

# Final Project: The Most In-Demand Emerging Skills for the Future

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# OUTLINE

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



# EXECUTIVE SUMMARY

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- The growing demand for technological skills:  
The demand for technological skills is increasing rapidly, driven by the digital transformation of companies and industries globally. As companies adopt digital solutions, certain programming languages and technologies have become essential for professionals looking to stay competitive.
- Most popular programming languages
  - Variety of programming languages most in demand today and for the future
  - Fundamental programming languages to acquire skills.
  - Most required database for the future
- Language want Worked With (Top10)
- Database want worked with (Top 10)
- Conclusion



# INTRODUCTION

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- The purpose of this purpose is to analyze the emerging technological skills and future trends that are required in the professional field, with special emphasis on the most in-demand programming languages and the most requested databases. As technology advances, it becomes increasingly important to understand what skills will be necessary to stay competitive in the job market.
- The target audience for this report is made up of professionals in the technology sector, including application developers, web development specialists, programmers and other people dedicated to the world of technology.

Through this analysis, the report aims to provide a clear and updated vision of the most relevant technological skills, allowing professionals and companies to adapt their training and hiring strategies to the needs of the future.



# METHODOLOGY

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- Data sources:

1. Job Postings: Information on the most sought-after skills for jobs in the technology sector.
2. Training portals: Data on the most taught and demanded technologies on educational and training platforms.
3. Developer Surveys: Like the latest Stack Overflow Developer Survey, which offers a direct view of preferences and trends among industry professionals.

- Collection method:

- Qualitative analysis: surveys of sector professionals by Stack Overflow
- Quantitative analysis: information was extracted from Job Posting and Training portals

- Key preparation steps

- Review of sources, analysis of data and creation of graphs to show trends.

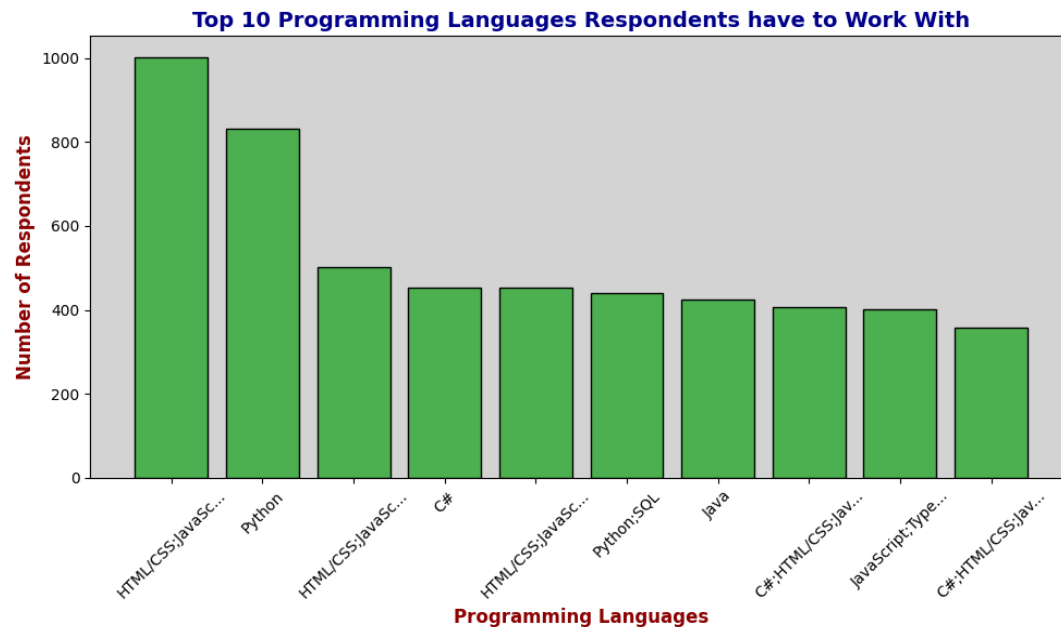
# RESULTS

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- First part: The most used programming language data is presented today, along with the languages that will be most relevant in the future. An analysis is described according to the results.
- Second part: Using a bar graph, the databases used today are presented, along with the database of the future. . An analysis is described according to the results.
- Third part: Using a dashboard (Google Looker), different graphs are presented to corroborate each result obtained during the analysis.
- Fourth part: Conclusion and annexes of the results obtained from each data source

