

Capstone Data Analyst Project

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OUTLINE



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EXECUTIVE SUMMARY



ANALYSIS

- **Languages Worked With:** JavaScript, Python, Java, TypeScript, HTML/CSS, Go, C#, and Kotlin.
- **Languages Developers Want to Work With:**
 - Strong interest in expanding expertise in JavaScript, TypeScript, Go, Python, and Kotlin.
- **Databases:** Worked with PostgreSQL, MongoDB, MySQL, DynamoDB, and Firebase.
 - Interest in further working with PostgreSQL, MongoDB, and Redis.
- **Platforms:**
 - Widely used platforms: AWS, Heroku, Netlify, Google Cloud, and Digital Ocean.
 - Desire to explore more with AWS, Firebase, and Google Cloud.
- **Web Frameworks:** Developers work with frameworks like React, Node.js, Next.js, and Express.
 - Desire to adopt new frameworks: Remix, Htmx, and further work with React/Node.js.
- **Demographics & Education:**
 - **Age range:** Predominantly 35-54 years, with a balance between full-time employment and freelance work.
 - **Education:** Majority hold Master's degrees, with a blend of expertise from formal and self-guided learning methods.



INTRODUCTION



- ✓ Examines the preferences and professional profiles of developers, focusing on their experience with programming languages, databases, platforms, and frameworks.
- ✓ **Highlights key demographics such as :**
 - ✓ Age,
 - ✓ Gender,
 - ✓ Country ,
 - ✓ Education level.
- ✓ Insights on the technologies ,languages developers have worked with and those they aspire to explore in the future.
- ✓ Analysis also explores how education and experience influence technology preferences and tool choices.
- ✓ Goal is to understand the evolving tech landscape, guiding decisions on training, tool adoption, and future technology trends.



METHODOLOGY



- **Data Collection:** Survey responses from developers across various employment status and geographical regions
- **Focus Areas:** Analyzed languages, databases, platforms, and frameworks used and desired.
- **Demographics:** Considered age, gender, country, and education level.
- **Data Processing:** Compared current vs. desired technologies to identify trends.
- **Analysis:** Used descriptive statistics to uncover correlations between experience, education, and technology choices.



RESULTS

- **Languages:** Developers mostly work with JavaScript, Python, Java, TypeScript, and HTML/CSS ,with the strong interest in further working with JavaScript, TypeScript, Go, and Python.
- **Databases:** PostgreSQL, MongoDB, MySQL, and Firebase are widely used. Developers express interest in working more with PostgreSQL, MongoDB, and Redis.
- **Platforms:** AWS, Heroku, Netlify, Google Cloud, and Digital Ocean are frequently used platforms but growing interest in exploring AWS, Firebase, and Google Cloud further.
- **Web Frameworks:** Developers favor React, Node.js, Next.js, and Express, with interest in Remix, Htmx, and continued use of React/Node.js.
- **Demographics:** Most developers are aged 35-54, with a mix of full-time employment and freelance work.
- **Education & Experience:** Developers with higher education (Master's degrees) tend to prefer more advanced and diverse technologies, with a clear inclination toward continuous learning and adapting to new tools.



PROGRAMMING LANGUAGE TRENDS

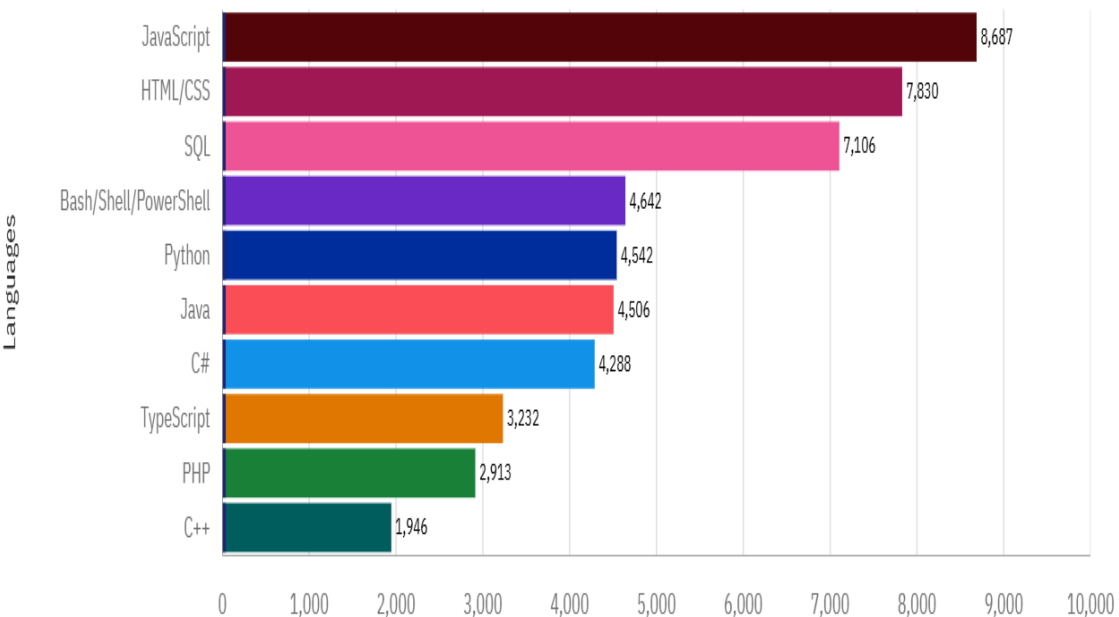
Current Year

Top 10 LanguageHaveWorkedWith



LanguageWorkedWith

- TypeScript
- SQL
- Python
- PHP
- JavaScript
- Java
- HTML/CSS
- C++
- C#
- Bash/Shell/PowerShell
- Containers (Count distinct)



