

Data Analyst Final Project

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OUTLINE



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- Methodology
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EXECUTIVE SUMMARY



- JavaScript and SQL are the most widely used languages, reflecting current demand in both web development and data-related roles.
- Traditional relational databases like PostgreSQL still dominate, with growing adoption of NoSQL solutions like MongoDB.
 - MySQL and PostgreSQL are common in open-source environments.
- The developer population skews younger, indicating tech is a fast-growing field among youth.
- There's a clear correlation between age and education level, helping us understand how learning paths evolve over time.
- High respondent count from countries like USA, India, Germany, Canada, Ukraine and Brazil



INTRODUCTION



- Purpose:
 - To analyze current and future trends in technology usage among developers.
- Target Audience:
 - Industry analysts, tech educators, recruiters, and decision-makers in tech companies.
- Value:
 - Helps identify skills in demand, align educational programs, and guide hiring and investment decisions.



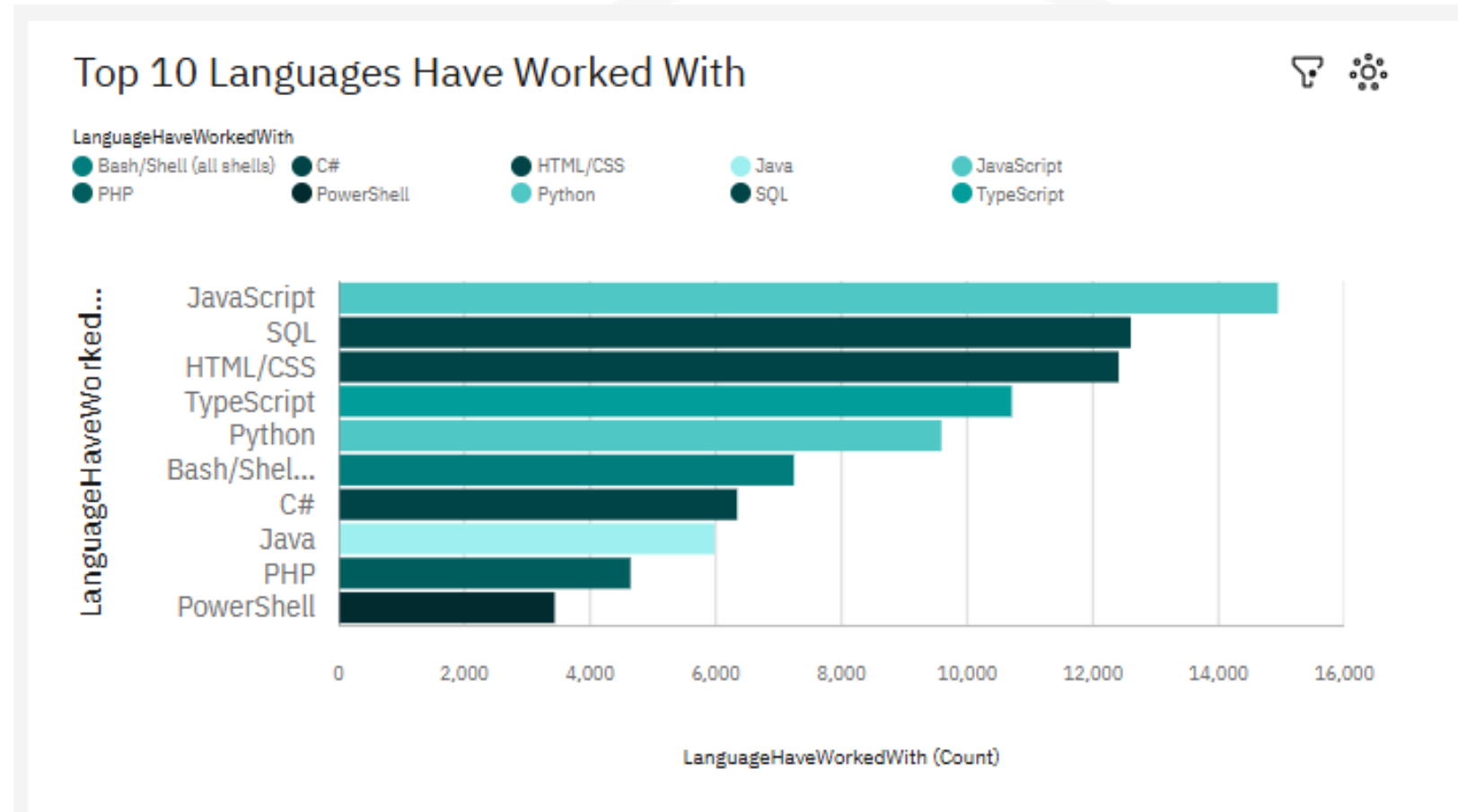
METHODOLOGY



- Data Sources:
 - survey_data_updated.csv
- Collection Methods:
 - Data is originally sourced from a developer survey (Stack Overflow Developer Survey).
- Wrangling Steps:
 - Cleaned the data by removing duplicates and null values
 - Aggregated top responses using COUNT.
 - Exploded multi-select fields (e.g., languages, platforms) into one row per value.
 - Visualized using IBM Cognos dashboards.



