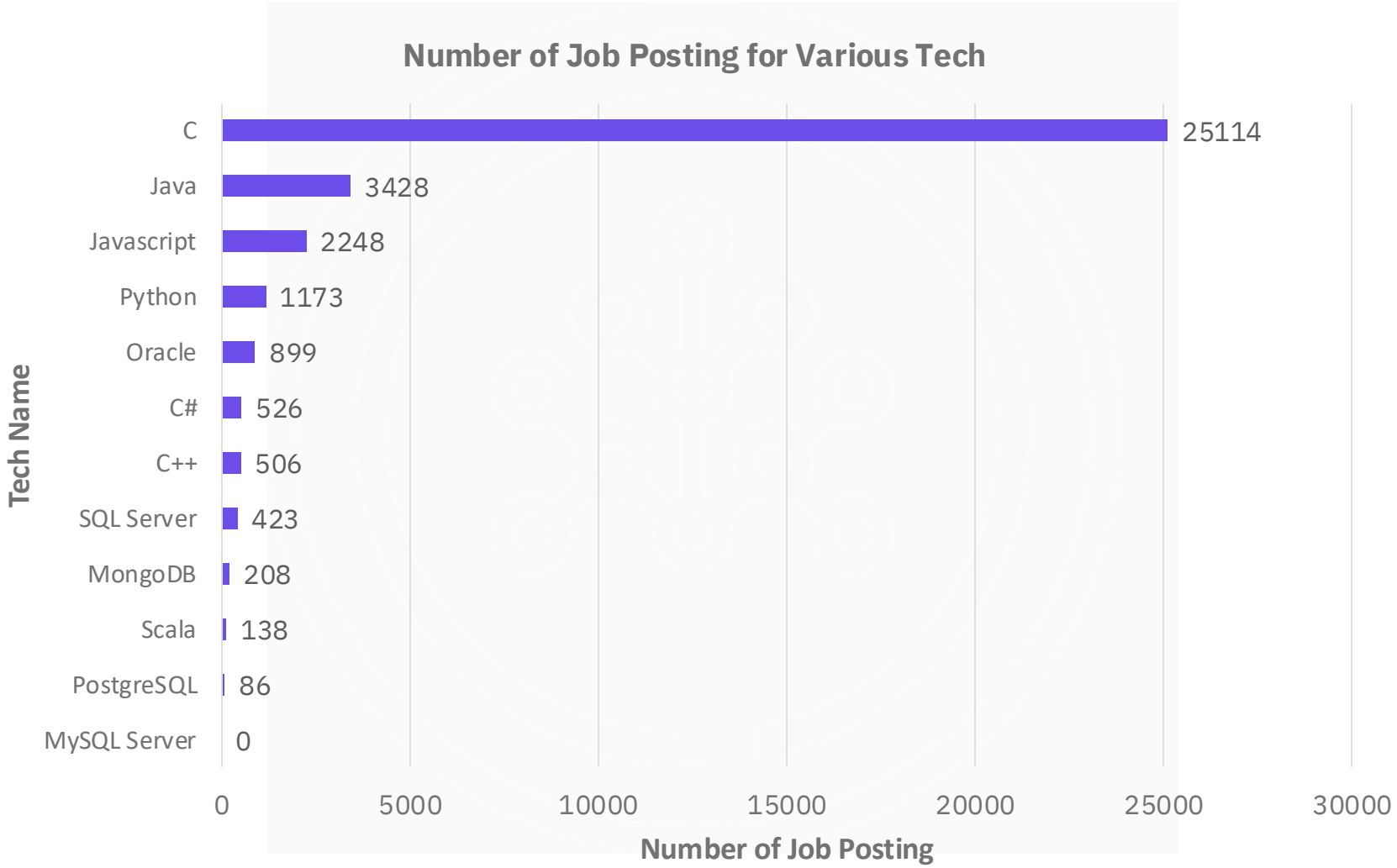
- Most technologies (languages, databases, platforms, web frameworks, tools, etc.) remain highly relevant for development in the coming year.
- Data analysis shows that respondents were mostly aged **25-34 years old**, with a formal education **bachelor's degree**, from the **USA,** and are **full-stack developers**.
- Developer are looking for **3 main factors** when choosing technologies: (1) faster and good performance, needed to support complex ecosystems, (2) provide a comprehensive suite of services for AI, compute, storage, databases, and networking, (3) has a free edition to reduce cost.

# APPENDIX




Top 5 Developer Type
5.5%
6.2%
10.5%
50.5%
27.3%
Categories
Developer, full-stack
Developer, back-end
Student
Developer, front-end
Other (please specify):

# JOB POSTINGS



# POPULAR LANGUAGES