Stack Overflow survey data

Tamara Marie

20 April 2025

Skills Network

IBM

OUTLINE

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

EXECUTIVE SUMMARY

- Top 10 programming languages currently and in future: Python, JavaScript, and SQL dominate.

- Database usage is shifting from MySQL to more cloud-based solutions like PostgreSQL.

- Emerging platforms and frameworks show a rise in web and cloud development.

- Insights based on Stack Overflow Developer Survey 2023.

- Dashboard visualizations highlight key trends in tech skills and demographics.

INTRODUCTION

Purpose:
- Analyze current and future tech trends using Stack Overflow survey data.

Target Audience:
- Tech educators, curriculum designers, hiring managers, and developers.

Value:
- Helps understand what skills are in demand and where the tech industry is heading.

METHODOLOGY

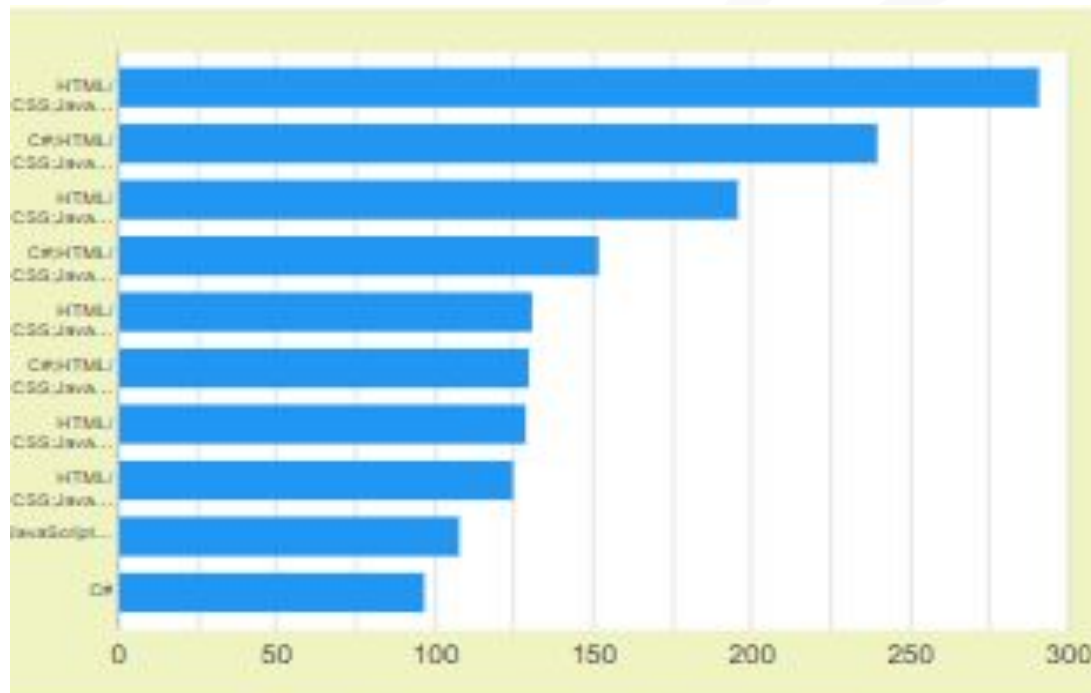**Data Source**: Stack Overflow Developer Survey 2023 (subset CSV).

Tools Used: Google Looker Studio, Excel.

Steps:

- Data cleaning (removed nulls, filtered Top 10 categories).

- Grouped and visualized using Looker Studio dashboards.