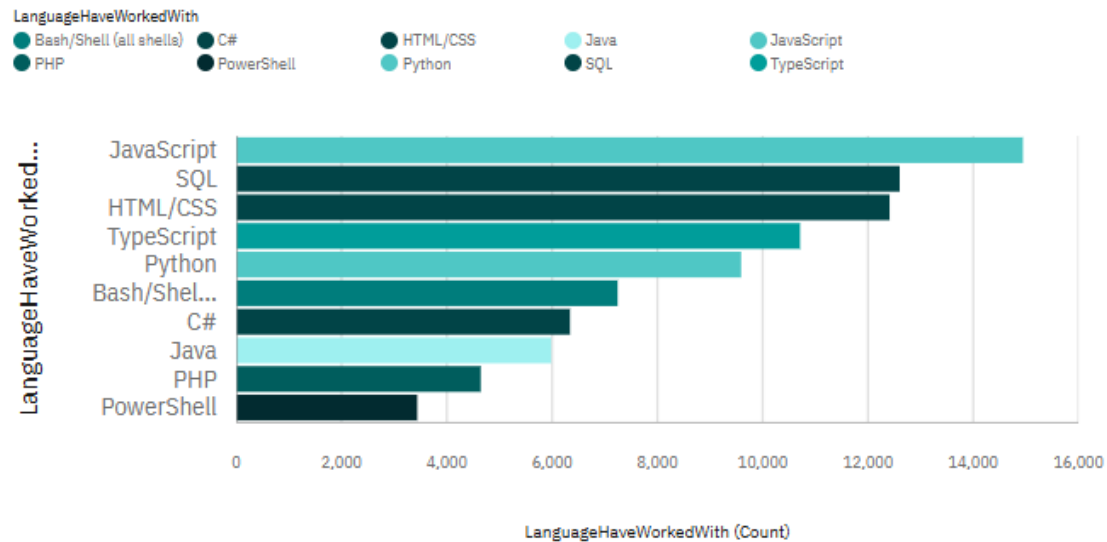
RESULTS



PROGRAMMING LANGUAGE TRENDS

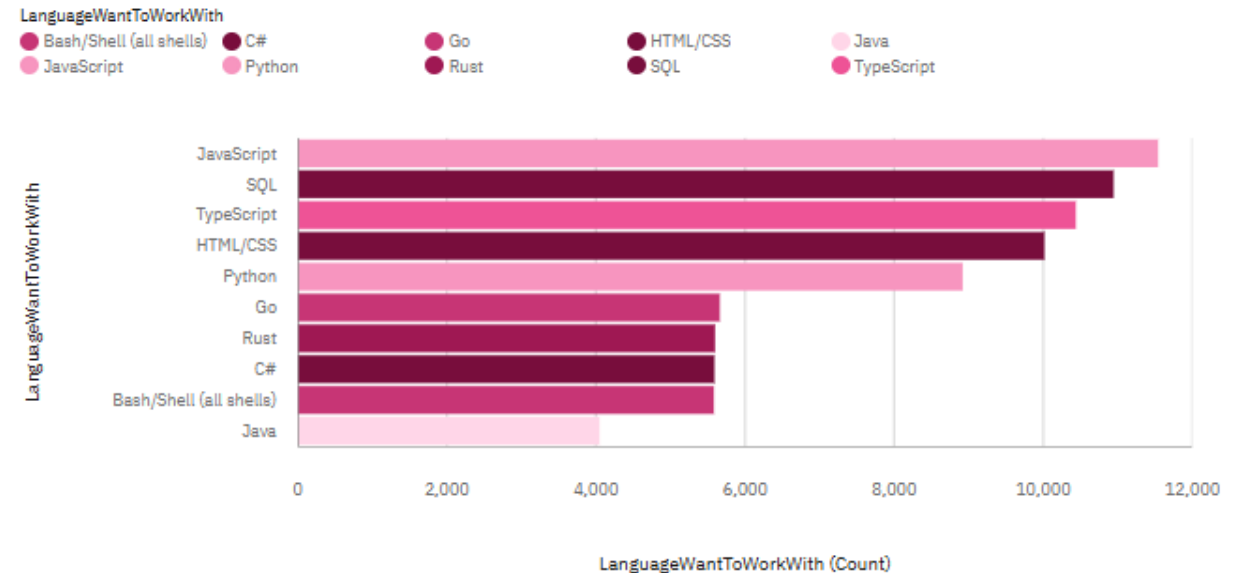
Current Year

Top 10 Languages Have Worked With



Next Year

Top 10 Languages People Want to Work With



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript, HTML/CSS and SQL are most commonly used.
- Languages like Go, Rust, and TypeScript show increasing interest.

Implications

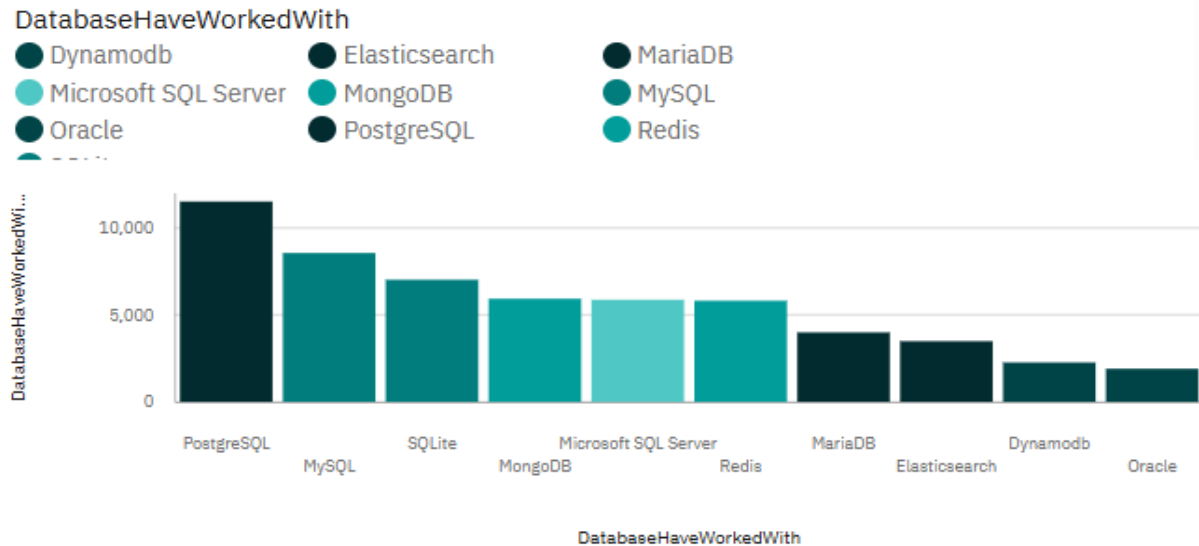
- These languages are essential for full-stack, data, and backend roles.
- These might become industry standards in the near future.

