Technology Trends and Insights 2025

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29.08.2025

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OUTLINE

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

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EXECUTIVE SUMMARY

- **Purpose of the Report**
  - To analyze current and future technology adoption trends across programming languages, databases, and platforms.

- **Target Audience**
  - Educators, training providers, IT managers, and technology professionals.

- **Value of the Report**
  - Helps guide:
    - **Curriculum Design** (education & training focus)
    - **Hiring Strategies** (align workforce skills with demand)
    - **Technology Investments** (support future-ready decision-making)

- **Scope of Analysis**
  - Includes programming languages, databases, platforms, web frameworks, and demographics.

- **Relevance**
  - Provides industry-aligned insights that reflect both current practices and anticipated future demands.

INTRODUCTION

- **Purpose**:
  - Provide insights on current and future technology trends.

- **Audience**:
  - Educators, training providers, IT managers, and industry professionals.

- **Value**:
  - Supports curriculum design, hiring strategies, and technology investment decisions.
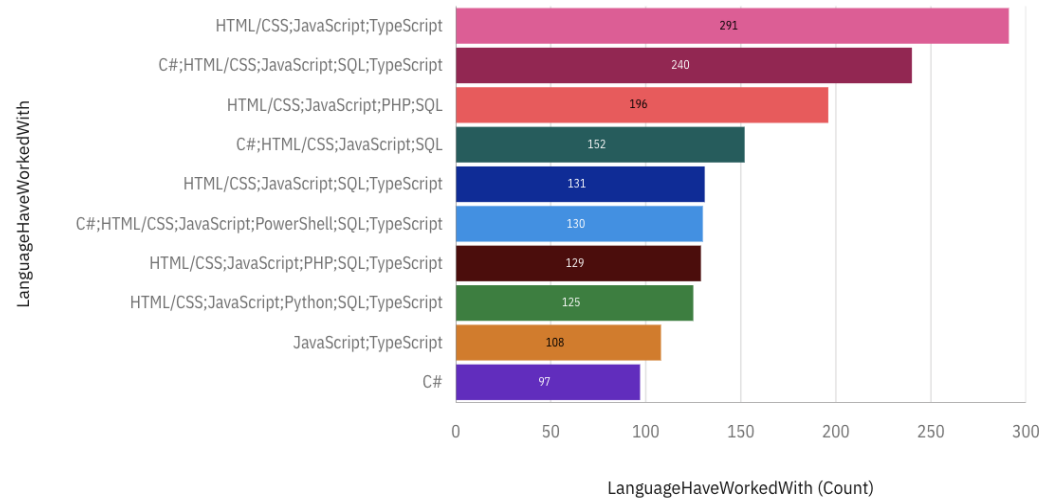
METHODOLOGY

- **Data Source**: IBM Cognos Analytics survey visualizations (developer responses)

- **Collection**: Global survey of thousands of developers (varied demographics, education levels, industries).

- **Processing**: Extracted *top 10 items* (languages, databases, platforms, frameworks), aggregated counts, cleaned and visualized in Cognos.
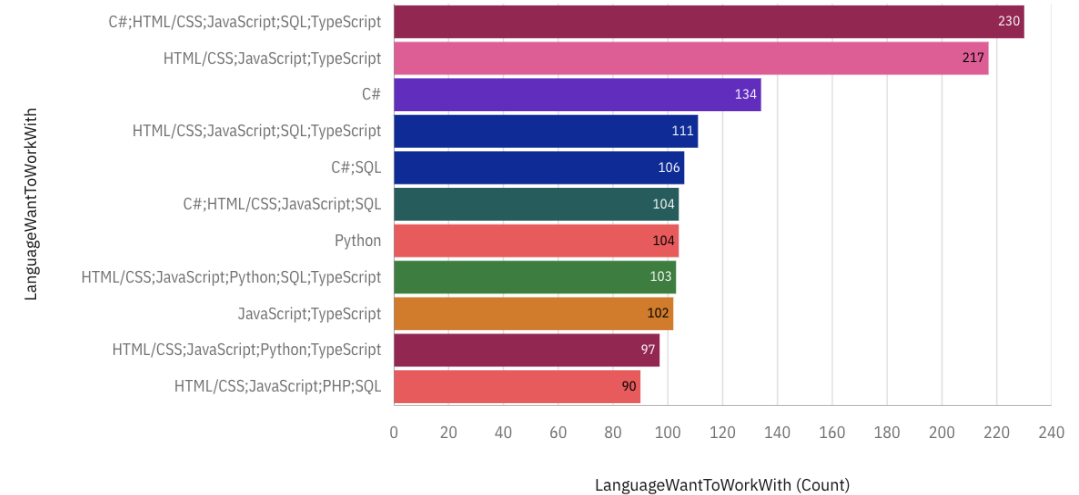
PROGRAMMING LANGUAGE TRENDS

