Presentation Project

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OUTLINE

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

EXECUTIVE SUMMARY

5 - Key Summary Finding:

- JavaScript & Python Lead the Ecosystem.
- PostgreSQL is the Most Trusted Database.
- Cloud Platforms Are Central to Modern Development.
- Modern Web Technologies Continue to Expand
- The Developer Workforce is Experienced and Globally Distributed.

INTRODUCTION

- Purpose of the report:

  This report analyzes current technology usage, future technology preferences and developer demographics to identify major trends shaping the global software development ecosystem. The goal is to uncover actionable insights about programming languages, databases, platforms and workforce characteristics.

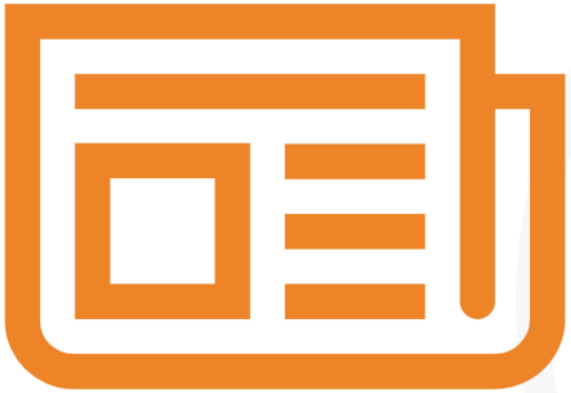
- Understand Market Direction:

  The analysis helps determine which technologies are growing, which remain stable, and which may decline in relevance.

- Target Audience:
  1. Tech Leaders and decision-makers.
  2. Product Managers.
  3. HR and Talent Acquisition Teams.
  4. Training institutions and Tech educators.
  5. Developers planning career growth.

- Value of the Analysis:
  1. Guiding Technology investment decisions.
  2. Helping professionals prioritize high-demand skills.