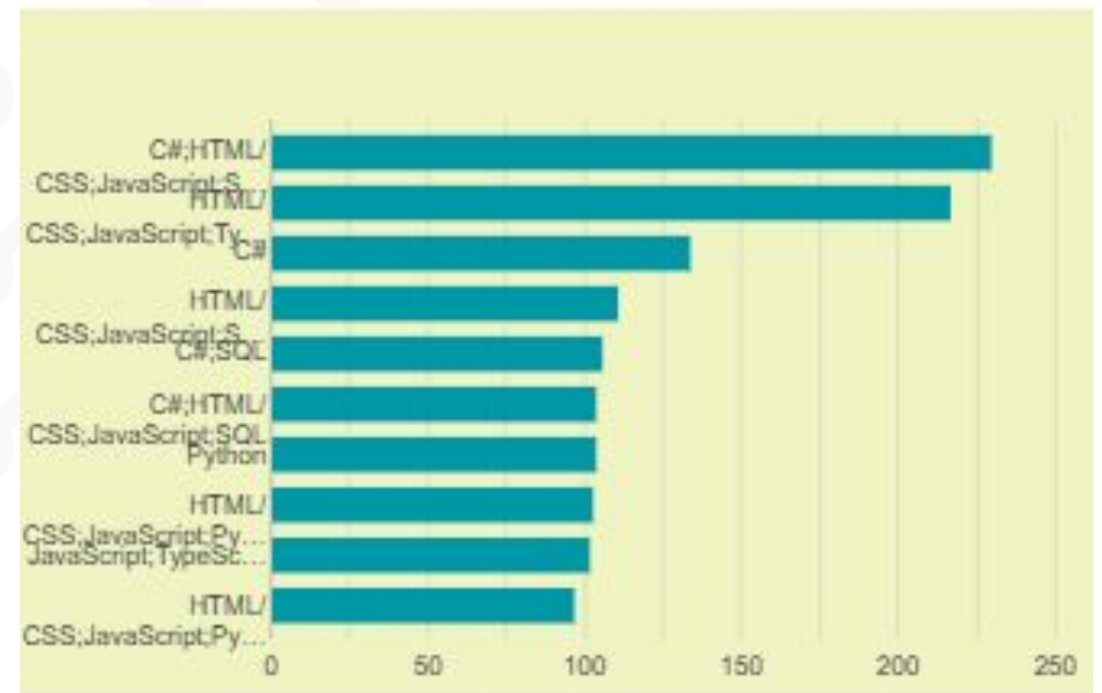- Created scatter plot from job-postings.xlsx.

PROGRAMMING LANGUAGE TRENDS

Current Year

Top 10 Languages Worked With

Next Year

Top 10 Desired Language

Skills Network

IBM

PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Python and JavaScript lead, reflecting demand in data science and web development

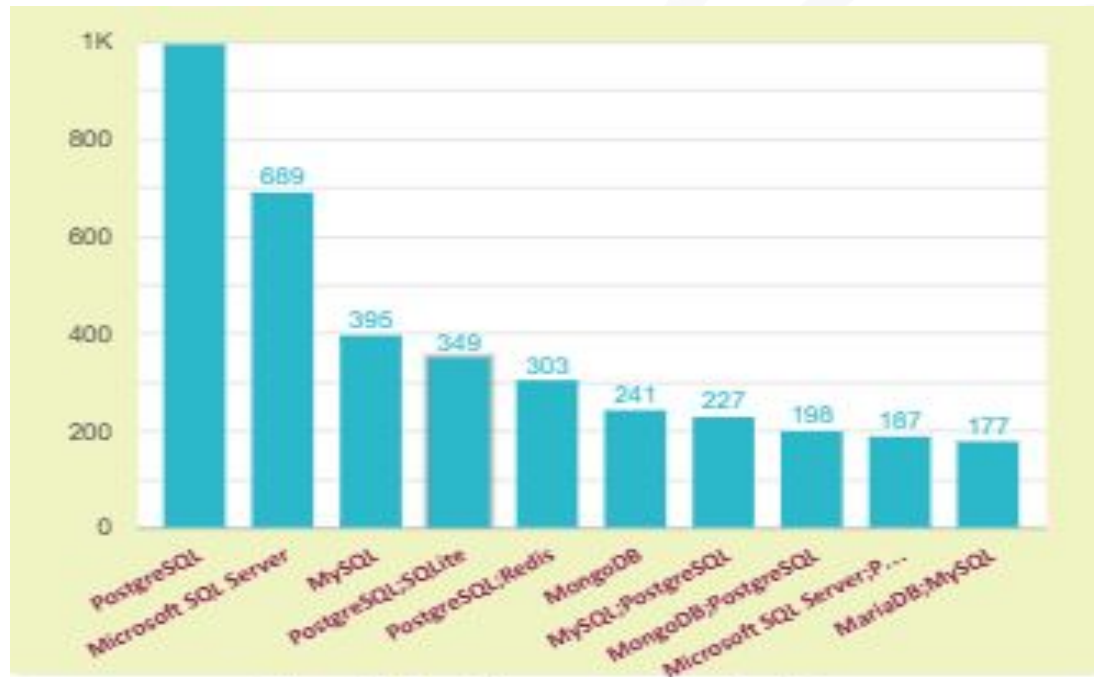- Rising interest in TypeScript and Go suggests growing demand in scalable backend solutions.

