

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 selfguided 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.



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- **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.



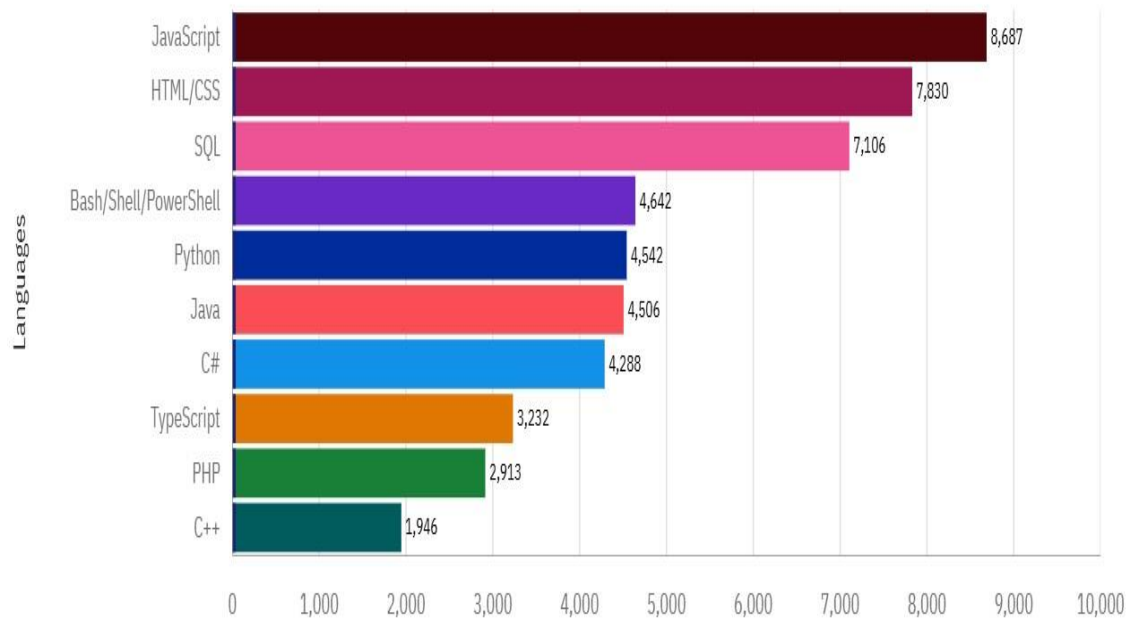
PROGRAMMING LANGUAGE TRENDS



Current Year

Top 10 LanguageHaveWorkedWith