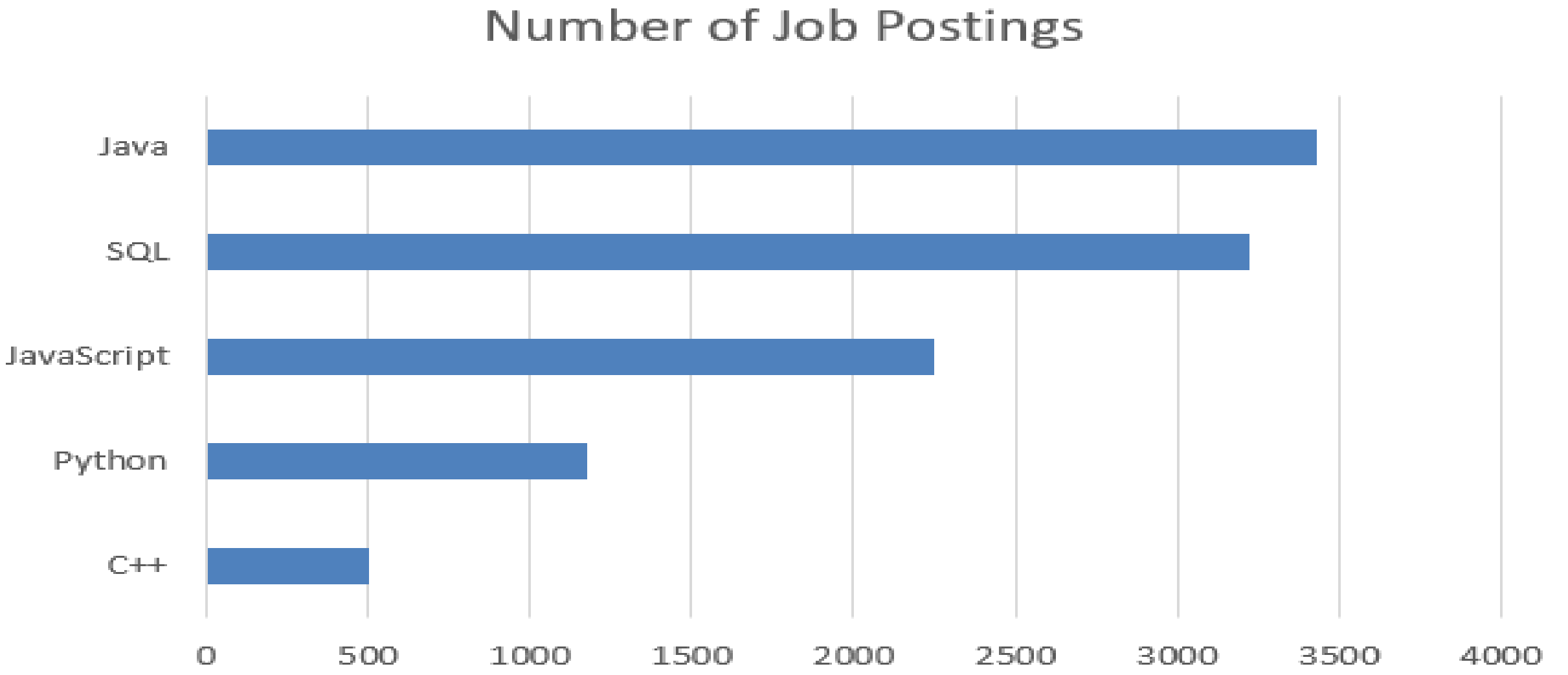
METHODOLOGY



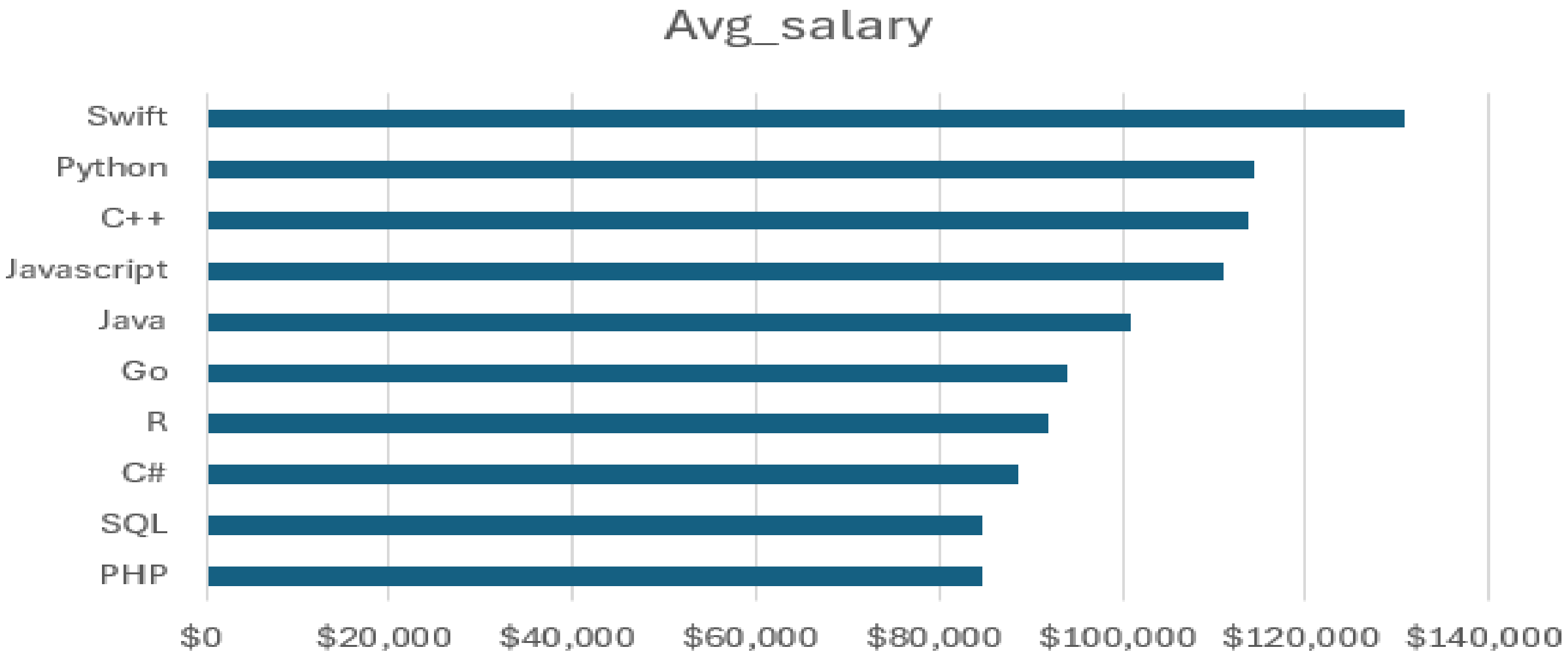
- **Data Source :**
  - IBM Website (Dataset: survery_data.csv)
- **Techniques used to collect data :**
  1. Web Scrapping.
  2. Using SQLite.
  3. API calls.
- **Data Wrangling Steps:**
  1. Duplicates Removal.
  2. Finding Missing values.
  3. Dropping / Imputing Missing values.
  4. Normalizing Data.