Implications

- Python and JavaScript lead, emphasizing their importance in data science and web development.

- TypeScript and Go's rise indicates increasing demand for scalable backend solutions.
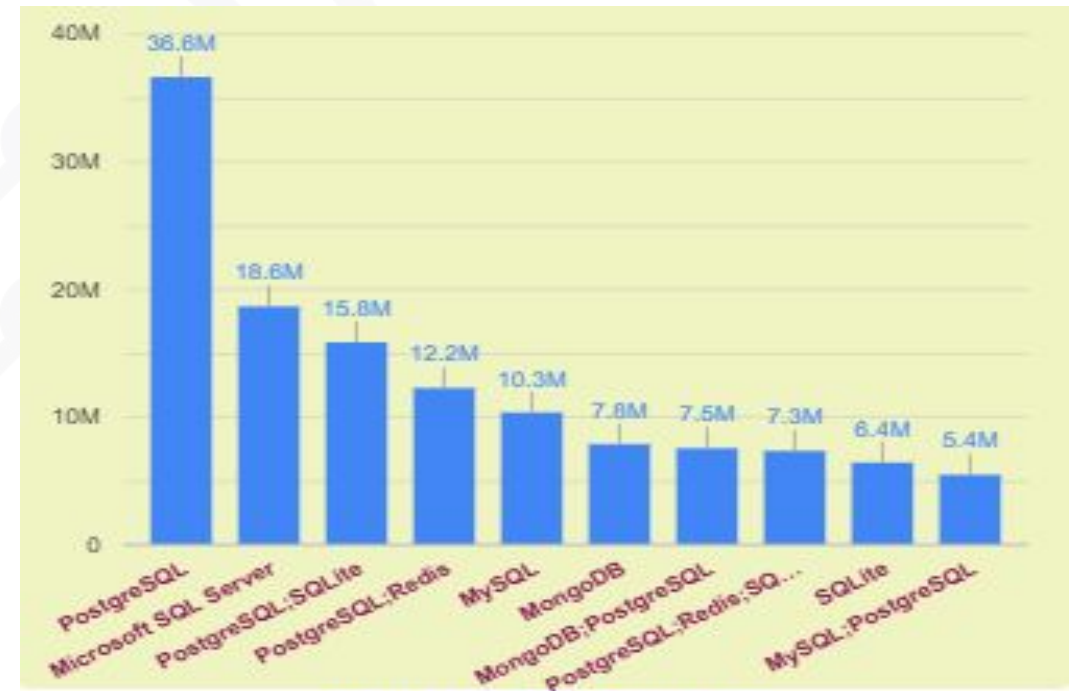
DATABASE TRENDS

Current Year

Top 10 Databases worked with

Next Year

Top 10 Desired Database

DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL and PostgreSQL are most used; SQL-based databases still dominate.

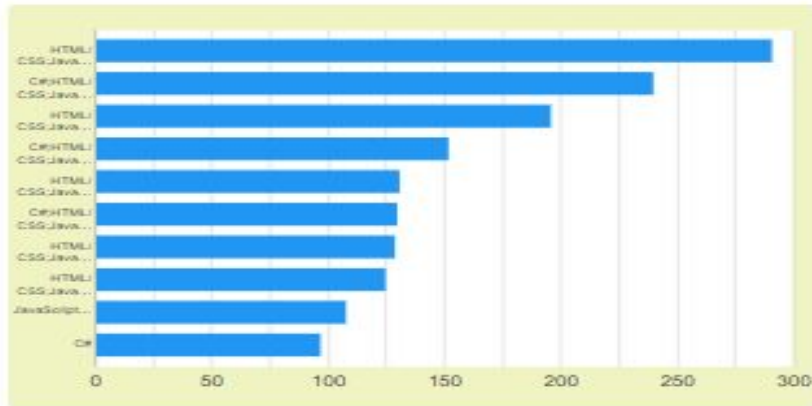- Cloud-native databases like Firebase and MongoDB gaining popularity

Implications

- SQL databases (MySQL, PostgreSQL) dominate, so mastering them remains key.