LanguageWorkedWith

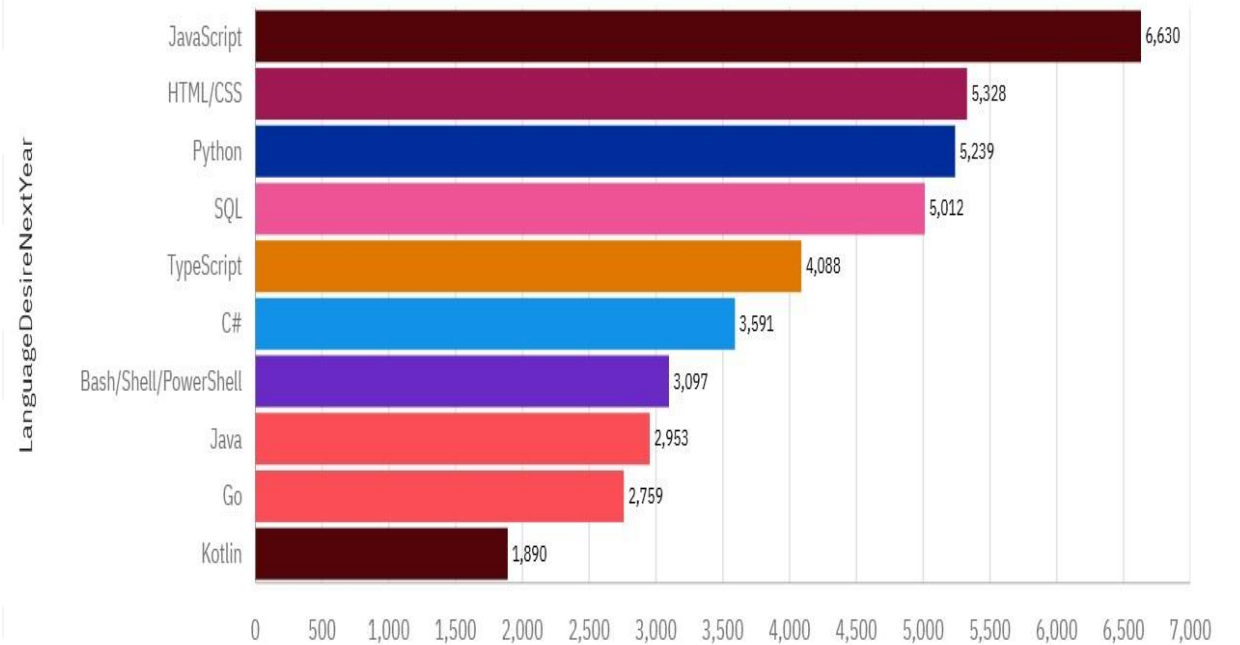


Top 10 Language Worked With

Next Year

Top 10 LanguageWanttoWorkWith

LanguageDesireNextYear



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.

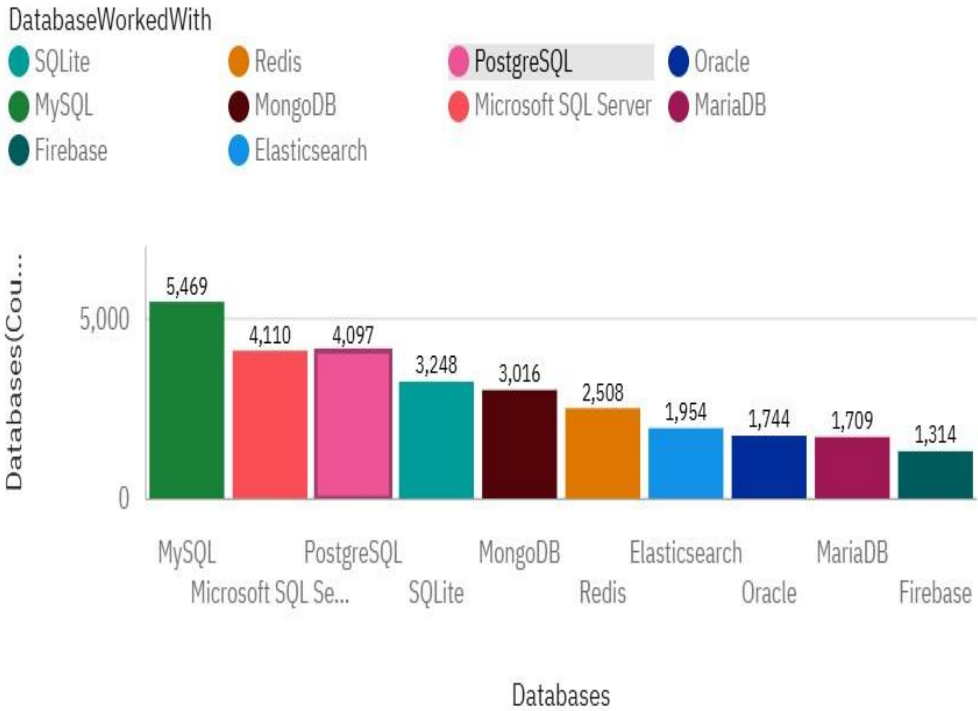
Implications

- **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.