Results – in the coming Slides

JOB POSTINGS



POPULAR LANGUAGES

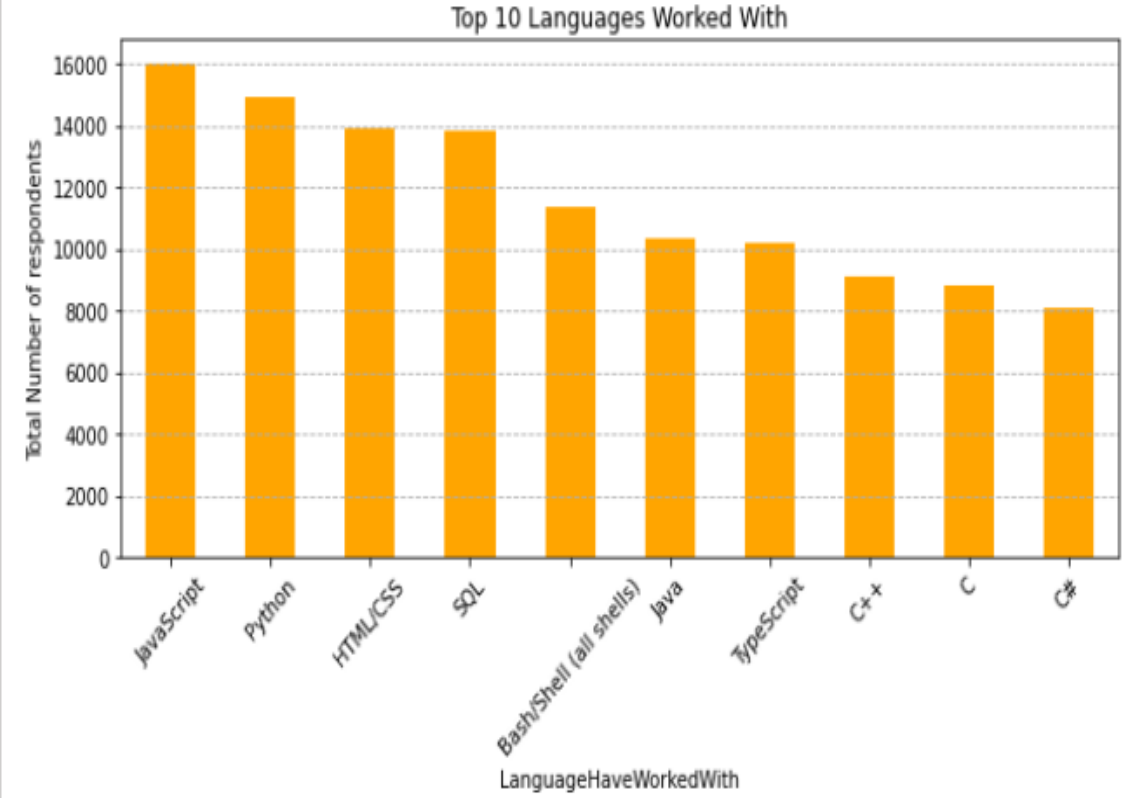


PROGRAMMING LANGUAGE TRENDS

Summarize key trends shown in the charts.

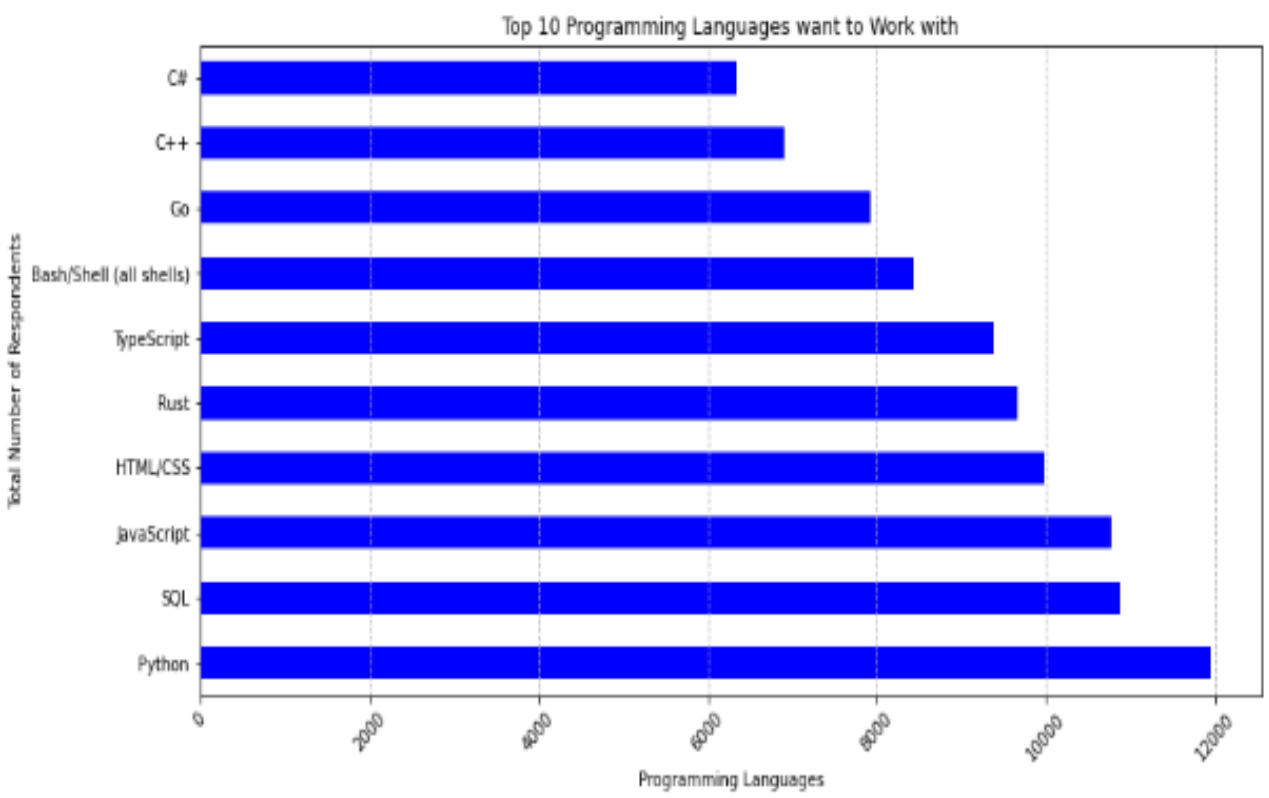
Current Year

LanguageHaveWorkedWith



Next Year

LanguageWantToWorkWith



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings:

- JavaScript is the most widely used language. Making it a clear leader. Respondents(16,000).
- Python is a Strong Second. Showing very high adoption. Respondents(15,000).
- Web technologies dominate. HTML/CSS and SQL rank in the top 4, and TypeScript also appears in the top 10. This shows strong dominance of web and data-related technologies.