Current Year

Next Year

Top 10 Programming Languages Respondents Worked With

LanguageHaveWorkedWith	Count
HTML/CSS;JavaScript;TypeScript	291
C#;HTML/CSS;JavaScript;SQL;TypeScript	240
HTML/CSS;JavaScript;PHP;SQL	196
C#;HTML/CSS;JavaScript;SQL	152
HTML/CSS;JavaScript;SQL;TypeScript	131
C#;HTML/CSS;JavaScript;PowerShell;SQL;TypeScript	130
HTML/CSS;JavaScript;PHP;SQL;TypeScript	129
HTML/CSS;JavaScript;Python;SQL;TypeScript	125
JavaScript;TypeScript	108
C#	97

LanguageHaveWorkedWith (Count)

Top 10 Languages Respondents Want to Work With

LanguageWantToWorkWith	Count
C#;HTML/CSS;JavaScript;SQL;TypeScript	230
HTML/CSS;JavaScript;TypeScript	217
C#	134
HTML/CSS;JavaScript;SQL;TypeScript	111
C#;SQL	106
C#;HTML/CSS;JavaScript;SQL	104
Python	104
HTML/CSS;JavaScript;Python;SQL;TypeScript	103
JavaScript;TypeScript	102
HTML/CSS;JavaScript;Python;TypeScript	97
HTML/CSS;JavaScript;PHP;SQL	90

LanguageWantToWorkWith (Count)

JavaScript dominates now; Python & C# gain traction for future projects.

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PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

1. Python shows significant future interest across developers.

2. C# continues to rank highly in demand for future projects.

3. JavaScript and TypeScript remain top choices for developers' future work.

Implications

Organizations should invest in **AI, data science, and automation skills**, as Python will remain central to innovation.

Enterprises will maintain strong reliance on **C# for large-scale business and enterprise applications**, ensuring its long-term relevance.

The **web ecosystem will stay dominant**, making modern web development skills indispensable for developers.

DATABASE TRENDS

Current Year

Next Year

Top 10 Databases Respondents Worked With

Top 10 Databases Respondents Want to Work With
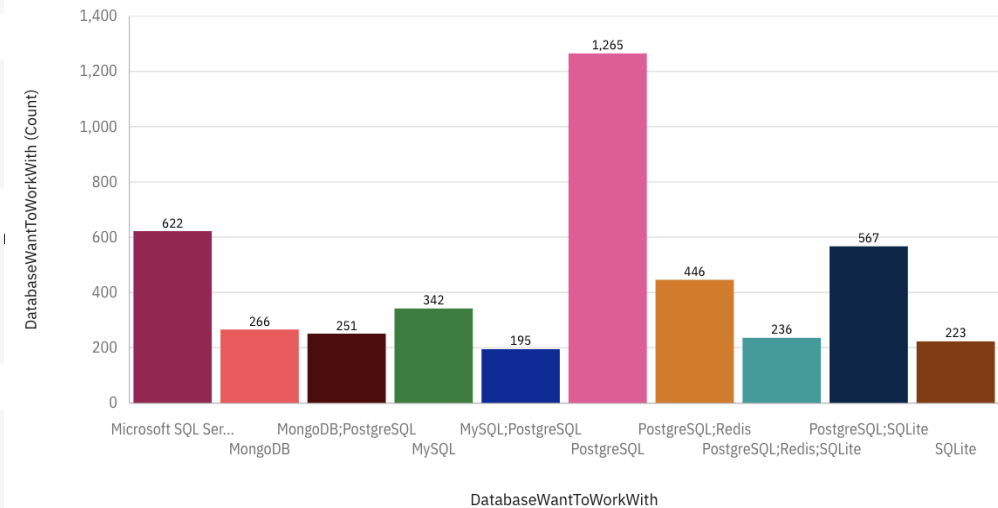
PostgreSQL and MySQL dominate both current and future trends.

DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

1. PostgreSQL and MySQL are among the most widely used databases.

2. MongoDB has strong adoption alongside relational databases.

3. Microsoft SQL Server remains a key enterprise database.

Implications

Developers and companies continue to rely on **relational databases** as the backbone of modern applications, making SQL skills essential.

The growth of **NoSQL solutions** reflects the demand for flexible, scalable databases that support modern web and cloud applications.

Enterprises with legacy systems and corporate IT infrastructure will continue to value **SQL Server expertise**, ensuring its relevance in the corporate world.