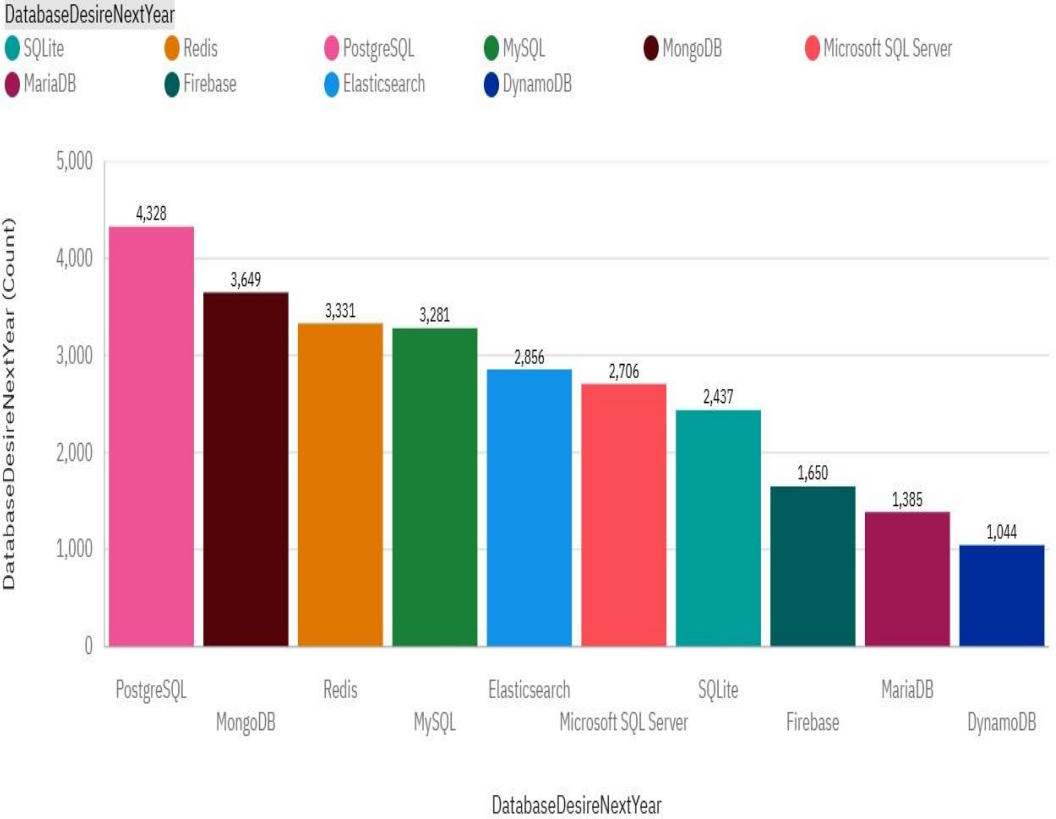
Current Year

Top 10 Database Worked With



Next Year

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 futureready 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/Jimoh-femi/coursera-capstone-project>



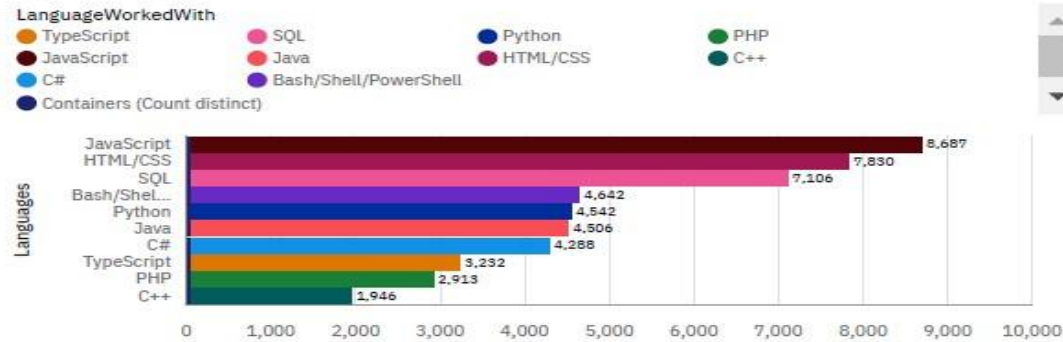
ThePhoto by PhotoAuthor is licensed under CCYSA.