- Cloud-native databases (Firebase, MongoDB) are growing, highlighting the shift to scalable solutions.
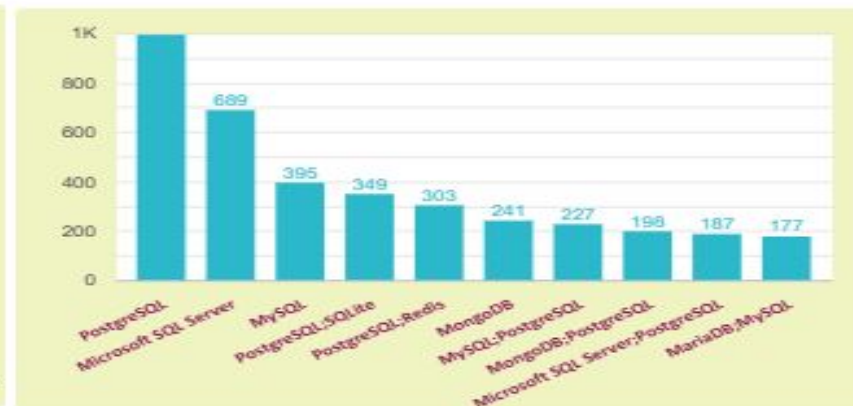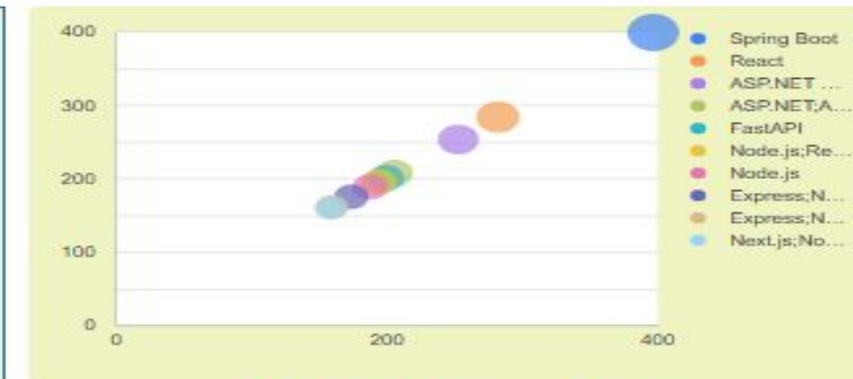