DASHBOARD

See the Story Behind the **Data**

DASHBOARD TAB 1 – CURRENT TECHNOLOGY USAGE

Current Technology Usage

DASHBOARD TAB 2 – FUTURE TECHNOLOGY TREND
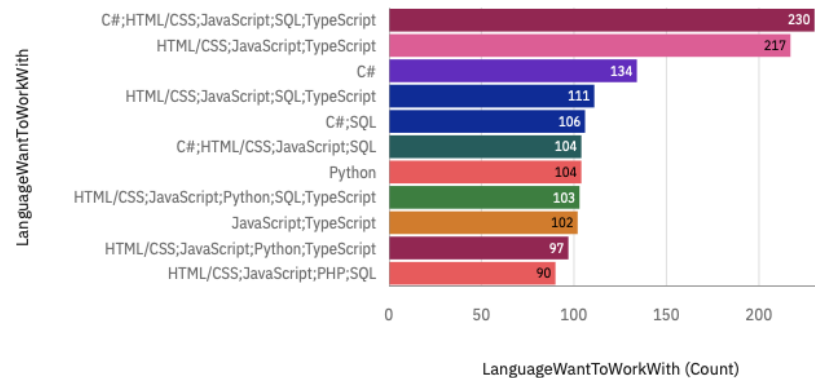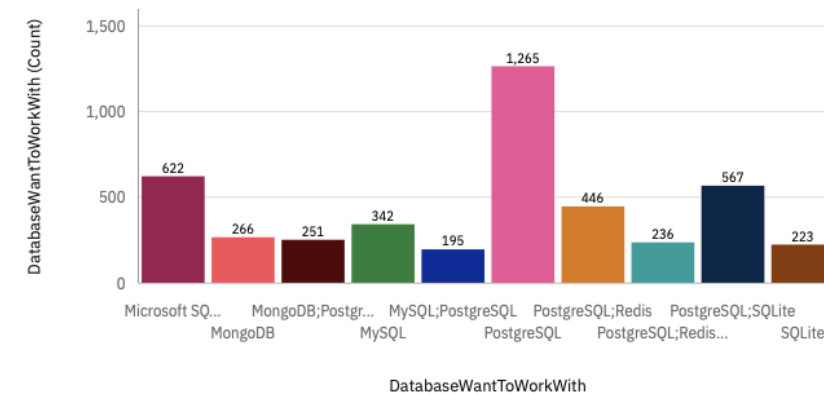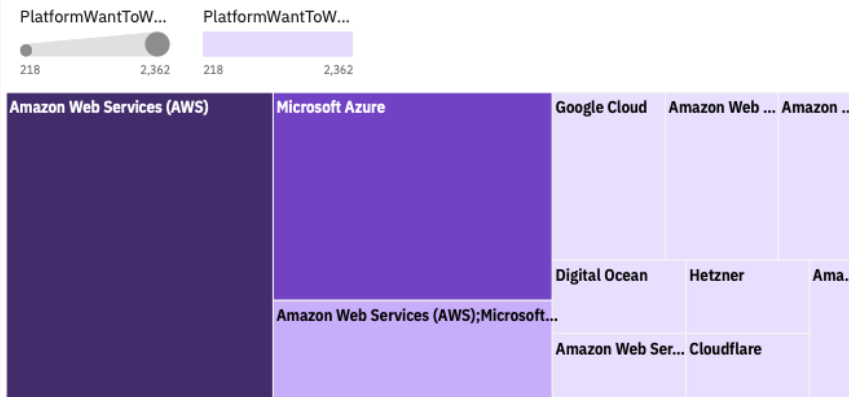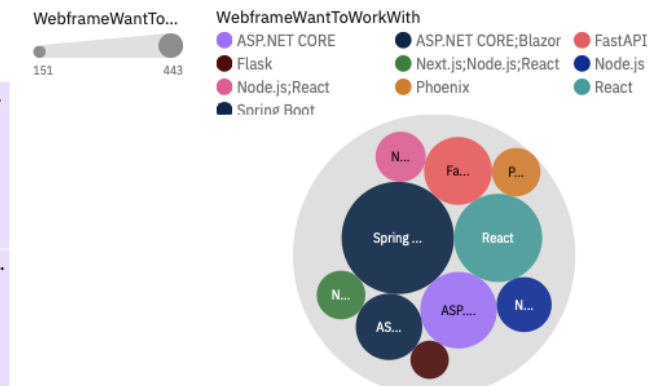
DASHBOARD TAB 3 - DEMOGRAPHICS
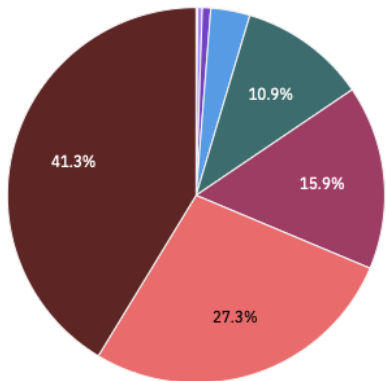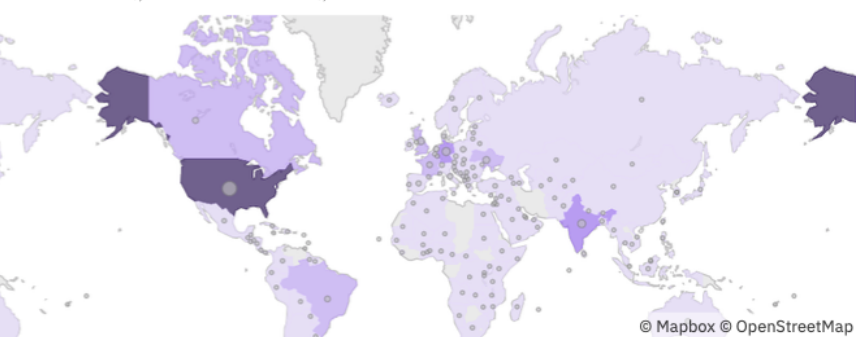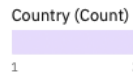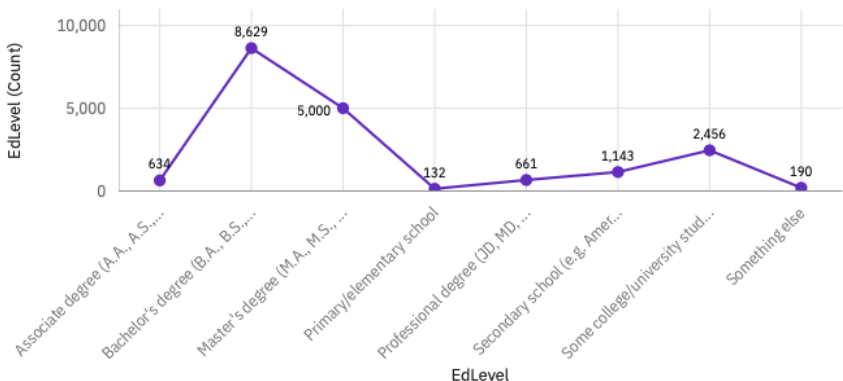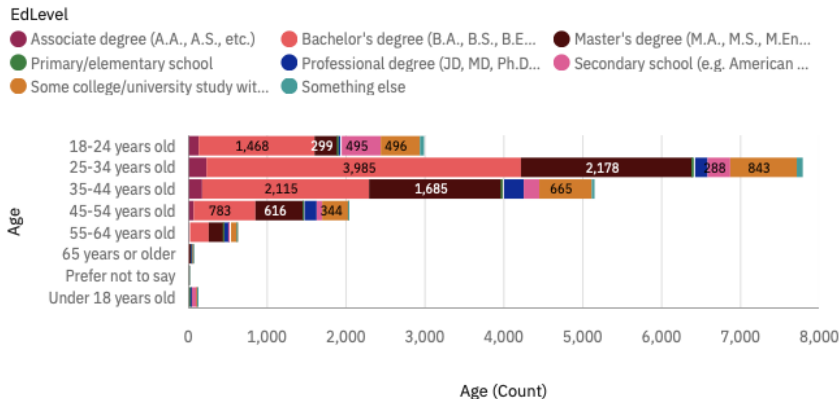
DISCUSSION