DASHBOARD TAB 1

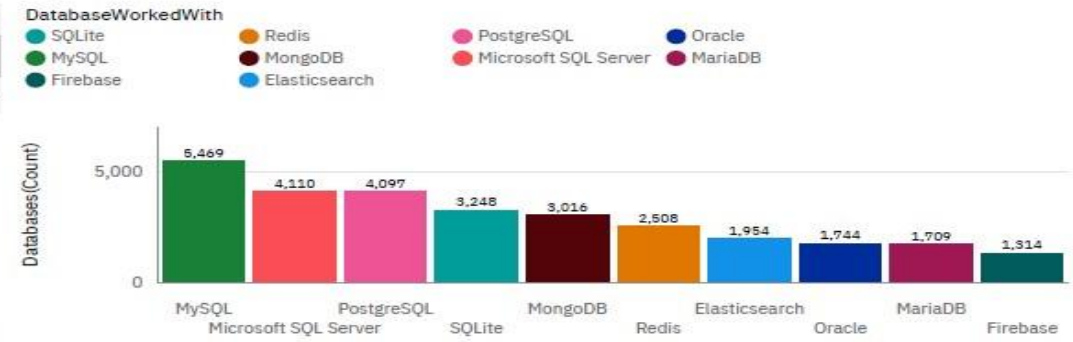
Current Technology Usage

Top 10 LanguageHaveWorkedWith



Top 10 Language Worked With

Top 10 Database Worked With



Databases

Top 10 PlatformHaveWorkedWith



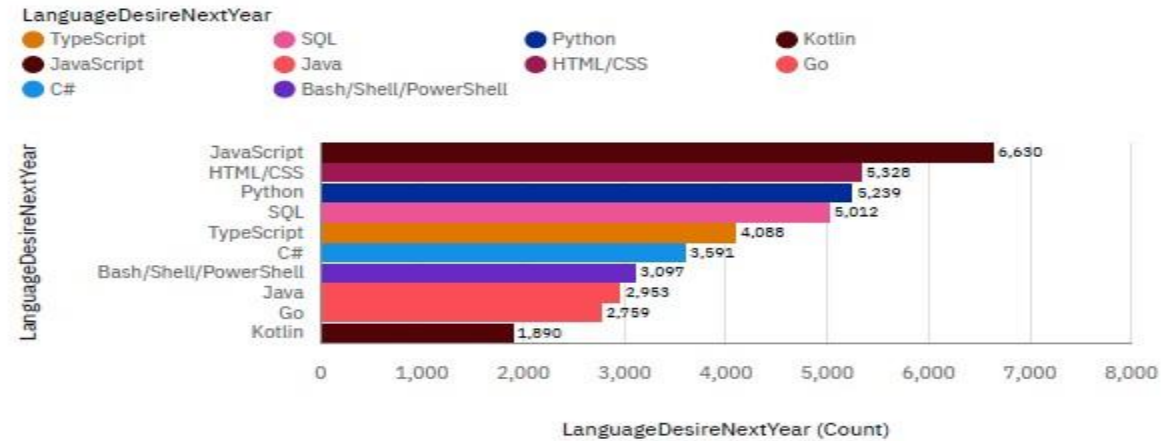
Top 10 WebFrame Worked With



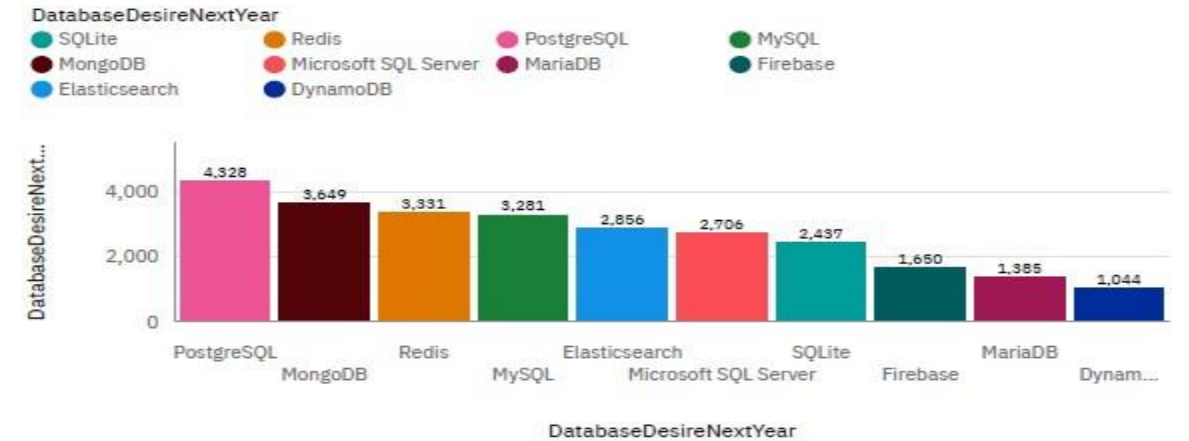
DASHBOARD TAB 2

Future Technology Trend

Top 10 LanguageWanttoWorkWith