DATABASE TRENDS

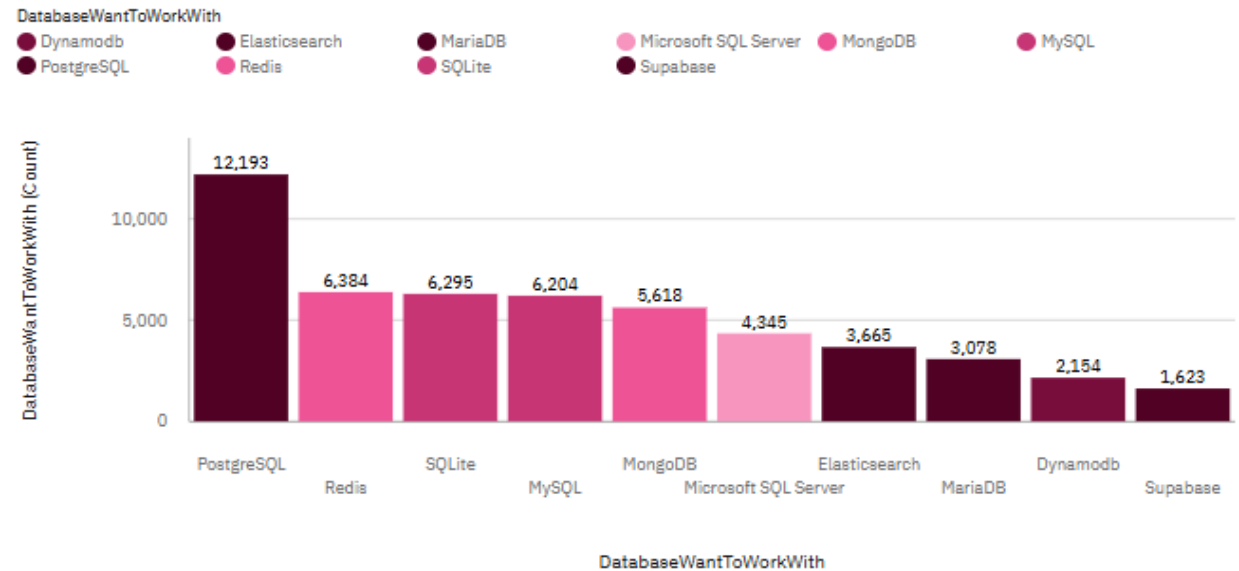
Current Year

Next Year

Top 10 Databases People Have Worked With



Top 10 Databases People Want to Work With



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- PostgreSQL and MySQL lead traditional relational DB.
- Redis and SQLite show strong interest alongside MySQL.

Implications

- Strong demand remains for relational DB knowledge.
- NoSQL systems are gaining momentum.