Current Usage

- Web development dominates with **JavaScript, HTML/CSS, and SQL** at the core.

- Relational databases (PostgreSQL, MySQL, SQL Server) remain the foundation.

- Cloud platforms (AWS, Azure, Google Cloud) are deeply embedded in current practice.

Future Trends

- **Python** and **C#** emerge as top growth languages, pointing to AI/data and enterprise adoption.

- **PostgreSQL** is set to expand further, confirming its reputation as the "all-rounder" database.

- Developers want broader exposure to **multi-cloud platforms**

Demographics

- Majority of developers are **18–34 years old**, early in their careers.

- **Bachelor's degree** is the most common education level, showing a strong academic foundation.

- Respondents are globally distributed, with high participation from **North America, Europe, and Asia**.

OVERALL FINDINGS & IMPLICATIONS

Findings

1. Web technologies (JavaScript, HTML/CSS, TypeScript) remain dominant in current usage.

2. Python and C# show strong future interest, reflecting AI/data and enterprise application demand.

3. PostgreSQL emerges as the most in-demand database, with MongoDB and SQL Server also critical.

Implications

Companies should continue to build strong foundations in **web development skills**, as they form the backbone of digital products and services.

Organizations must **invest in training and recruitment** for these areas to stay competitive in AI innovation and enterprise systems.

Developers need **hybrid expertise** across relational and NoSQL databases to support diverse application requirements in modern environments.

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CONCLUSION

- **Web development remains the core technology skill**, with JavaScript and related languages leading the market.

- **AI and enterprise applications are driving future demand**, making Python and C# critical skills for developers.

- **PostgreSQL is becoming the database of choice**, with strong demand for both SQL and NoSQL knowledge.

- **Cloud adoption is universal**, with AWS, Azure, and Google Cloud central to technology strategies.