Implications:

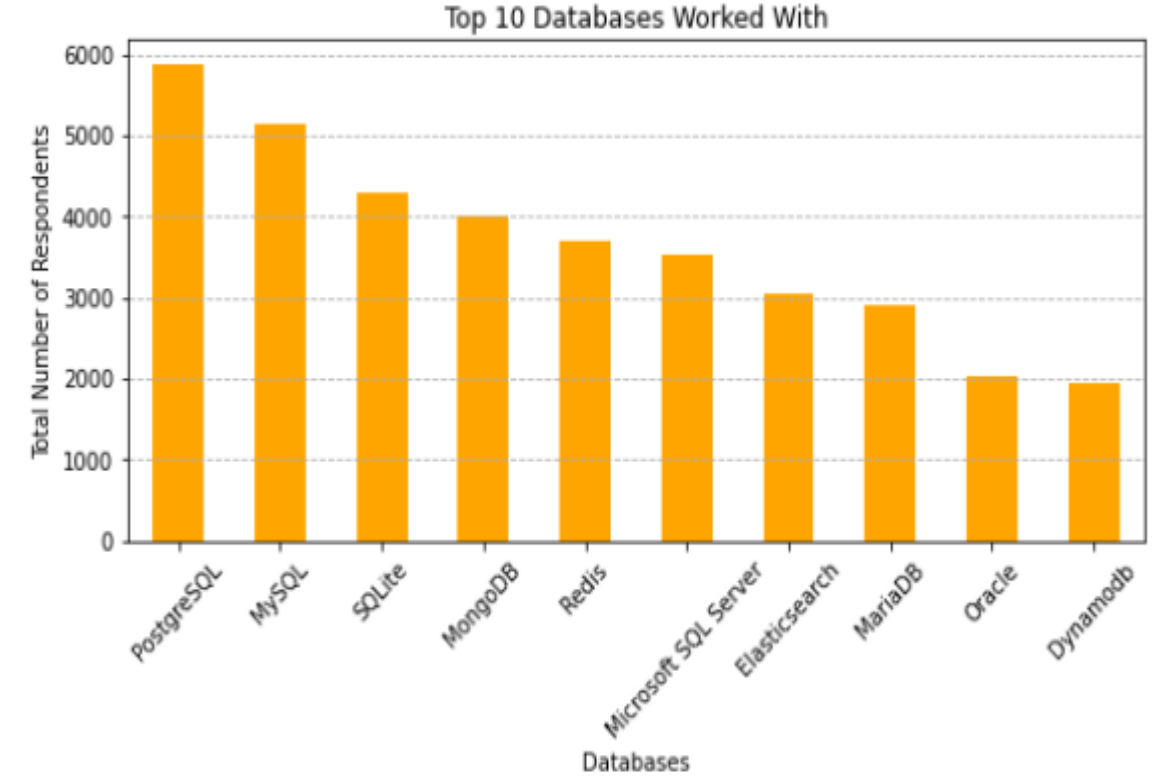
- Web Development skills are highly valuable.
- Python continues to grow across domains. Like: Data Science, Machine Learning, Automation, Backend Development.
- Full-Stack capability is a competitive advantage.
  The mix of: Frontend - (JavaScript, HTML/CSS, TypeScript) | Backend/Data - (SQL, Python) | Systems – (C++, C, C#)

DATABASE TRENDS

Summarize key trends shown in the charts.