Top 10 Language Worked With

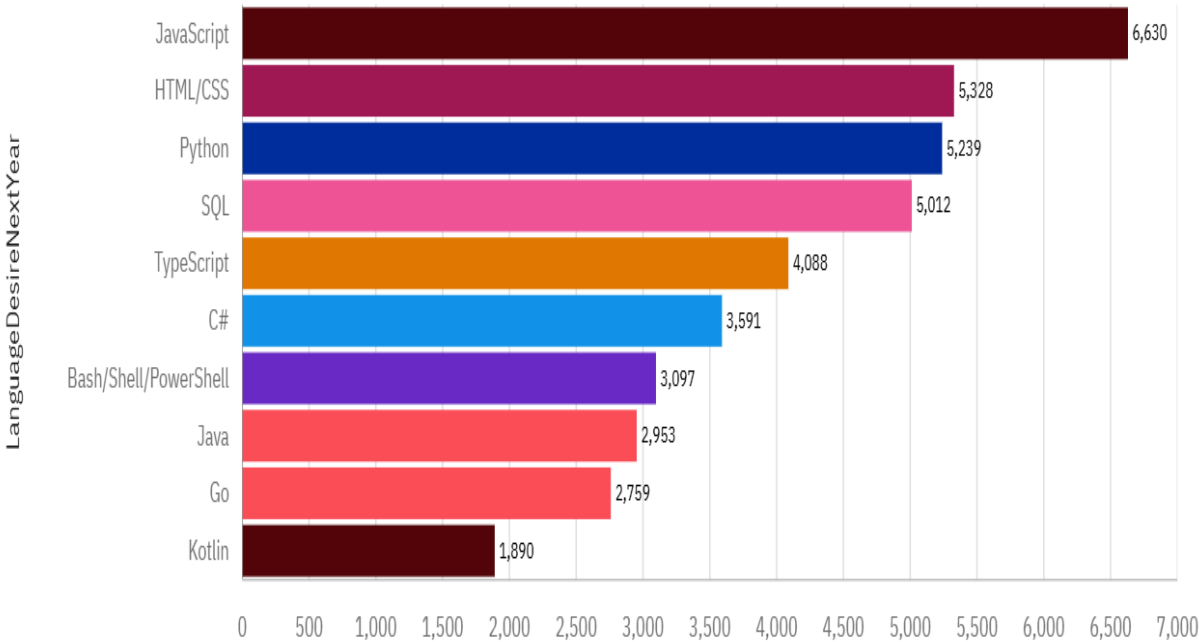
Next Year

Top 10 LanguageWanttoWorkWith



LanguageDesireNextYear

- TypeScript
- SQL
- Python
- Kotlin
- JavaScript
- Java
- HTML/CSS
- Go
- C#
- Bash/Shell/PowerShell



LanguageDesireNextYear (Count)



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- **Top Languages Used:** JavaScript, SQL, Python, HTML/CSS dominate developers' toolsets.
- **Languages of Interest:** Developers are eager to work more with JavaScript, TypeScript, Go, and Python.
- **Tech Shift:** A growing focus on Go and TypeScript signals a trend toward performance and scalability.

Implications

- **Training Focus:** Prioritize training in JavaScript, TypeScript, and Go.
- **Tool Development:** Invest in tools and frameworks supporting JavaScript, TypeScript, and Go.
- **Hiring Strategy:** Seek candidates skilled in JavaScript, Python, TypeScript, and Go.