- **Demographics show a young, highly educated developer community**, ensuring rapid adoption of new technologies.
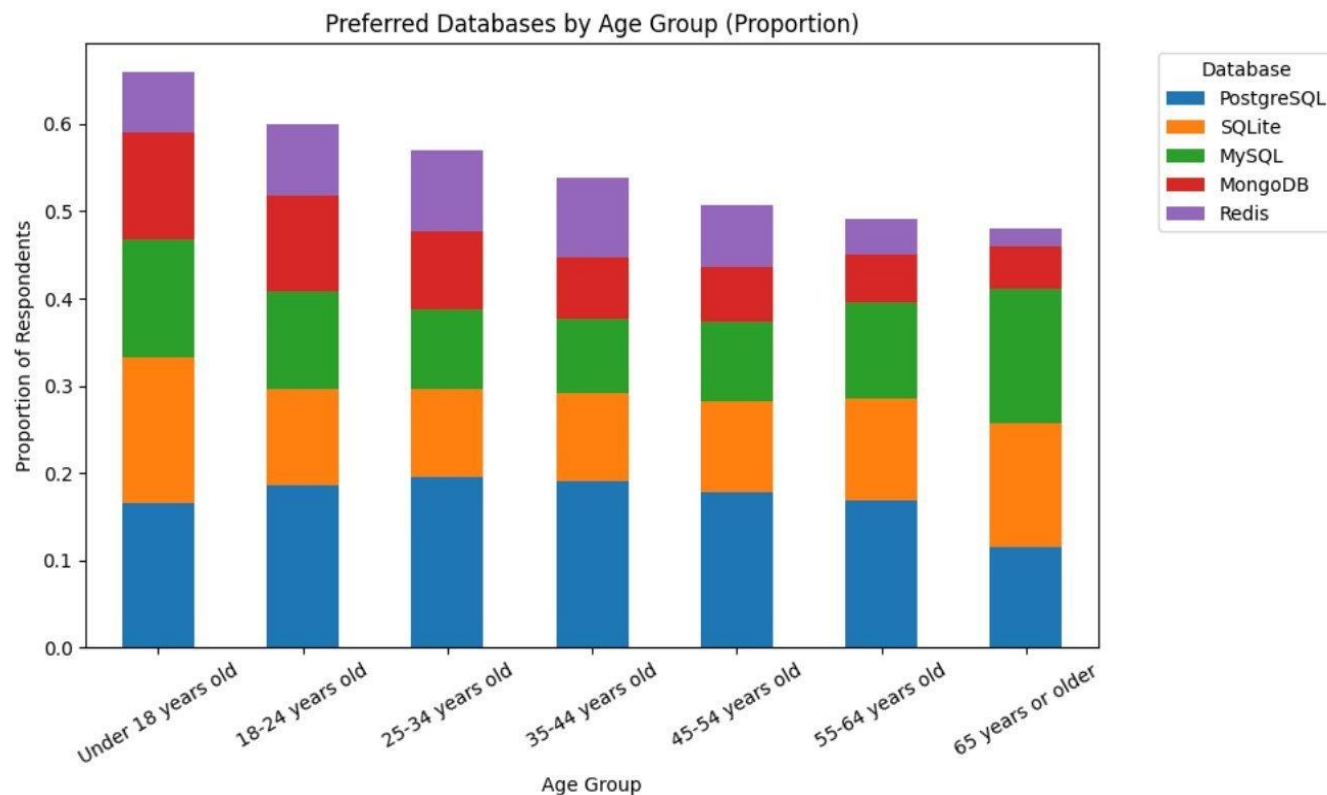
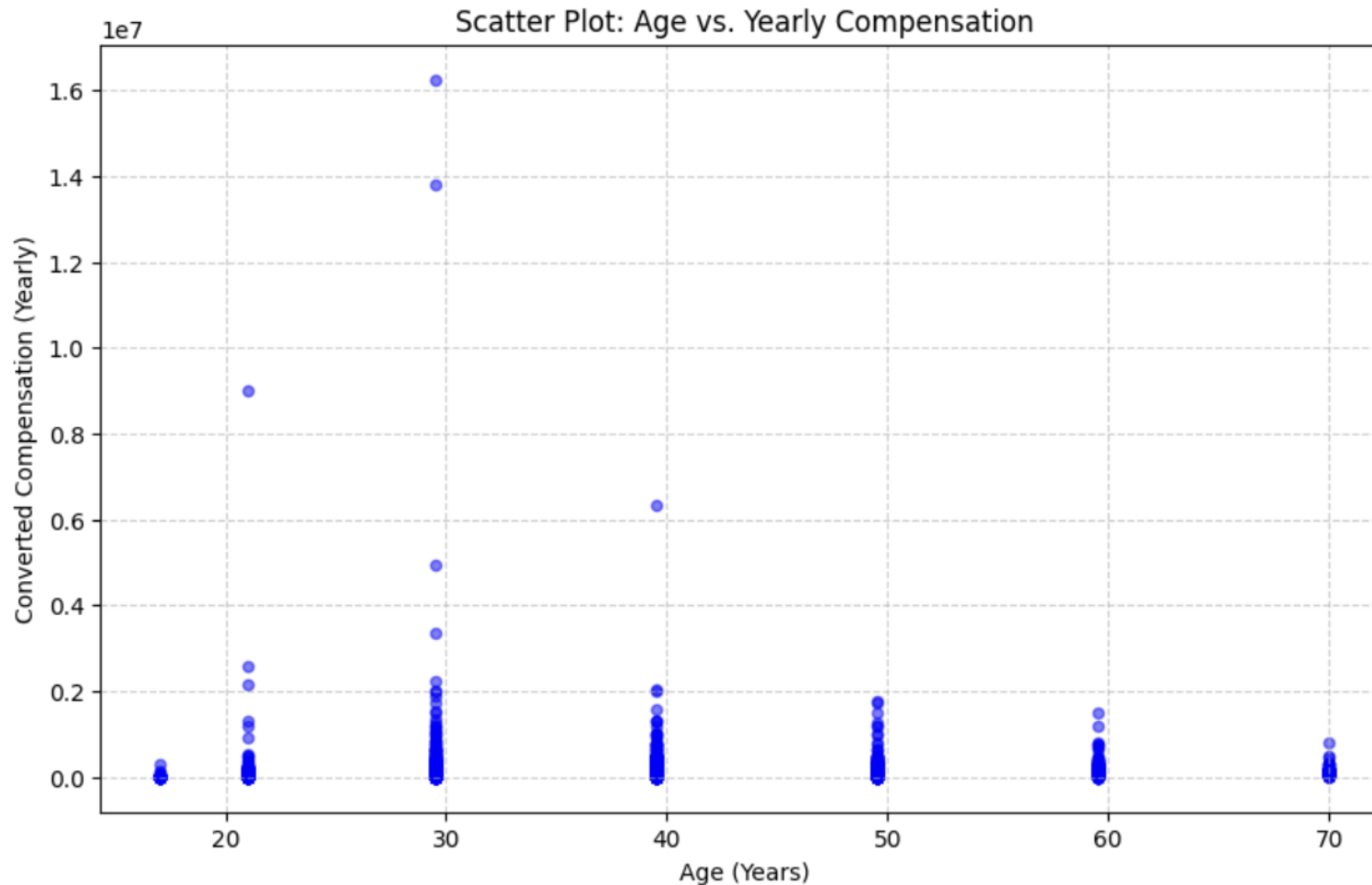# APPENDIX - Other Charts created during the Analysis