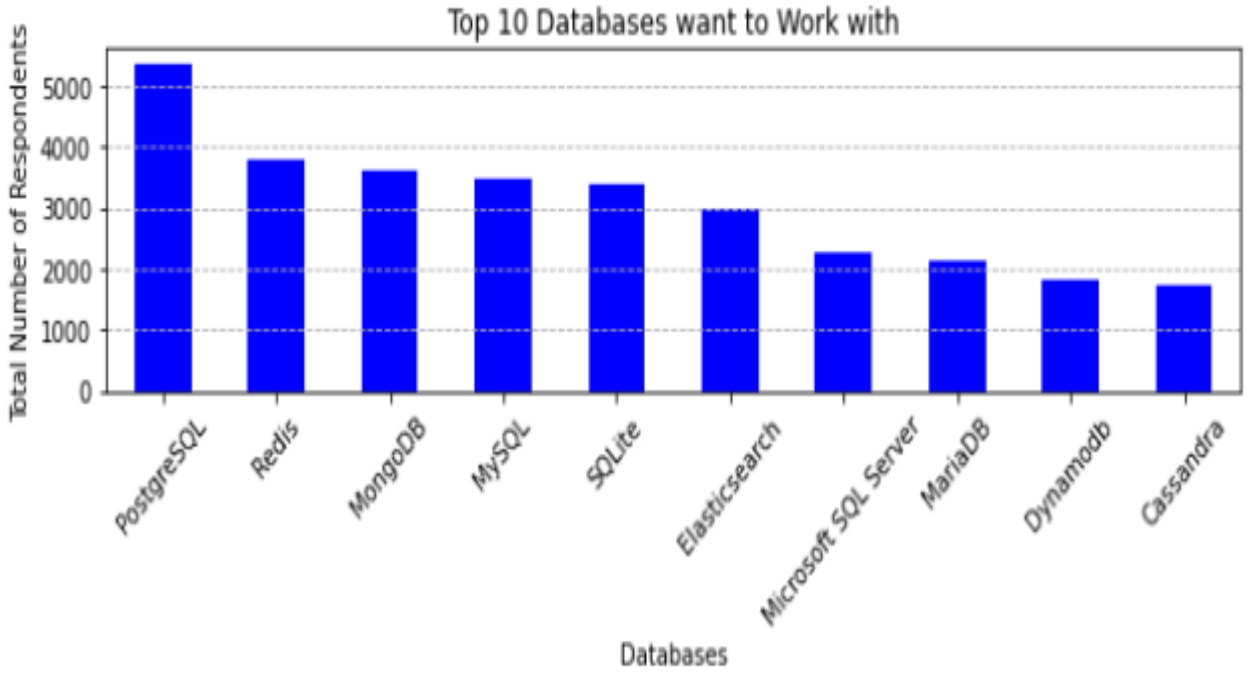
Current Year

DatabaseHaveWorkedWith



Next Year

DatabaseWantToWorkWith



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

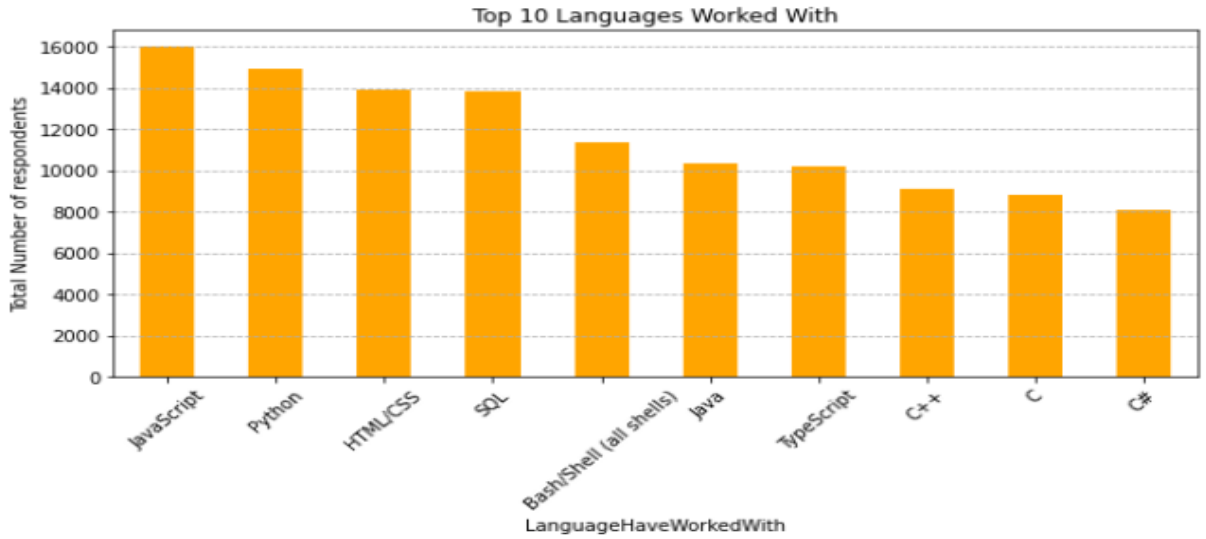
- PostgreSQL is the top choice for tech people currently working and want to work with.
- MySQL, and SQLite are the second most RDBMS choice for current users and people who want to work with it.
- Top 2 NoSQL databases people are working with and want to work with are Redis and MongoDB – Securing under top 5 in both current and want to work with data.

Implications

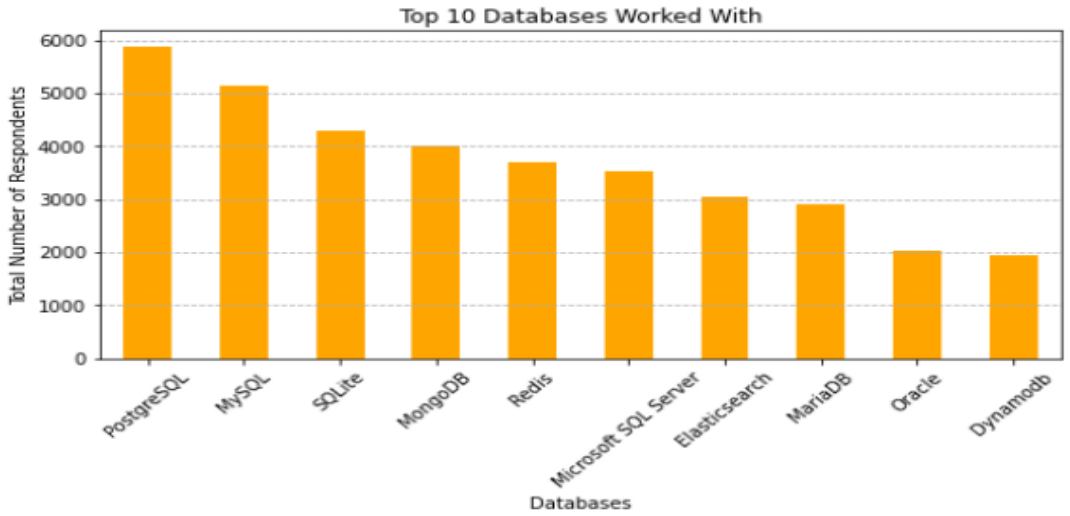
- PostgreSQL is a safe career investment.
- The rise of Redis and MongoDB suggests, Professionals may benefit from adding NoSQL skills.
- Cassandara is adding as new interest in developer community and Oracle appears to be getting faded away.