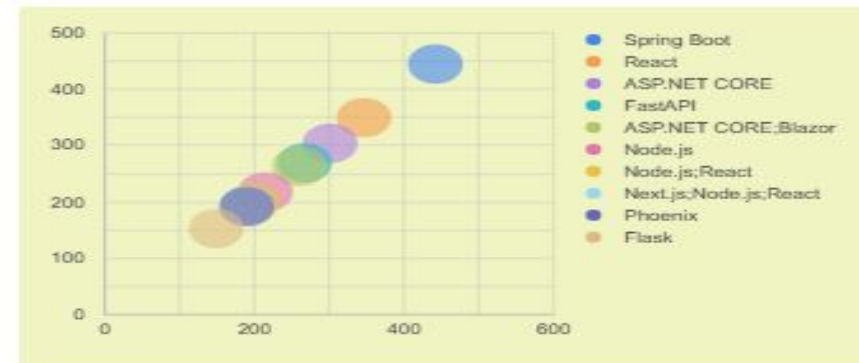
DASHBOARD
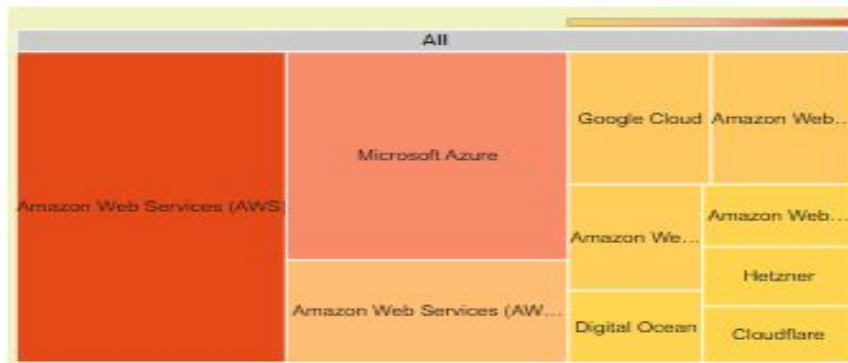
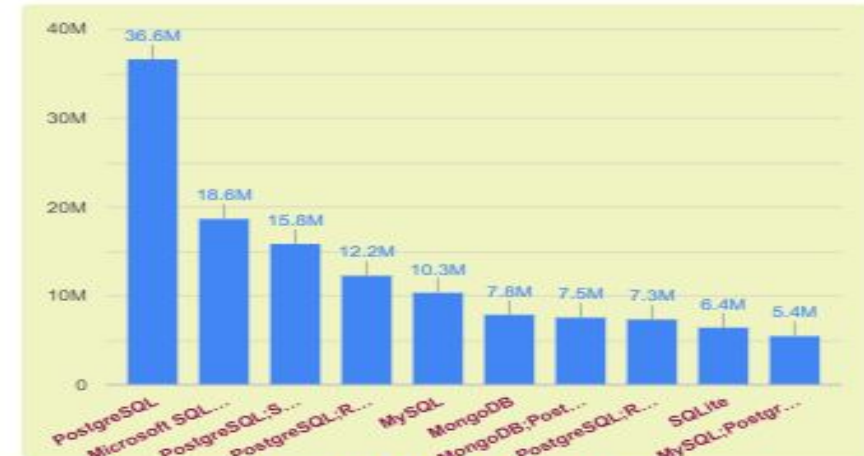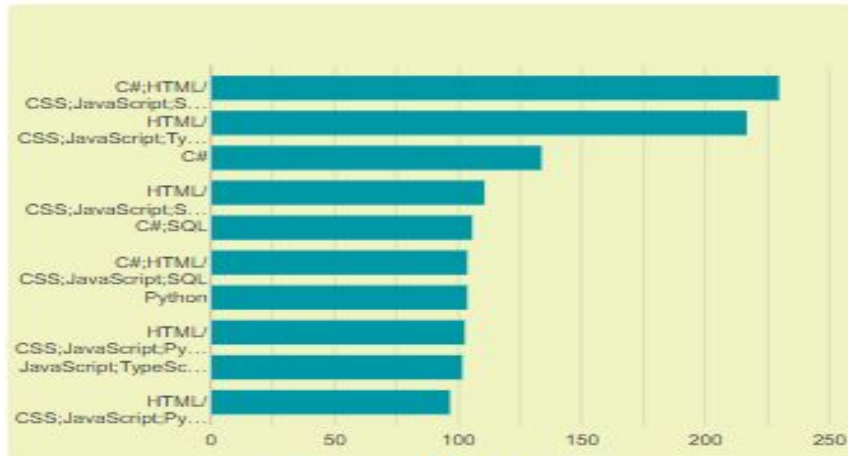# Current Technology Usage