- Preferred Databases by Age

- Scatter Plot (Age vs Yearly Compensation)
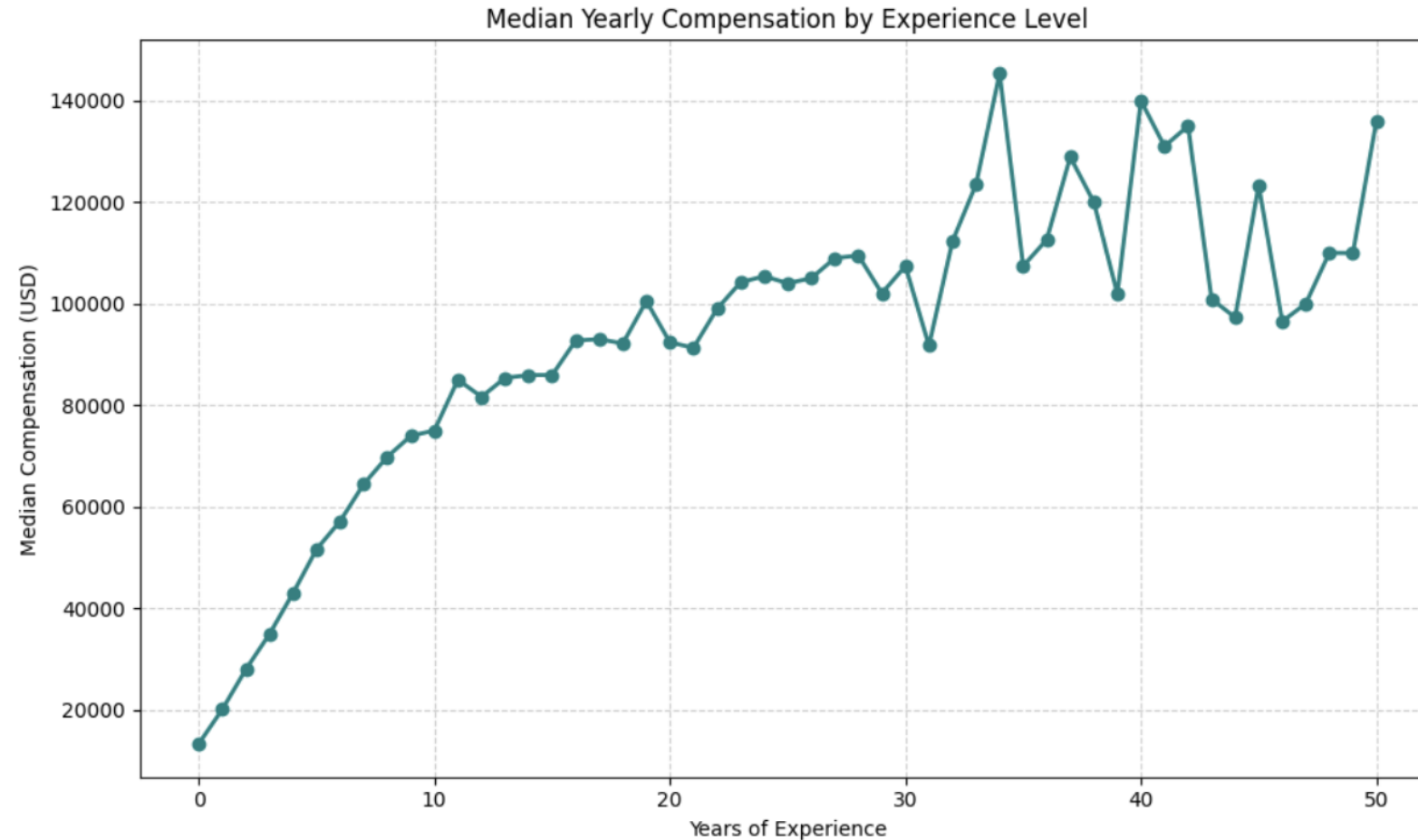
- Line Chart (Compensation by Experience)