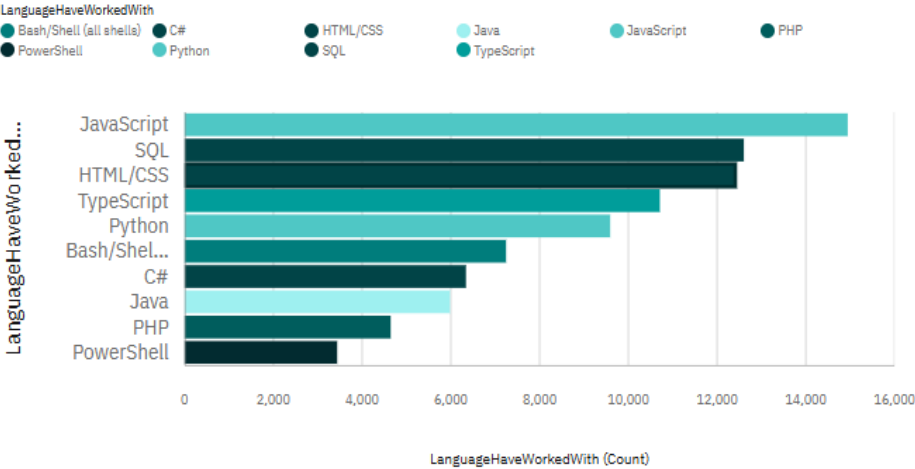
DASHBOARD



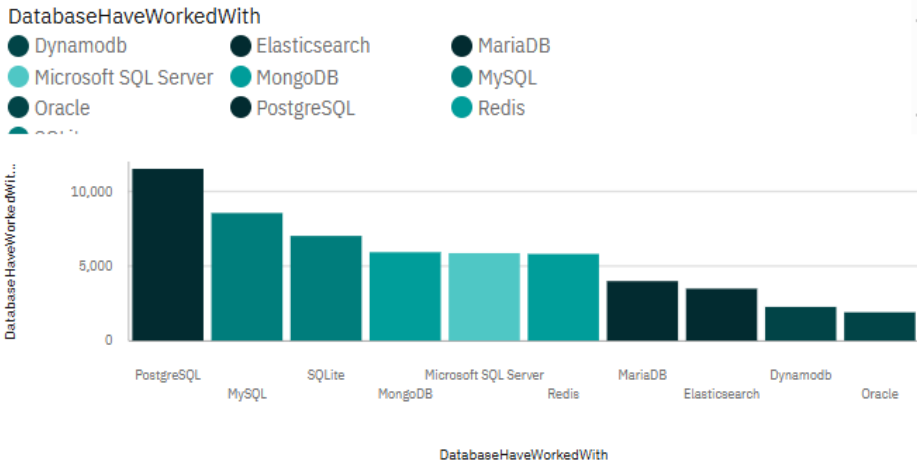
[View GitHub Dashboard](#)

DASHBOARD TAB 1

Top 10 Languages Have Worked With



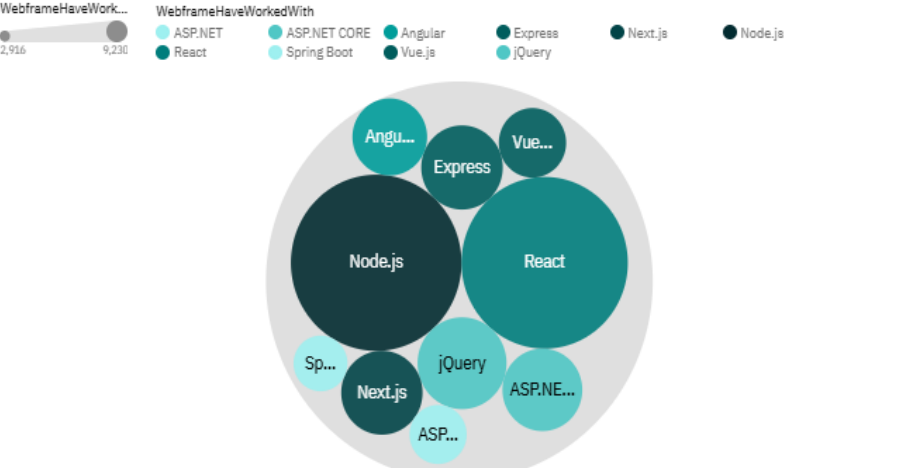
Top 10 Databases People Have Worked With