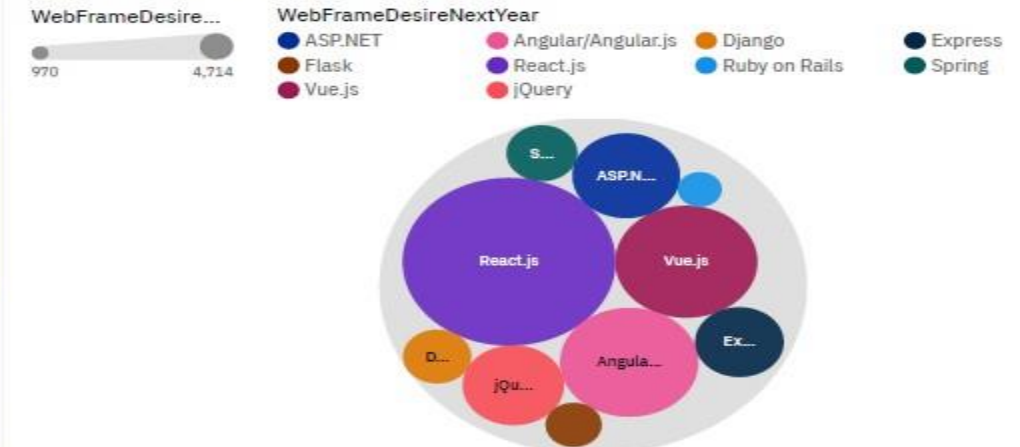
Top 10 Database Want To Work With



Top 10 Platform Want To Work With



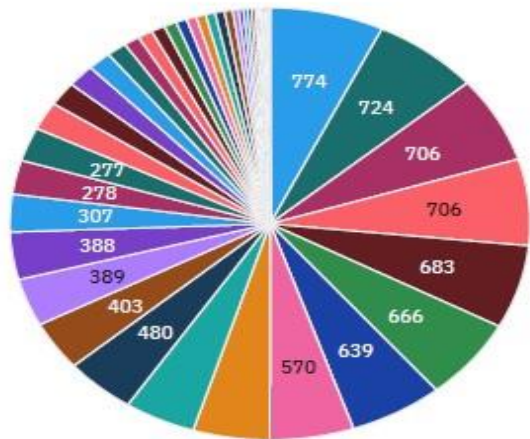
Top 10 WebFrameWantToWorkWith



DASHBOARD TAB 3

Demographics

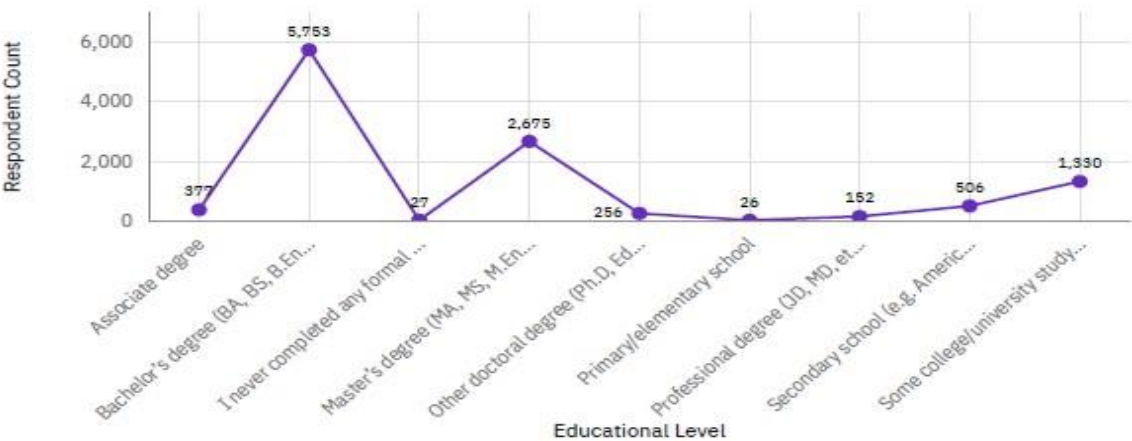
Respondent Distribution by Age



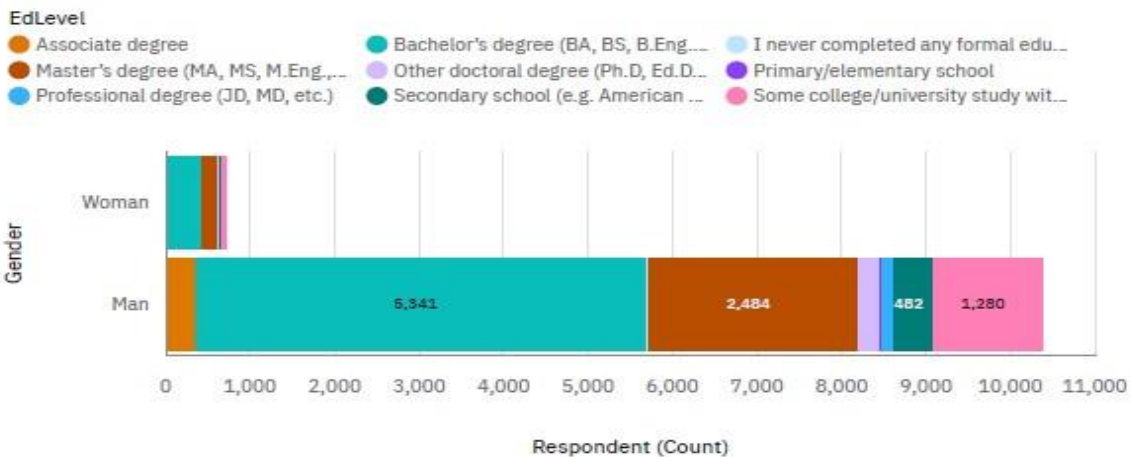
Respondent Count by Country



Respondent Count by EdLevel



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