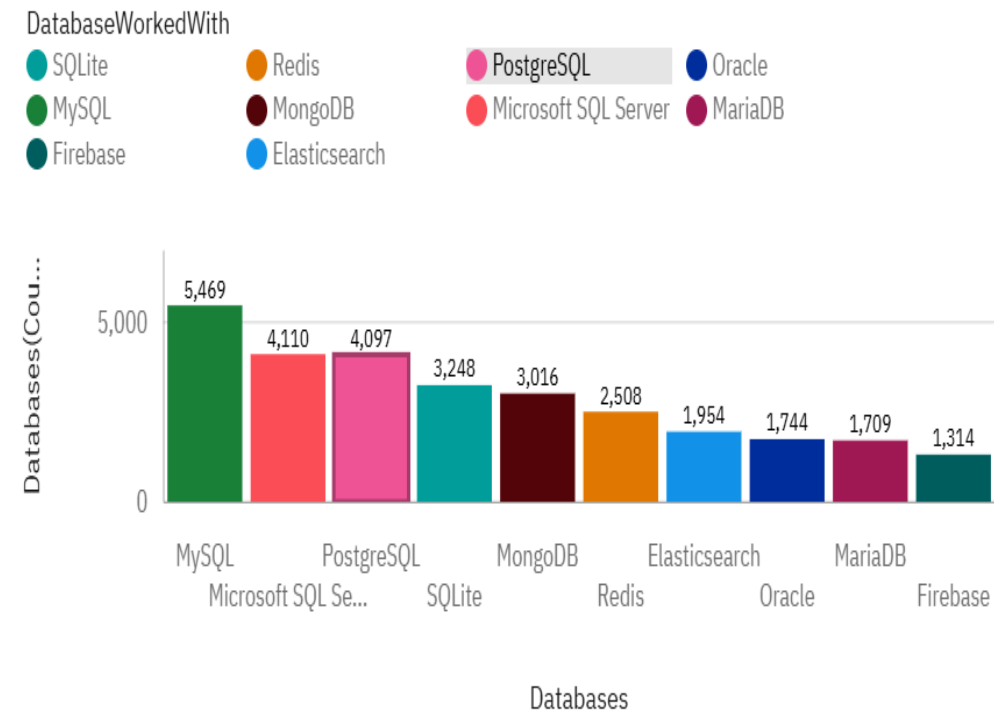


DATABASE TRENDS

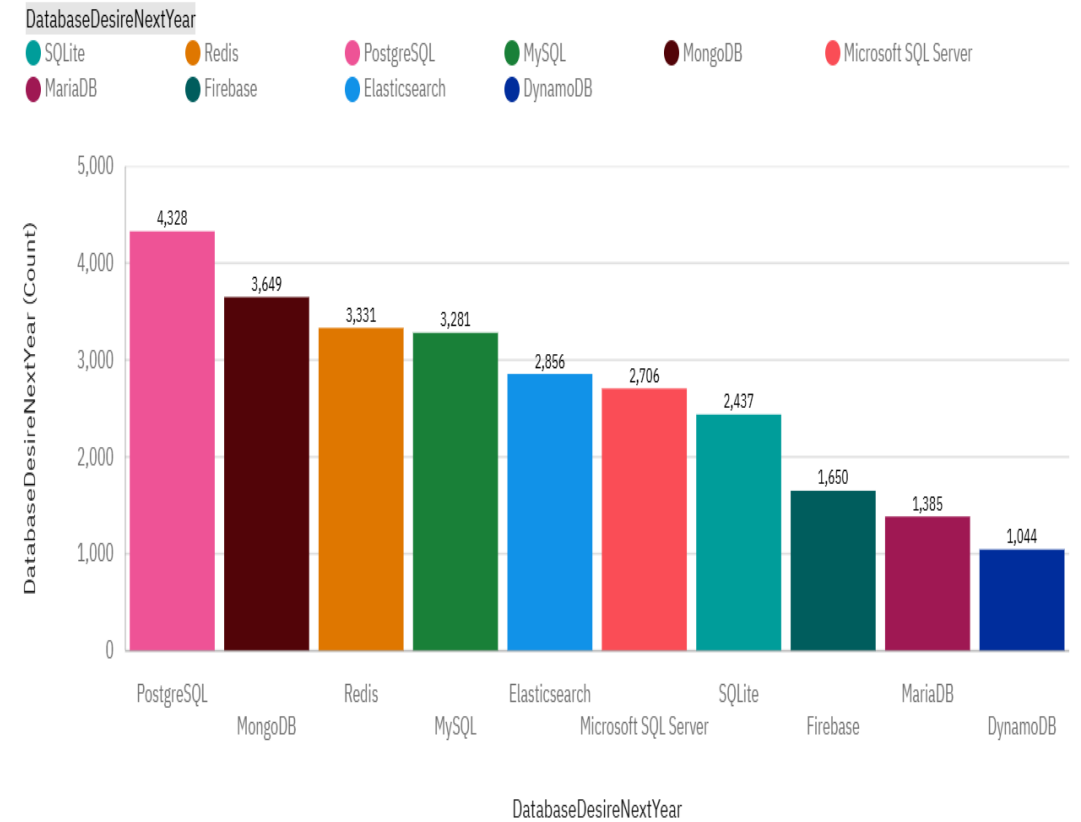
Current Year

Next Year

Top 10 Database Worked With



Top 10 Database Want To Work With



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- **Top Databases Used:** PostgreSQL, Microsoft SQL, MySQL, and SQLite are the most commonly used databases.
- **Databases of Interest:** Developers are interested in working more with PostgreSQL, MongoDB, and Redis.
- **Growing Demand:** A trend towards NoSQL and cloud-based databases, reflecting a need for scalable solutions.

Implications

- **Database Training:** Focus on upskilling in PostgreSQL, MongoDB, and Redis for future-ready solutions.
- **Database Selection:** Companies should prioritize PostgreSQL and MongoDB for projects requiring scalability and flexibility.
- **Recruitment:** Seek candidates with expertise in NoSQL databases like MongoDB and Redis for emerging technology needs.