Preferred Databases by Age Group

Preferred Databases by Age Group (Proportion)

Age vs. Yearly Compensation

Scatter Plot: Age vs. Yearly Compensation

Yearly Compensation by Experience level

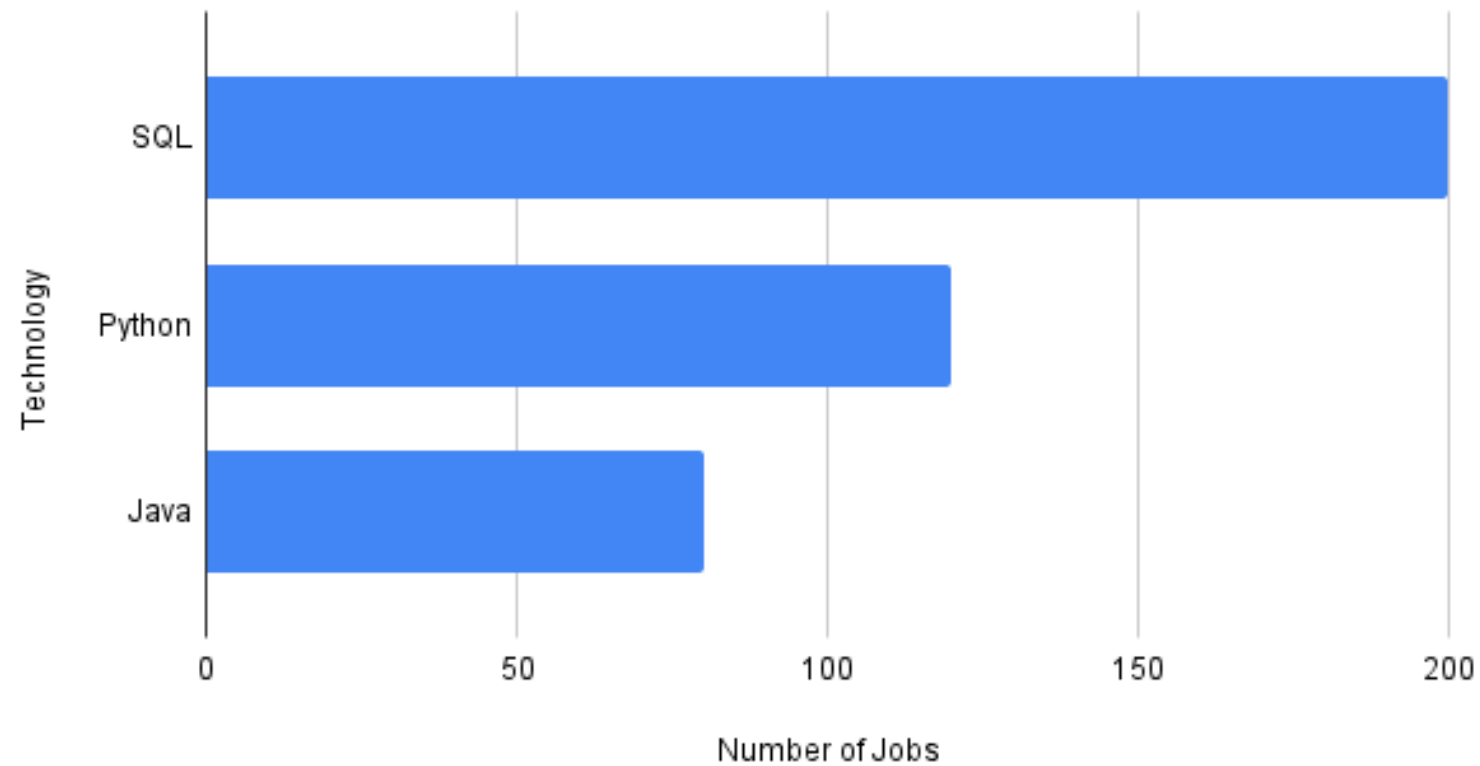Median Yearly Compensation by Experience Level