Top 10 Platforms People Have Worked With

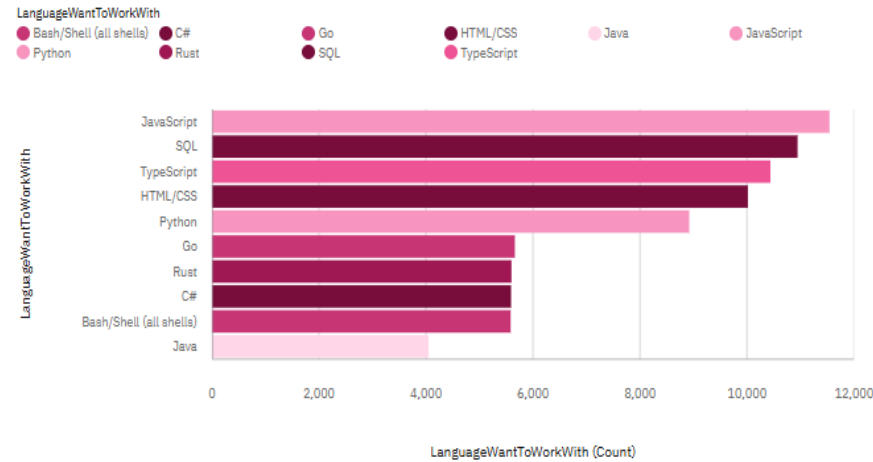


Top 10 Web Frameworks People Have Worked With

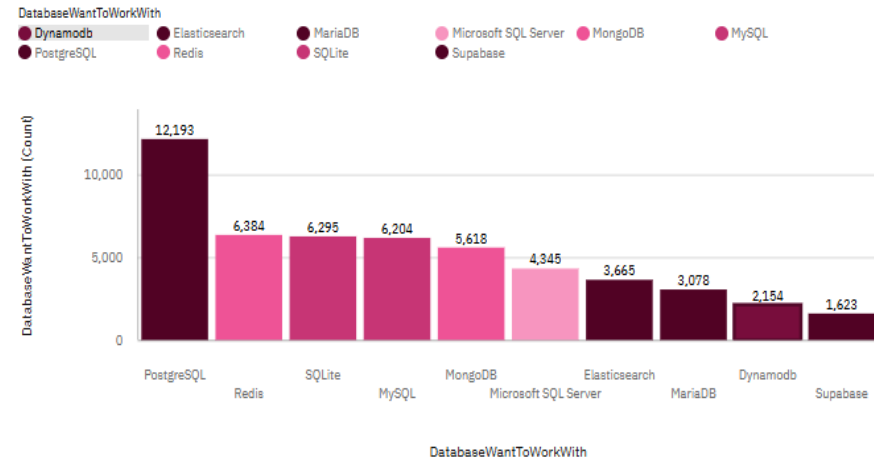


DASHBOARD TAB 2

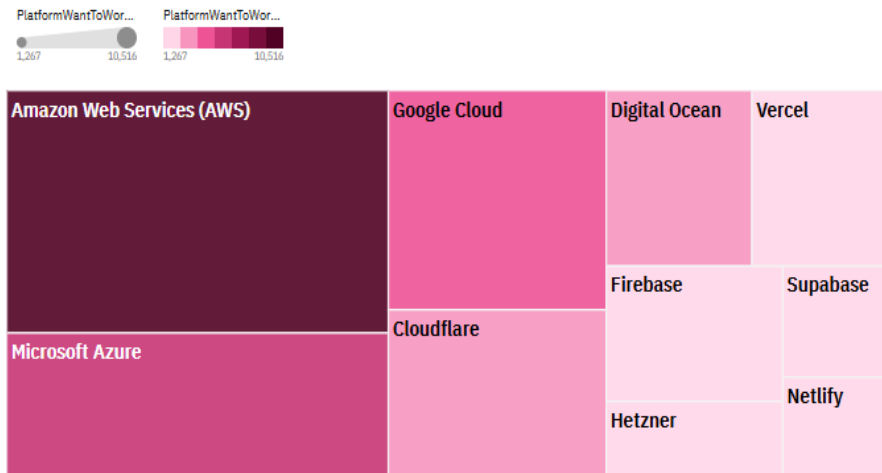
Top 10 Languages People Want to Work With



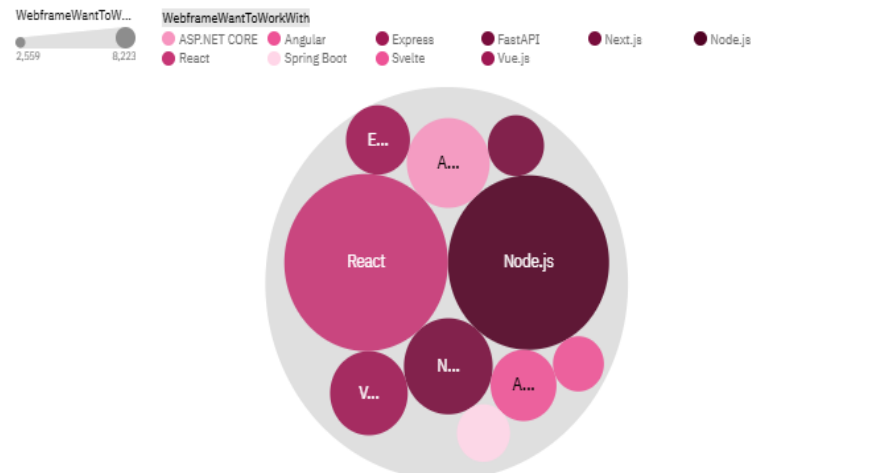
Top 10 Databases People Want to Work With



Top 10 Platforms People Want to Work With



Top 10 Web Frameworks People Want to Work With



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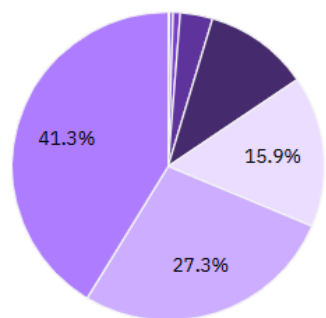


DASHBOARD TAB 3

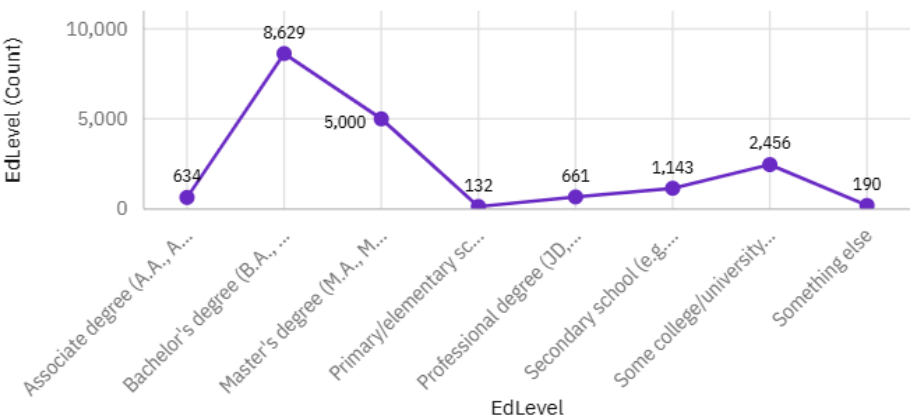
Respondent Distribution by Age

Age

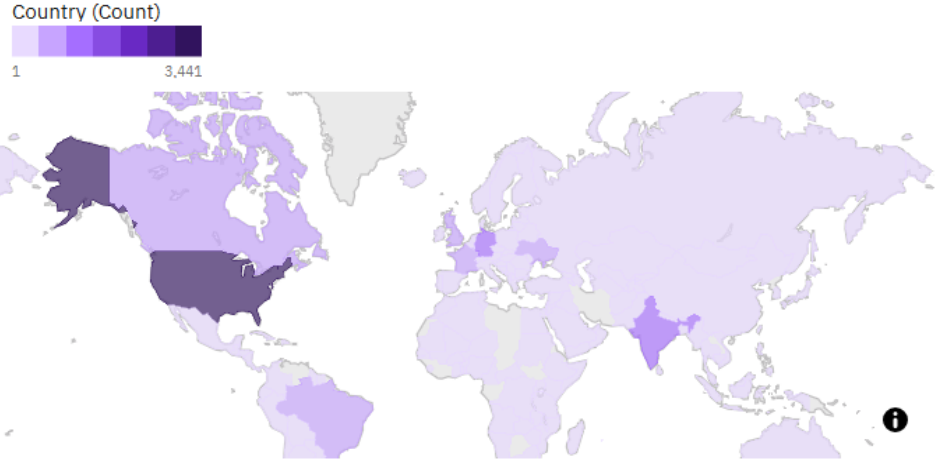
- Prefer not to say
- 65 years or older
- Under 18 years old
- 55-64 years old
- 45-54 years old
- 18-24 years old
- 35-44 years old
- 25-34 years old