DASHBOARD



Link : <https://github.com/ShvetaBattar/Capstone-Data-Analyst-Project.git>

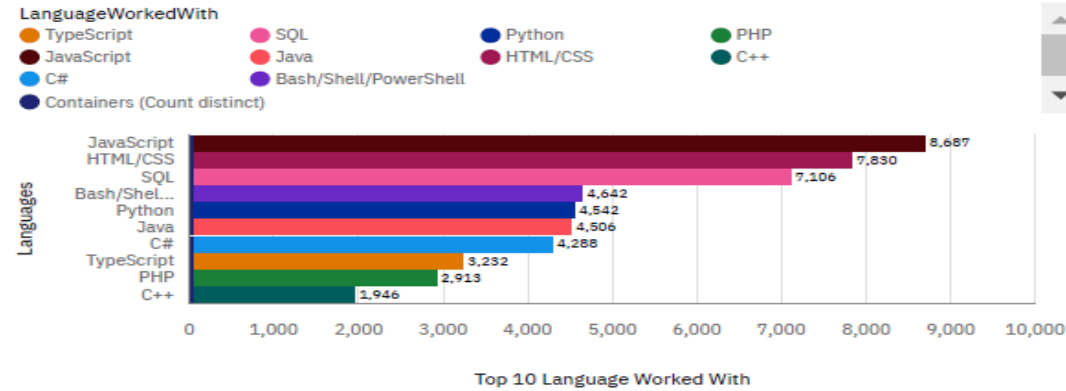
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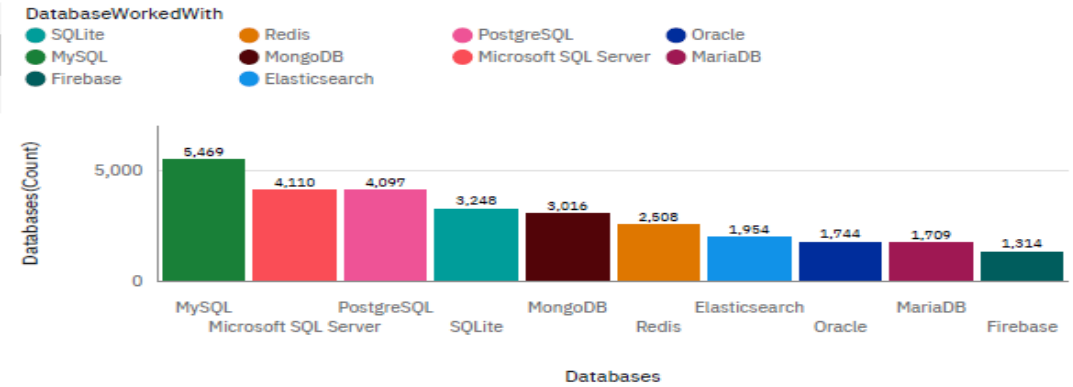
DASHBOARD TAB 1