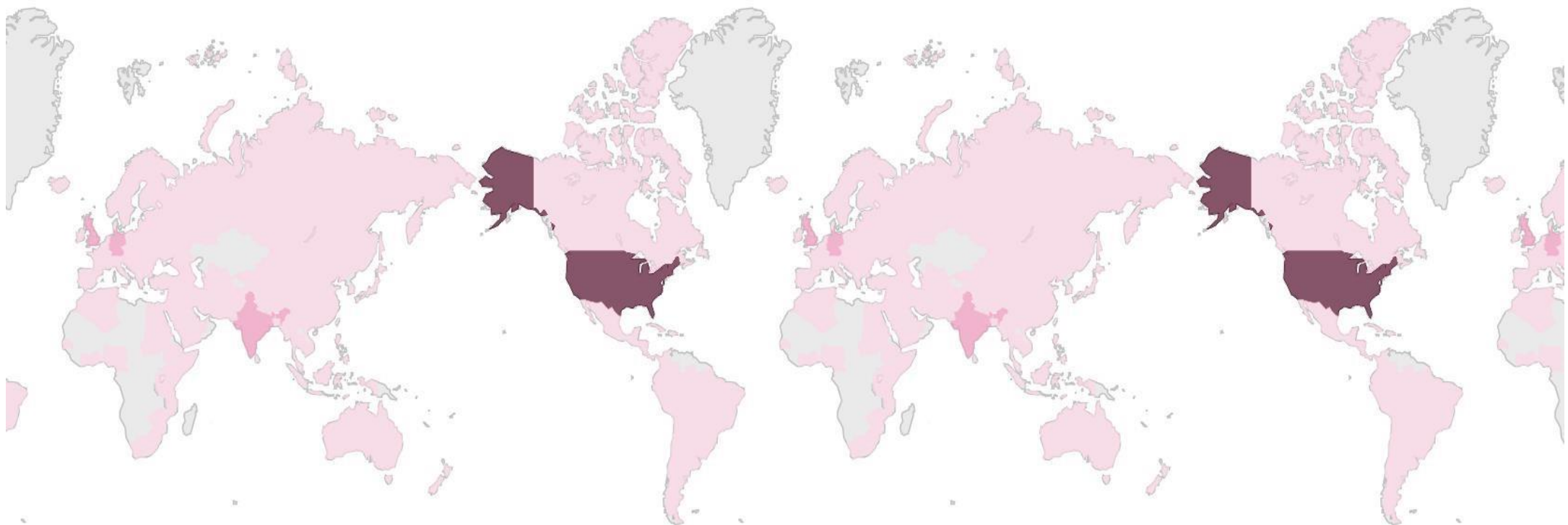
- Developers are focused on modern, scalable technologies, with a strong preference for JavaScript, TypeScript, Go, and Python.
- Database choices reflect a mix of relational (PostgreSQL, MySQL) and NoSQL (MongoDB, Redis) solutions, driven by scalability needs.
- Cloud platforms like AWS, Google Cloud, 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.