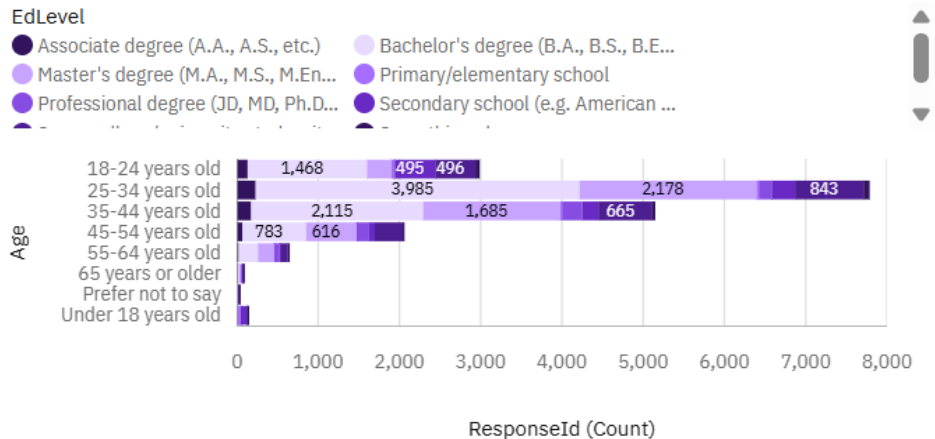
Formal Education Distribution



Respondent Count by Country



ResponseId by Age colored by EdLevel



DISCUSSION



- **Most used tech vs most desired tech** show a potential skills gap.
- **Platform preferences** indicate growth in cross-platform frameworks.
- **Demographics:** Younger developers (25-34) dominate; formal education varies, showing industry inclusivity.



OVERALL FINDINGS & IMPLICATIONS

Findings

- Currently HTML/CSS, JavaScript, and SQL dominate which are vital for backend, data, and web roles, but rising interest in Go, Rust, and TypeScript may shape future industry standards.
- Currently PostgreSQL and MySQL are widely used – demand for relational DB skills is strong, but MongoDB and Firebase gaining traction
- Demographics show a young, diverse talent pool

Implications

- Developers must keep up with newer languages like Go and Rust to stay competitive.
- Relational databases remain relevant, but NoSQL knowledge is becoming more valuable indicating shift toward flexible NoSQL systems.
- The tech industry is welcoming a broader range of educational backgrounds, signaling greater inclusivity.



CONCLUSION



- A noticeable gap exists between current skills and desired technologies, like Go, Rust.
- Cross-platform frameworks are gaining popularity, indicating a shift in development strategies.
- The tech workforce is predominantly young and educationally diverse.
- Industry inclusivity is on the rise, welcoming varied backgrounds.