Current Technology Usage

Top 10 LanguageHaveWorkedWith



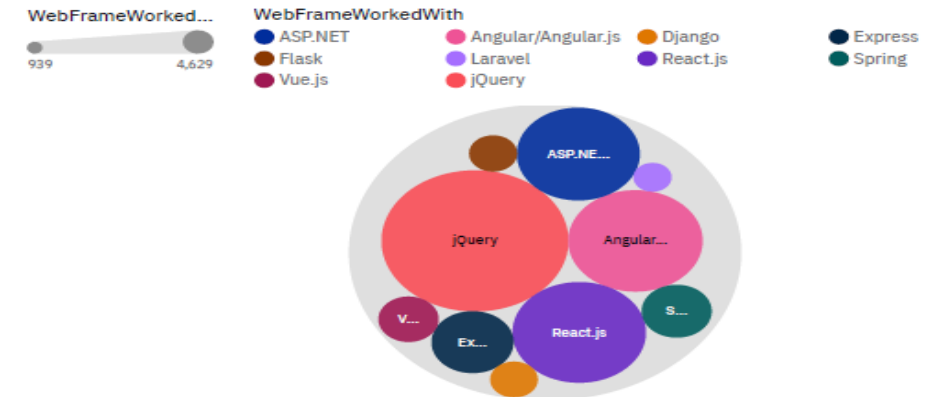
Top 10 Database Worked With



Top 10 PlatformHaveWorkedWith



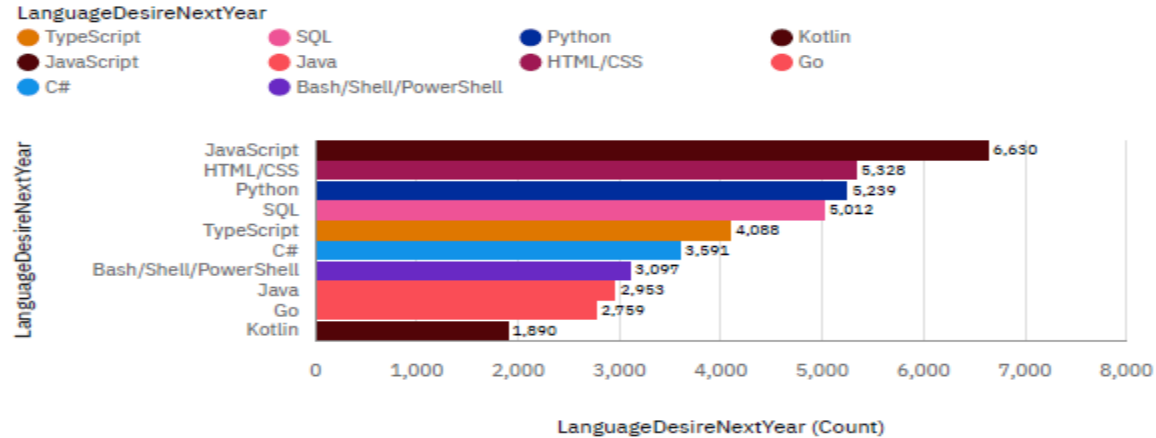
Top 10 WebFrame Worked With



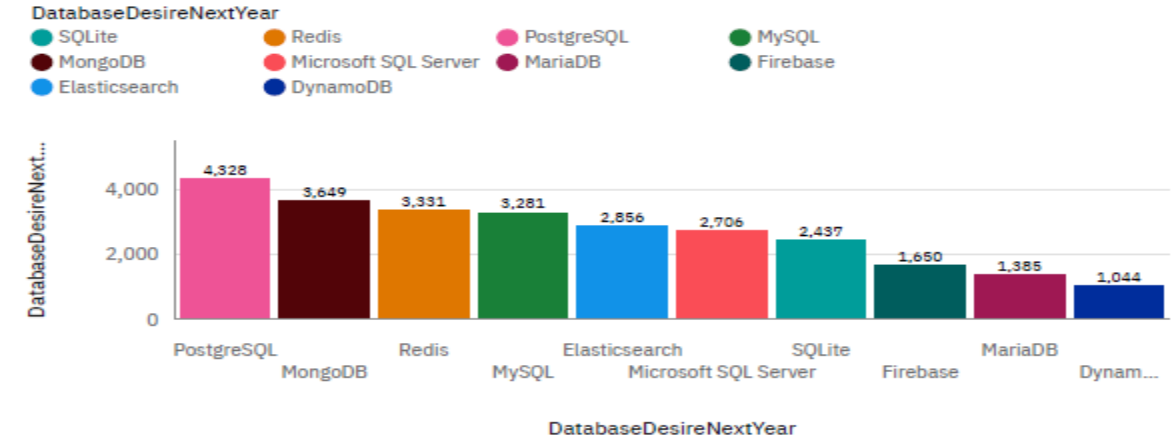
DASHBOARD TAB 2

Future Technology Trend

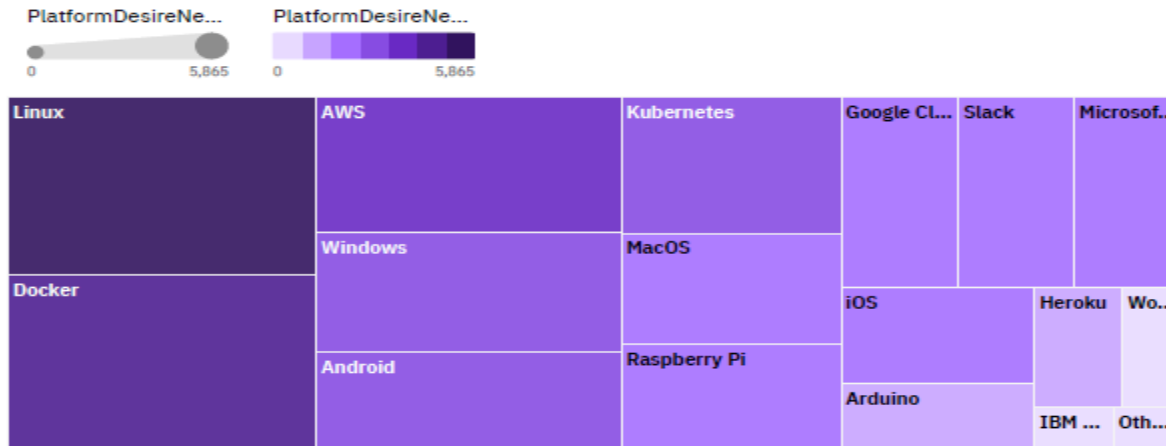
Top 10 LanguageWanttoWorkWith



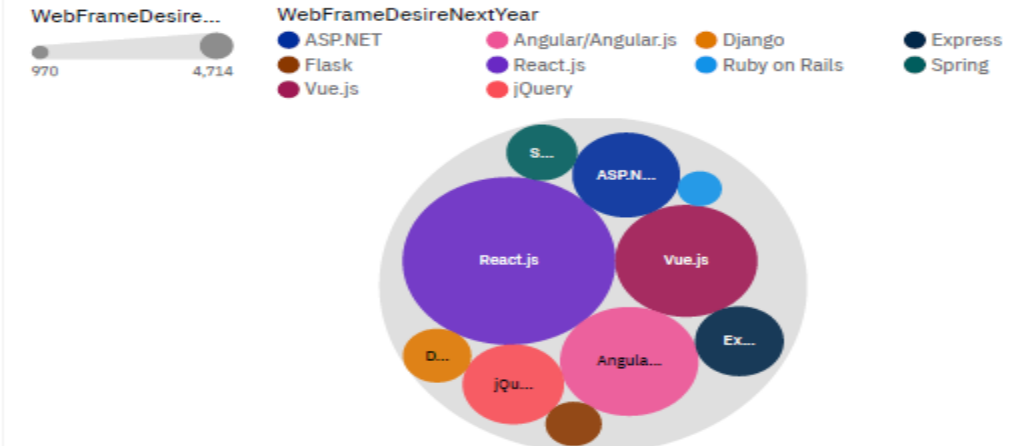
Top 10 Database Want To Work With



Top 10 Platform Want To Work With



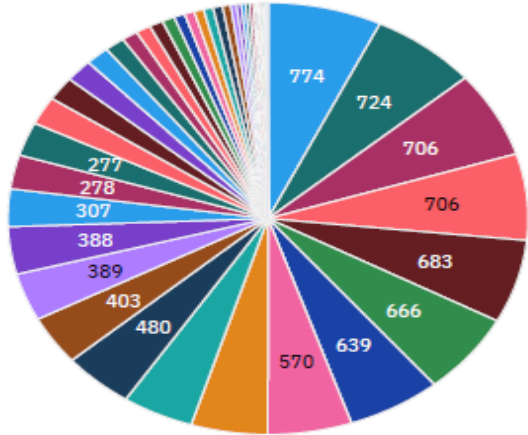
Top 10 WebFrameWantToWorkWith



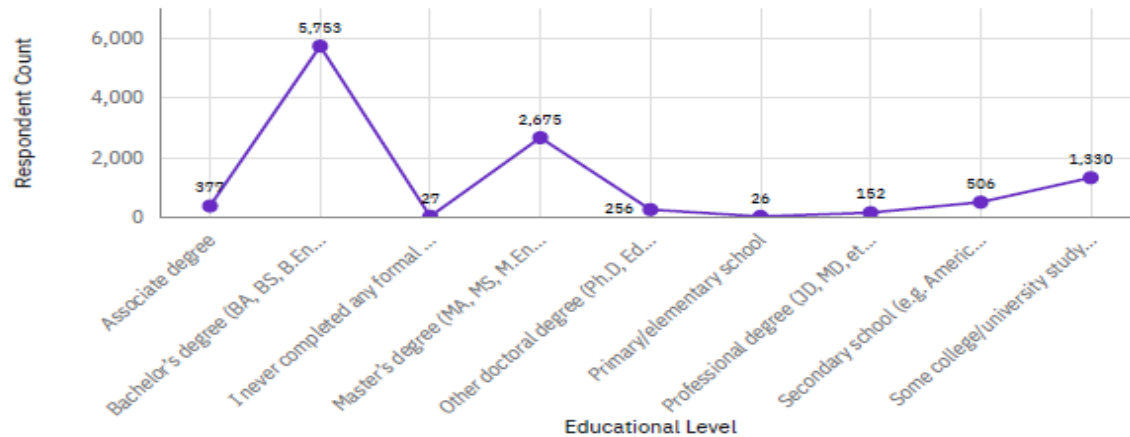
DASHBOARD TAB 3

Demographics

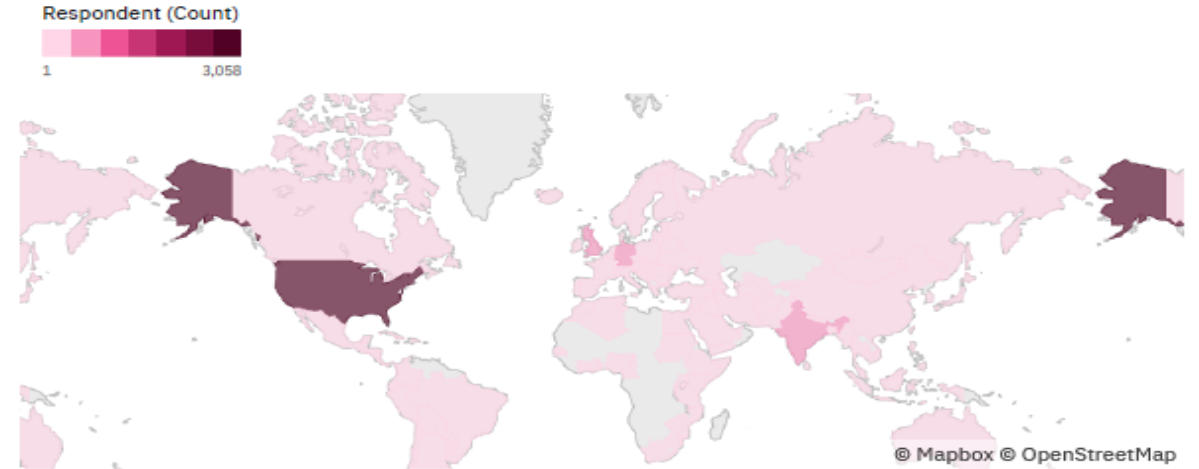
Respondent Distribution by Age



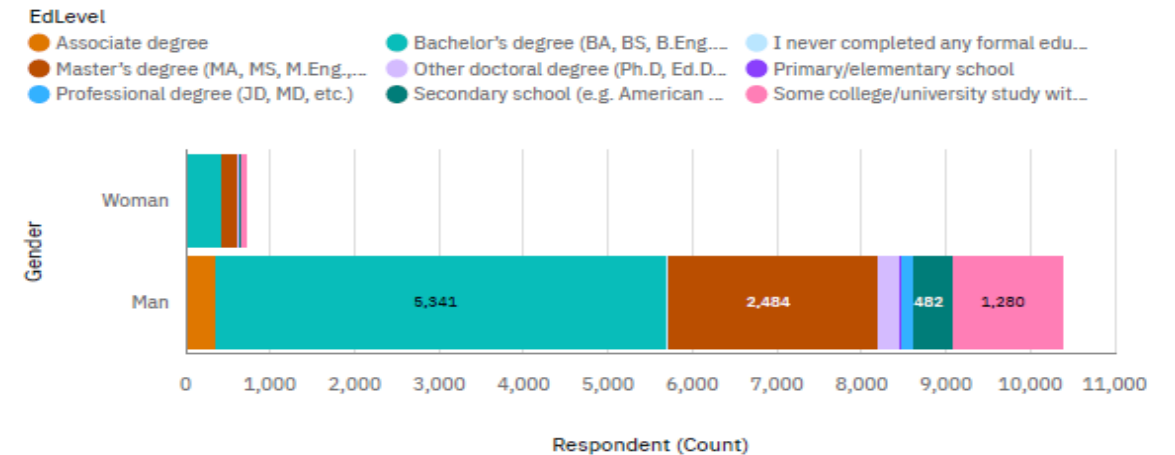