DASHBOARD TAB 1: Current Technology Usage

LanguageHaveWorkedWith

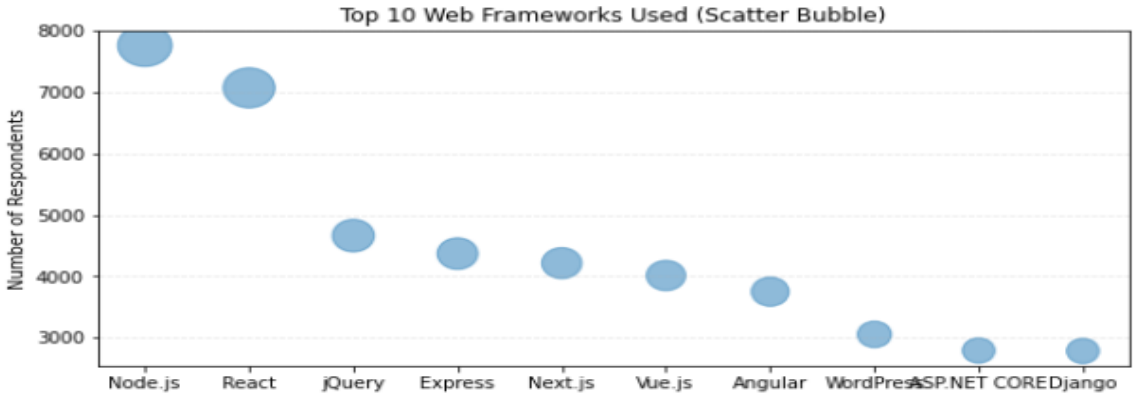


DatabaseHaveWorkedWith



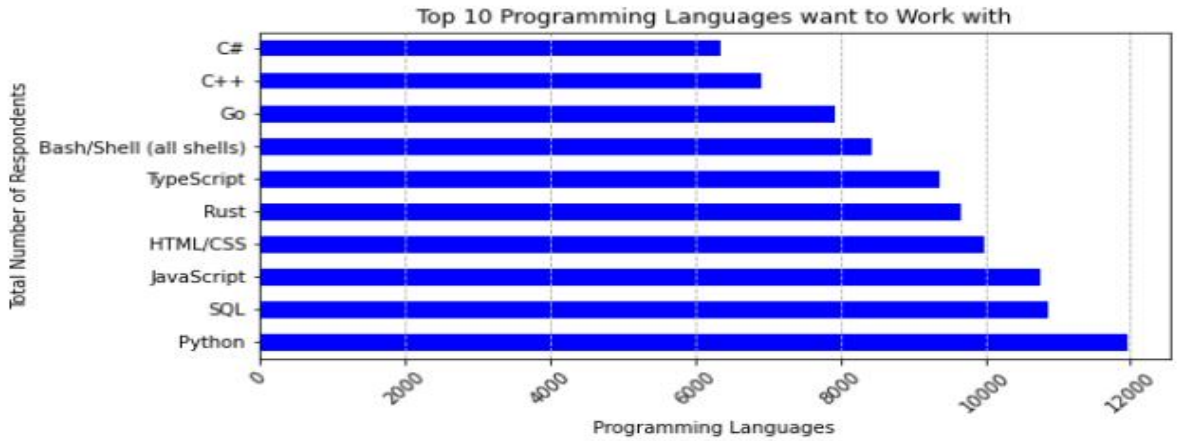
PlatformHaveWorkedWith

WebframeHaveWorkedWith

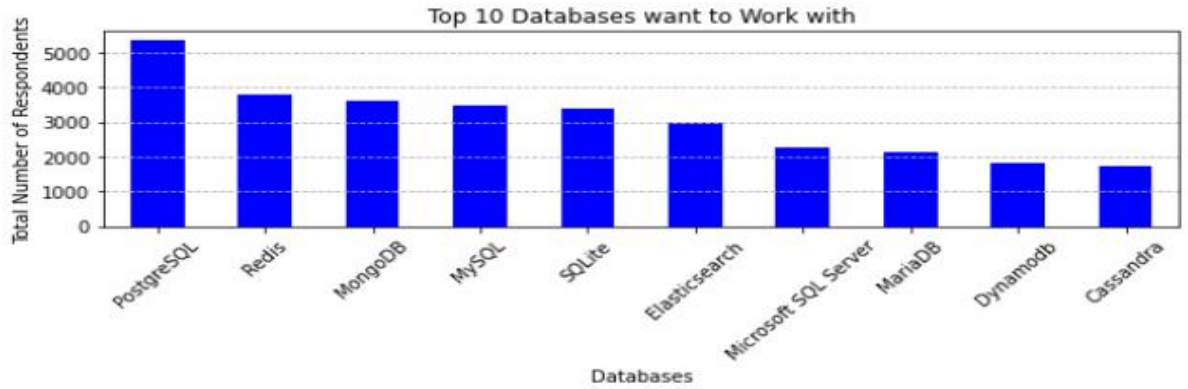


DASHBOARD TAB 2: Future Technology Trends

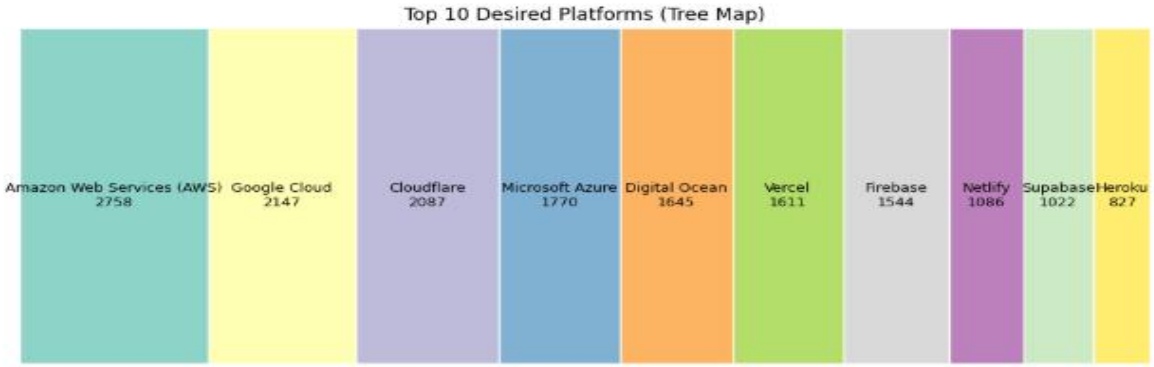
LanguageWantToWorkWith



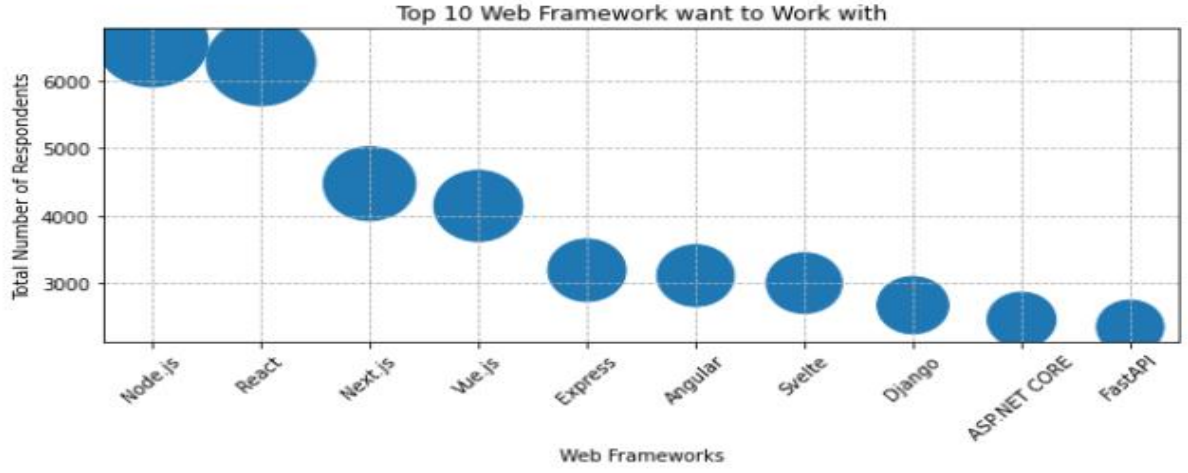
DatabaseWantToWorkWith



PlatformWantToWorkWith

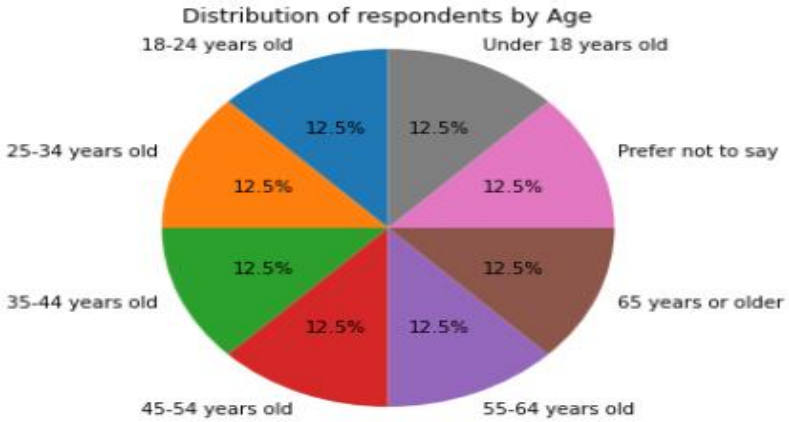


WebframeWantToWorkWith

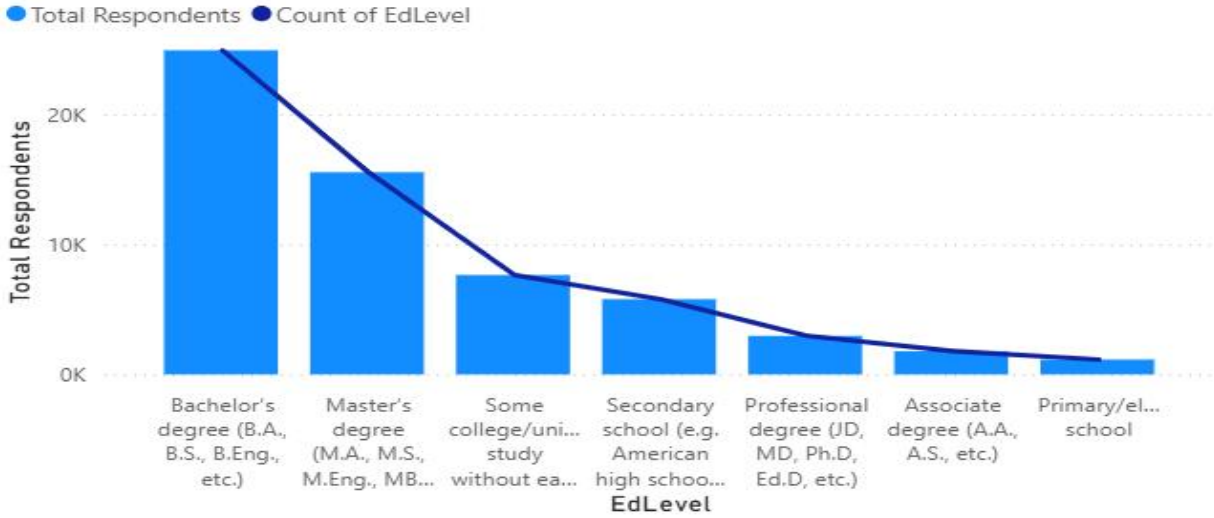


DASHBOARD TAB 3: Demographics

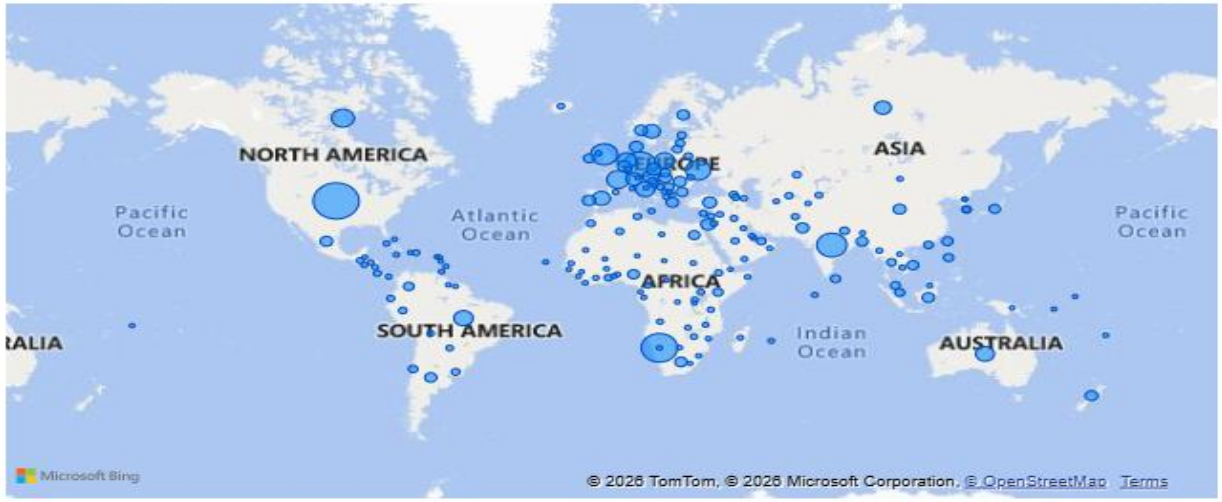
Age



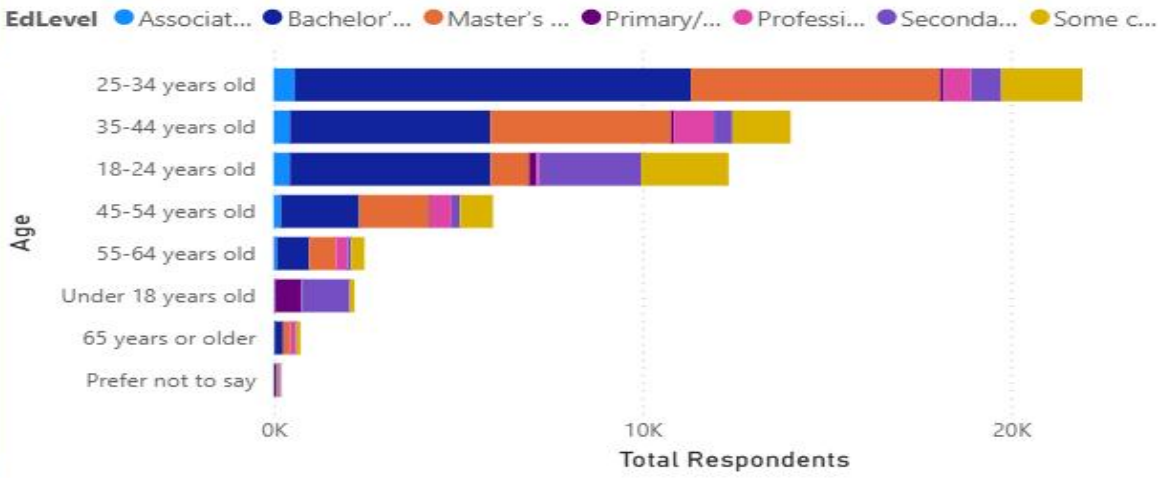
Total Respondents and Count of EdLevel by EdLevel



Total Respondents by Country



Total Respondents by Age and EdLevel



DISCUSSION

Current Technology Dashboard:

1. JavaScript and Python Dominate Programming.
2. PostgreSQL leads database usage.