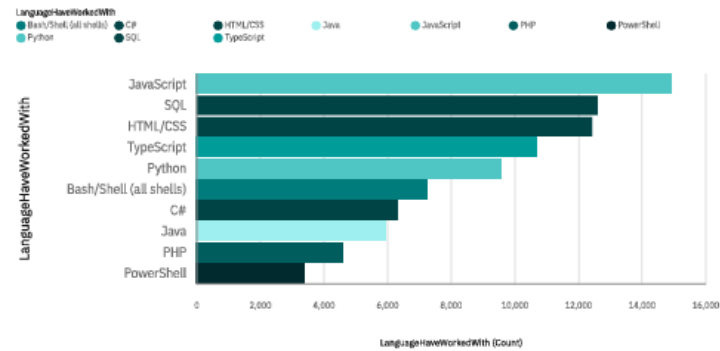


APPENDIX

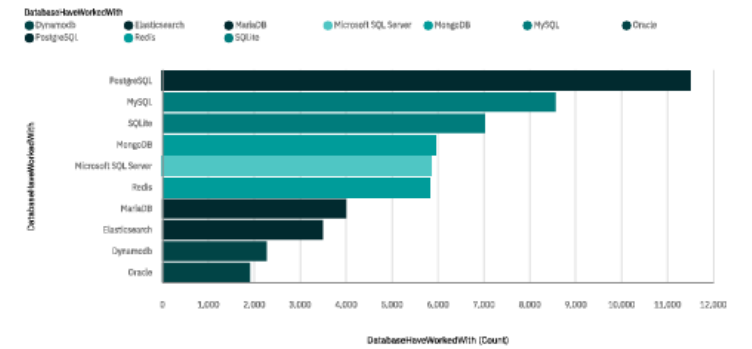


Current Technology Usage

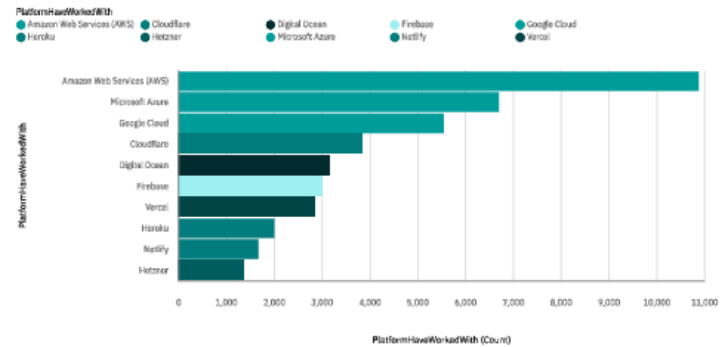
Top 10 Languages Have Worked With



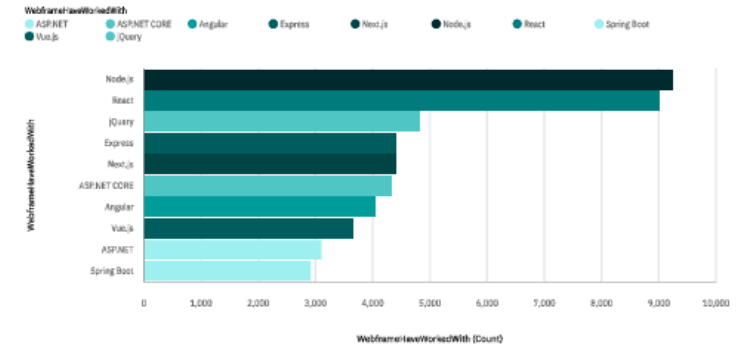
Top 10 Databases Have Worked With

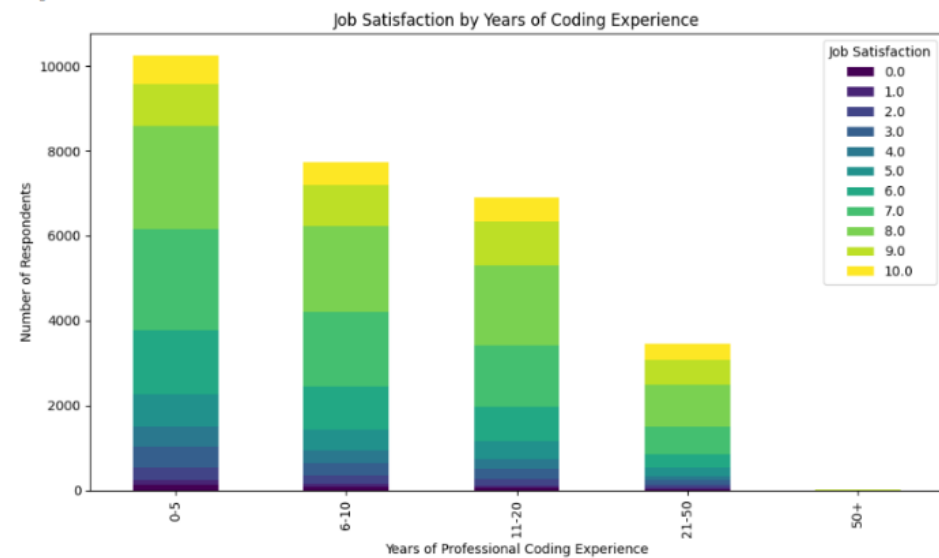
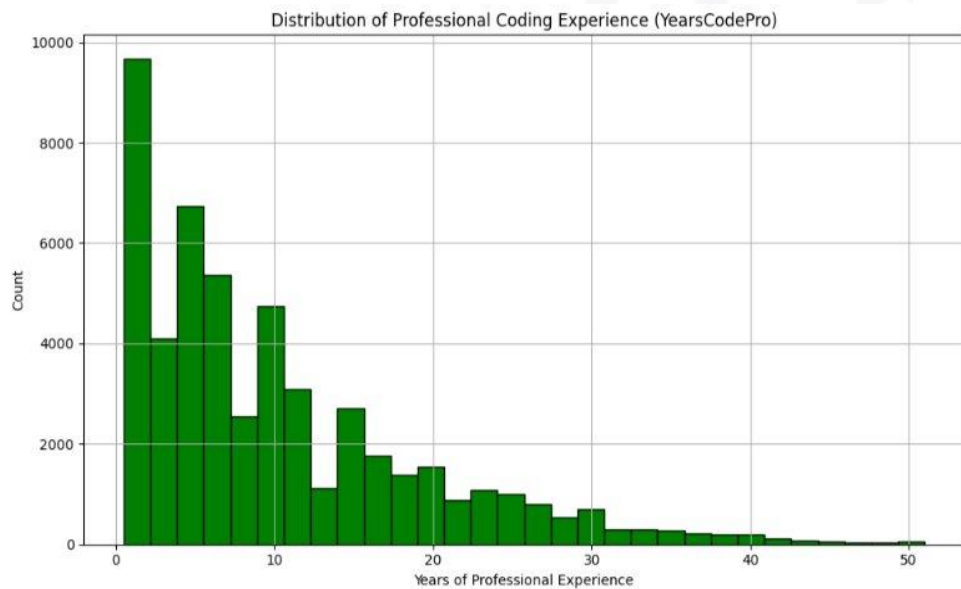
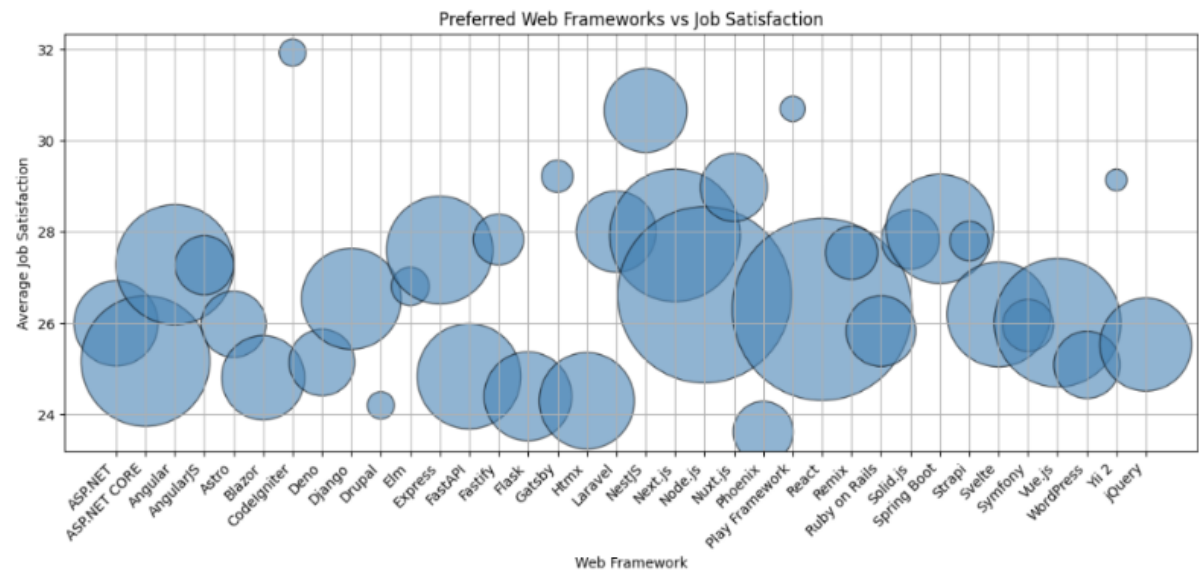
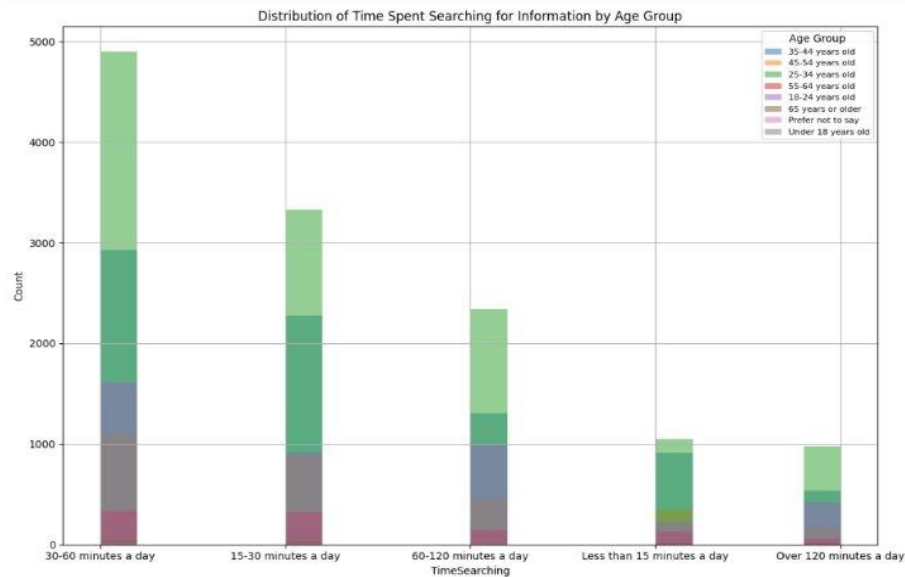