Top 10 Languages Worked With

Top 10 Databases worked with

Top 10 Platforms

Top 10 Web Frameworks Used

Future Technology Trends

Top 10 Desired Language

Top 10 Desired Database

Top 10 Desired Platform

Top 10 Desired Web Frameworks

Skills Network
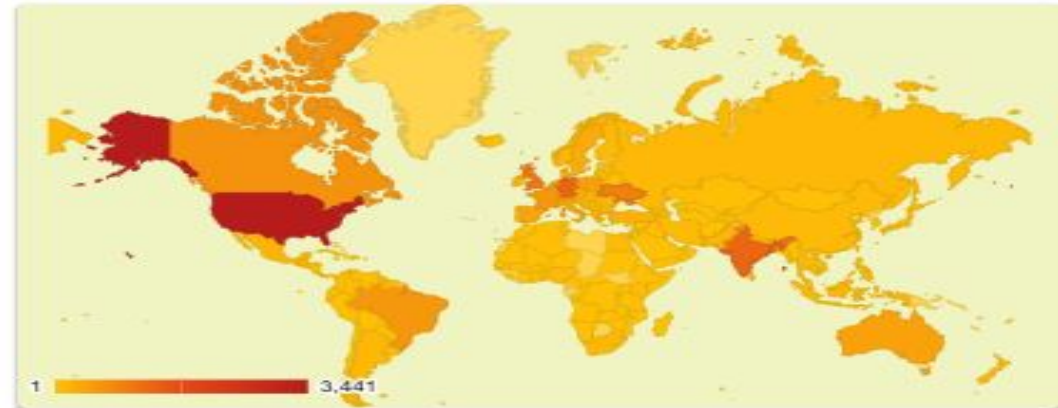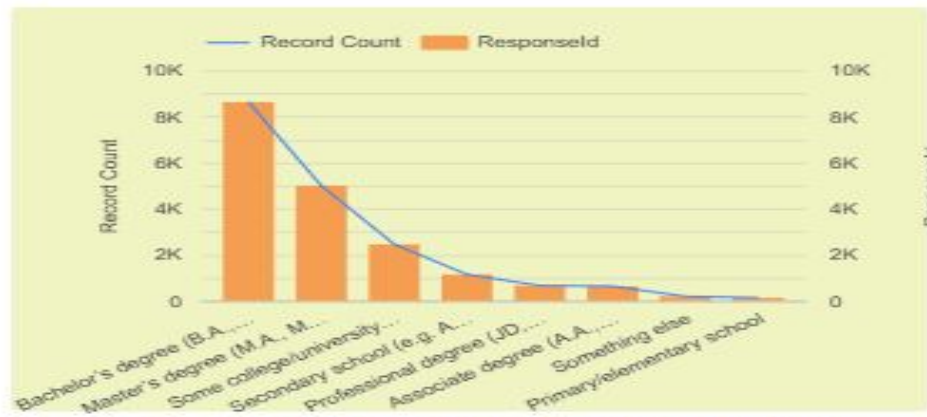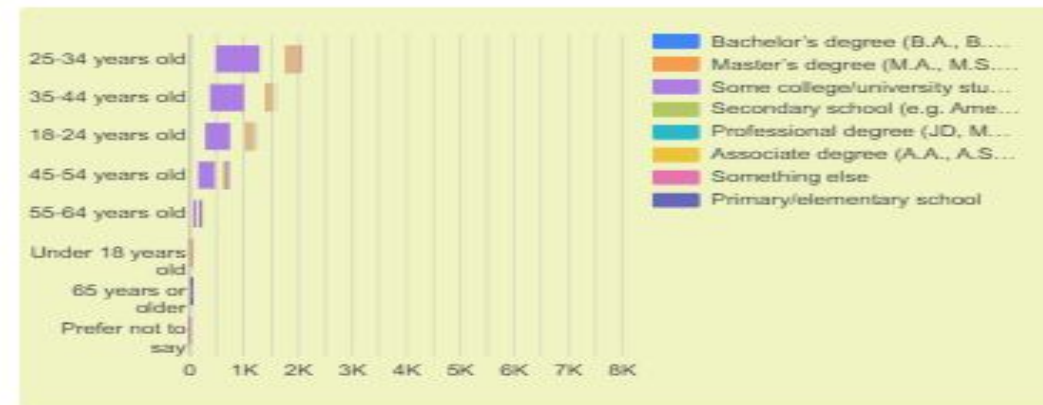
Demographics
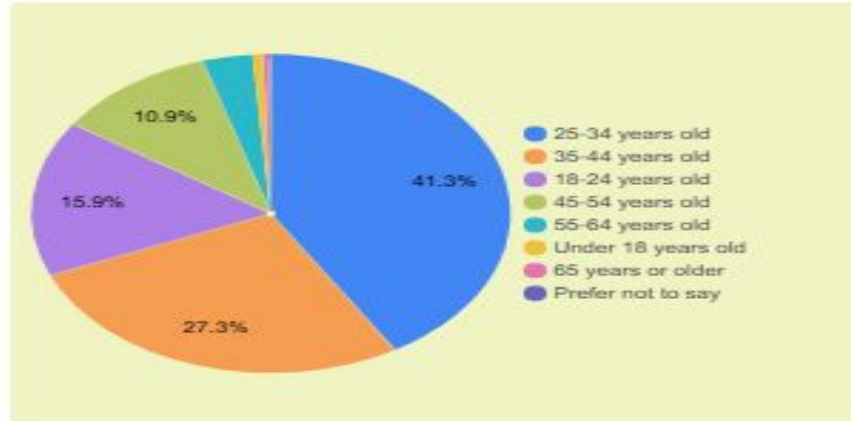
Age by Record Count

Respondent Count by Country

Respondent Distribution by Education Level

Respondent Count by Age, Classified by Education Level

DISCUSSION

"Majority of respondents are between 25–34 years old."