JOB POSTINGS
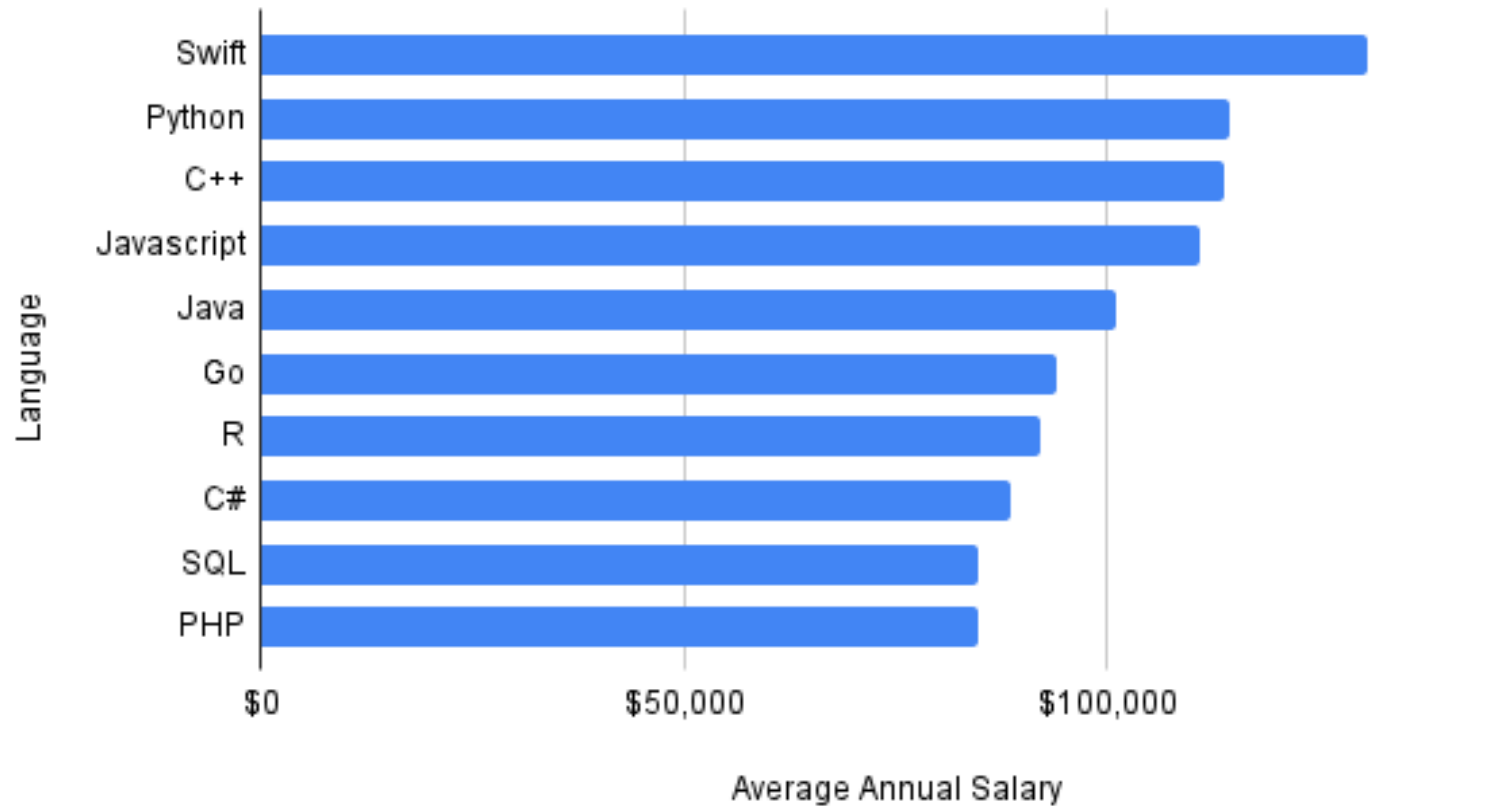

JOB POSTINGS – Number of Jobs vs. Technology

POPULAR LANGUAGES

Popular-languages - Average Annual Salary vs. Language

1. "Three Pillars" Framework (Web + AI + Enterprise)
- Synthesizes programming language trends into a **strategic model** for future demand.

2. Findings + Implications Approach
- Every result is paired with a **real-world implication**, turning raw data into **actionable insights**.

3. Demographics Linked to Technology Trends
- Age and education data were tied to technology adoption, showing **why certain skills are rising**.

4. Engaging Narrative Flow
- Catchy section dividers (e.g., *"From Data to Insights: Dashboards"*) improve readability and keep the report engaging.

5. Clear Takeaways at Each Stage
- Each major section ends with a **summary message**, ensuring coherent progression toward the overall conclusions.