3. AWS is the leading Platform.
4. Node.js and React Dominate the Web-Frameworks.

Demographics Dashboard:

1. The Respondent contribution of age groups appears to be symmetrical and equally distributed.
2. Bachelor’s degree is the top education level in the developer community.
3. Majority of developers are from European continent.
4. Mostly developers are from the age group of 25-34 years old.

Future Technology Dashboard:

1. Python and SQL is the most desired programming languages for future.
2. PostgreSQL is the top choice for future in RDBMS and Redis and MongoDB are the top choice for NoSQL Databases.
3. AWS is leading interest in platform preference.
4. Node.js and React continues to be web framework choice for the future as well.

OVERALL FINDINGS & IMPLICATIONS

Findings:

- Modern JavaScript and Python Ecosystem Dominates.
- PostgreSQL and AWS Cloud Platform lead both Present and Future.
- Developer is mid-career & Bachelor’s degree oriented.

Implications:

- Full-stack cloud skills are career-critical (JavaScript/React or Node.js, Python, PostgreSQL, AWS)
- Shift towards Rust, TypeScript, Redis and Next.js
- Companies must invest in cloud and modern database.

CONCLUSION

- The Modern Developer Stack is Clearly Defined.

  JavaScript(with React/Node.js), Python, PostgreSQL and AWS form the dominant and future-ready technology ecosystem.

- Cloud & Scalable Technologies are the Future.

  Strong interest in AWS, Redis, MongoDB and Next.js shows a shift toward cloud-native, scalable, and high-performance architectures.

- Python is Strengthening as a Strategic Skill.

  While JavaScript dominates current usage, Python leads Future preferences.

- The Tech Workforce is Experienced and Globally Distributed.

  Most developers are mid-career professionals (25-44) with formal education (primarily Bachelor’s degrees) and participations spans globally with concentration in North-America and Europe.