"Web technologies and cloud platforms dominate current and future demand."

"Higher education correlates with preference for cutting-edge tech stacks."

Skills Network

OVERALL FINDINGS & IMPLICATIONS

Findings

- Demand for Python and JavaScript remains high across all trends.

- Cloud and web platforms are future-proof tech stacks.

- Education and age demographics shape tech adoption and interest areas.
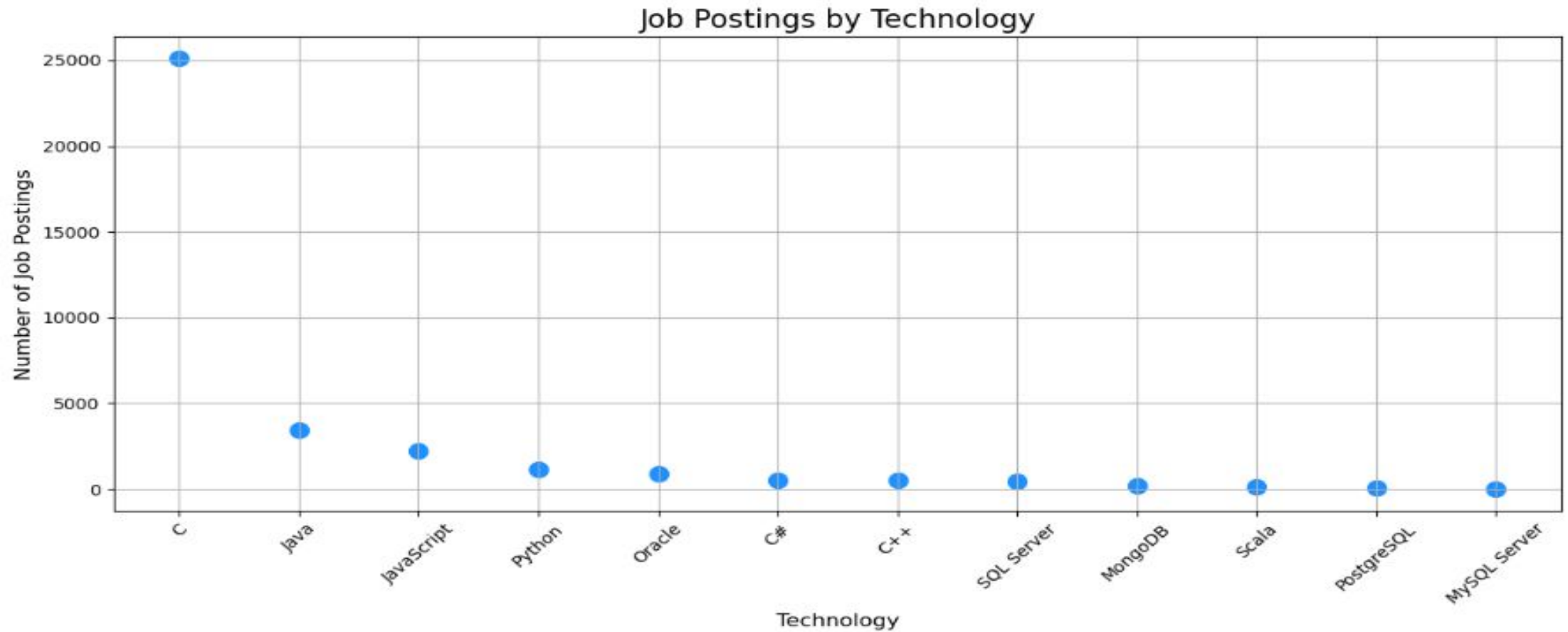
-

Implications

- Learning Python and JavaScript is essential because they are in high demand for many tech jobs.

- Cloud and web technologies are the future, so focusing on them ensures long-term career growth.