Respondent Count by EdLevel



Respondent Count by Country



Respondent by Gender colored by EdLevel



DISCUSSION

- **Current Database Usage:** PostgreSQL, MongoDB, MySQL, and Firebase are widely used, showing a mix of relational and NoSQL database adoption.
- **NoSQL and Cloud Solutions:** More interest for NoSQL databases (MongoDB, Redis) and cloud-based solutions shift towards more flexible and scalable architectures.
- **Technology Trends:** Developers prefer advanced technologies emphasizing the value of continuous learning and adaptability.
- **Gender Diversity** is still an issue in the tech industry, the data indicates a growing representation of female developers, especially in full-time roles.
- Developers show interest in exploring more cloud platforms like Google Cloud and Firebase



OVERALL FINDINGS & IMPLICATIONS

Findings

- Developers widely use JavaScript, Python, Java, TypeScript, and HTML/CSS, with strong interest in further working with JavaScript, TypeScript, Go, and Python.
- PostgreSQL, MongoDB, MySQL, and Firebase are common databases, with a growing interest in PostgreSQL, MongoDB, and Redis.
- AWS, Heroku, and Netlify are popular platforms, with increasing interest in Google Cloud and Firebase.

Implications

- Focus on training in JavaScript, TypeScript, Go, and Python to align with developers' interests.
- Prioritize PostgreSQL, MongoDB, and Redis for scalable, flexible database solutions.
- Invest in cloud-based platforms like AWS, Google Cloud, and Firebase for scalable infrastructure.