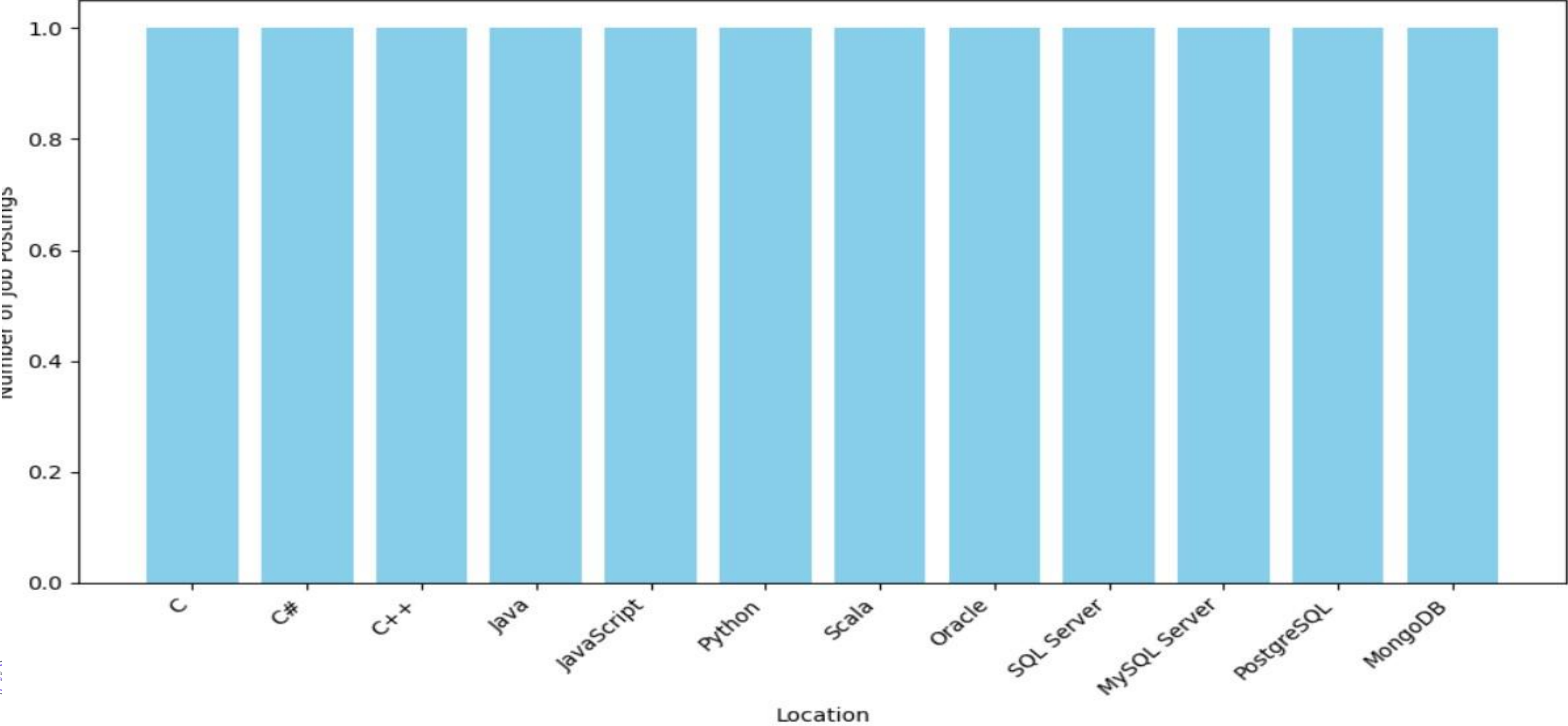
Map Chart



Respondent Count by Country



Job Postings by Location



POPULAR LANGUAGES



Annual Average Salary by Programming Language (Descending Order)