- Different age and education levels prefer different tools, so training and tools should match user needs.
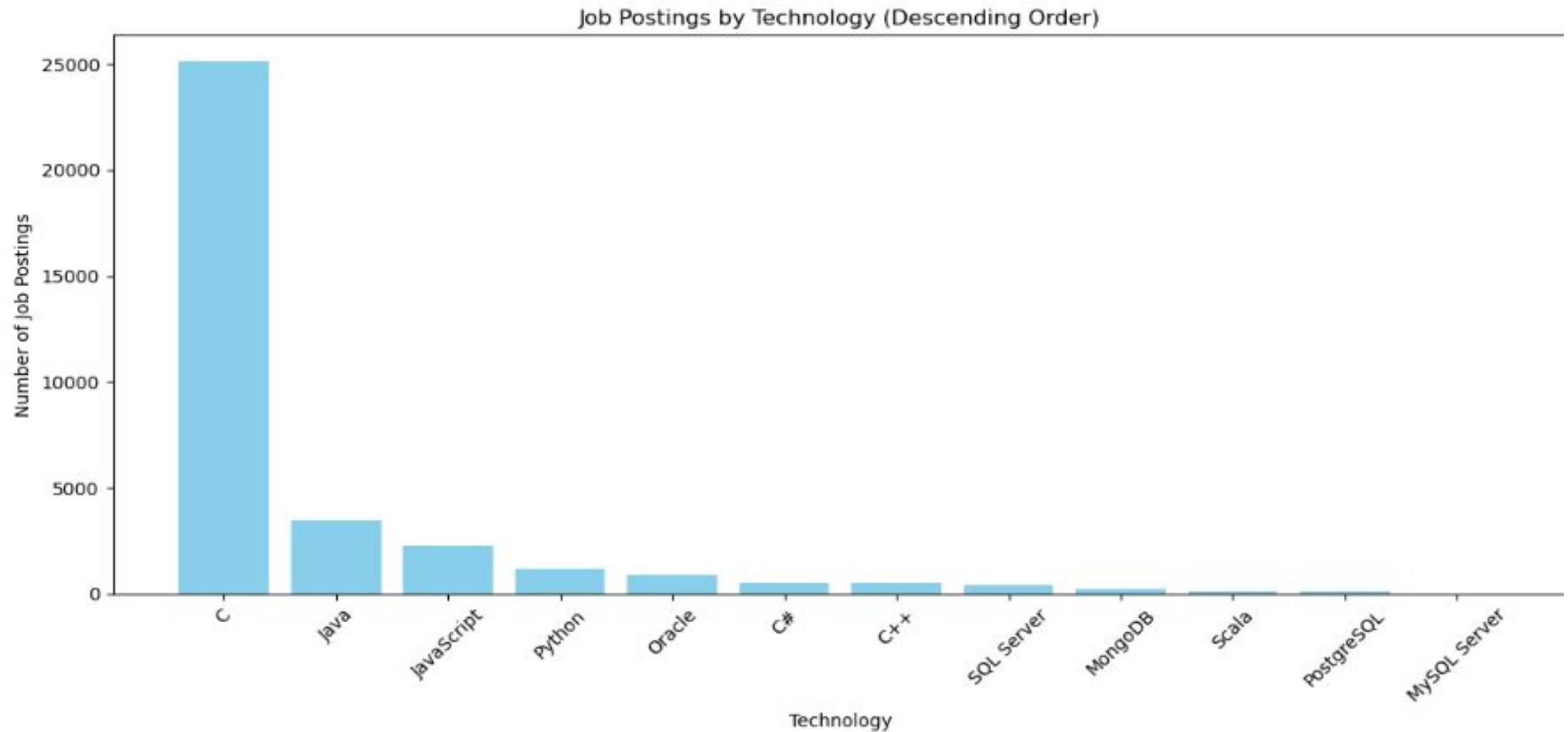
Skills Network

IBM

CONCLUSION

- he tech landscape is rapidly evolving towards cloud, web, and data-oriented solutions.

- Continuous learning and skills updating are crucial.

- Data insights help align career paths and education with real-world demand.

APPENDIX

Job Postings by Technology

JOB POSTINGS

Job Postings by Technology (Descending Order)

POPULAR LANGUAGES

Programming Languages by Salary (Descending Order)