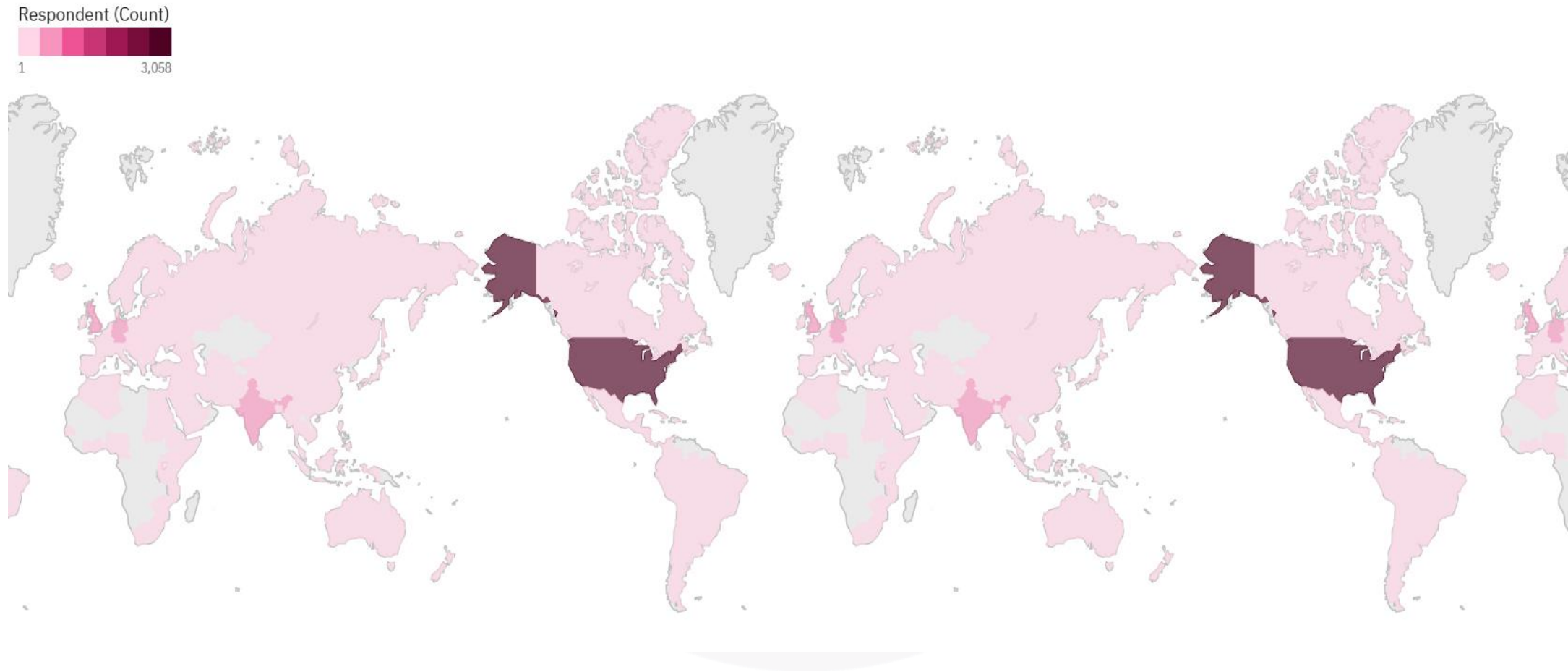
CONCLUSION

- Developers are focused on modern, scalable technologies, with a strong preference for JavaScript, TypeScript, Go, and Python.
- Database choices reflect a mix of relational (PostgreSQL, MySQL) and NoSQL (MongoDB, Redis) solutions, driven by scalability needs.
- Cloud platforms like AWS, Google Cloud, and Firebase are increasingly favored for their flexibility and scalability.
- Organizations should prioritize training and tool support in these technologies to stay aligned with developer preferences and industry trends.
- Data highlights a demographics of education level based on gender, age, Country.

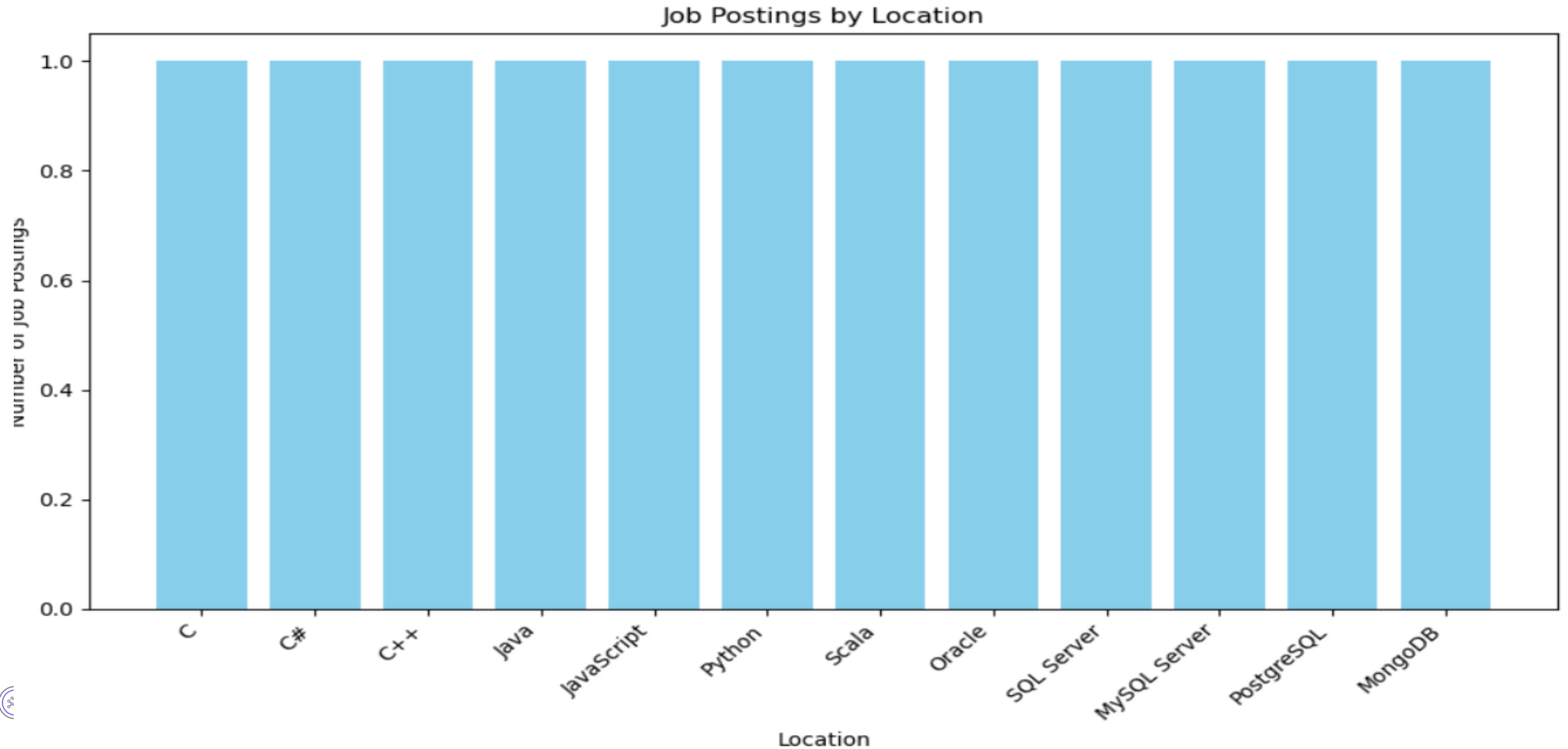


Map Chart

Respondent Count by Country



JOB POSTINGS



POPULAR LANGUAGES