Top 10 Platforms Worked With



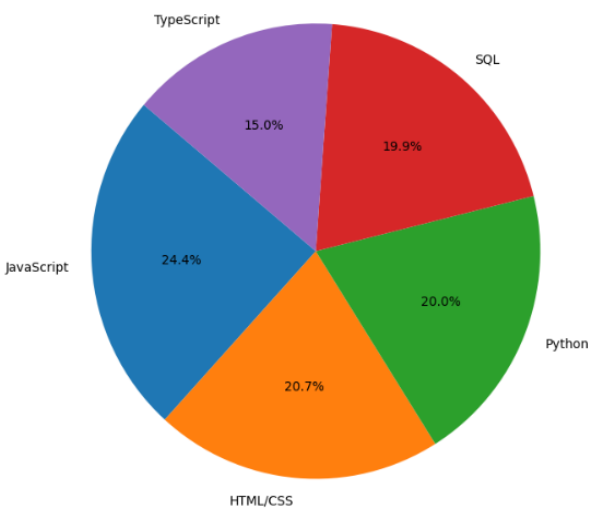
Top 10 Web Frameworks Worked With



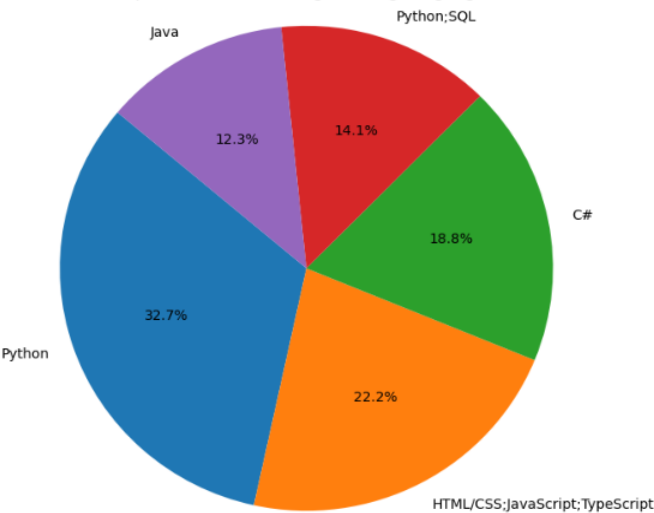


POPULAR LANGUAGES

Top 5 Programming Languages Respondents Have Worked With



Top 5 Most Admired Programming Languages



Preferred Programming Languages by Age Group