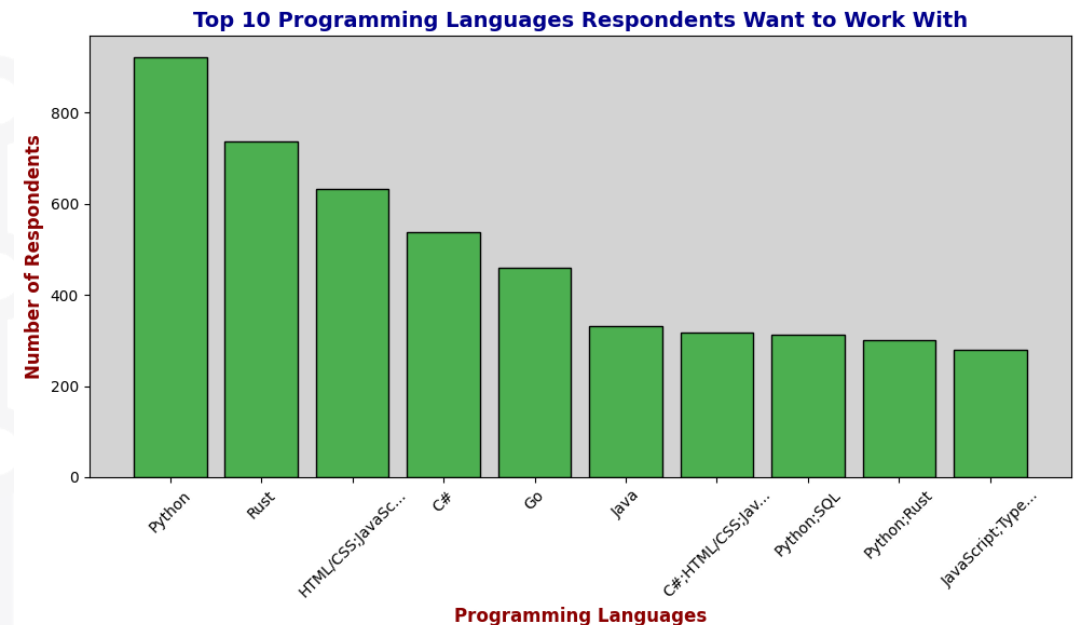
# PROGRAMMING LANGUAGE TRENDS

## Current Year



According to the graph, Top 10 of the most in-demand programming languages of the current year. “HTML/CSS;JavaScript;TypeScript”, tops the list, highlighting its growing relevance. The languages: Python, HTML/CSS, JavaScript, PHP, SQL, and C# remain popular, indicating continued interest in various areas.

## Next Year



According to the graph, the 10 most in-demand programming languages for next year are presented. Python leads the list, standing out for its growing relevance. Languages such as Rust, HTML/CSS, JavaScript, TypeScript and C# continue to be popular, reflecting continued interest in various technology areas



# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- Rise in Popularity of Python.
- HTML/CSS;JavaScript;TypeScript is still highly required
- Rust, C# increasing relevance in the technological field.

## Implications

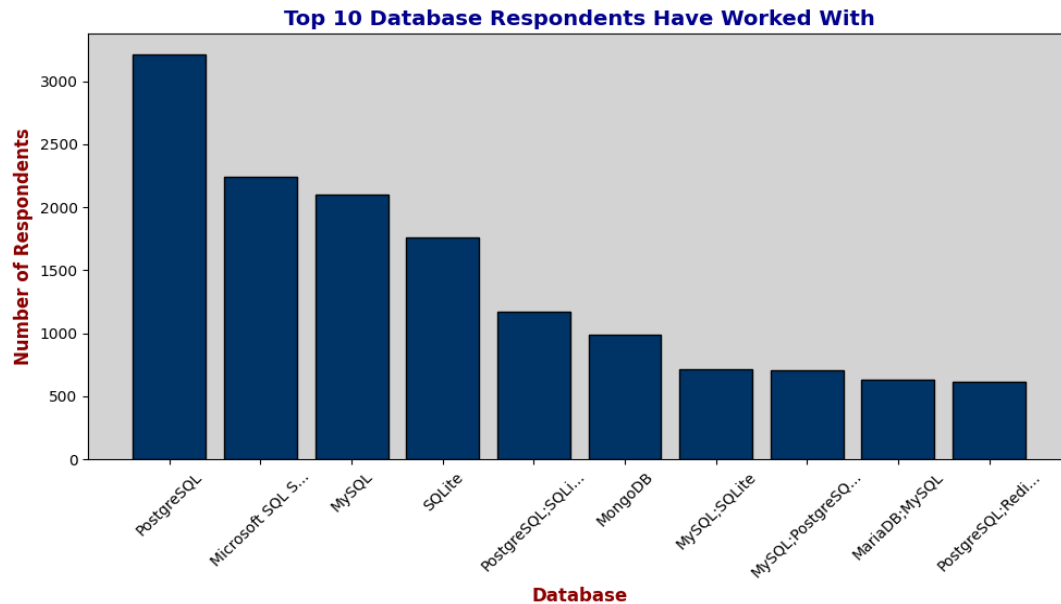
- This suggests that new developers should consider learning Python as their first language.
- The demand for HTML/CSS, JavaScript and TypeScript highlights the importance of web development and creating interactive applications. These languages are essential for modern web projects, and developers who master them will be well positioned in the market.
- The sustained interest in Rust and C# suggests that companies and developers are prioritizing languages that offer high performance, security, and versatility across multiple platforms.





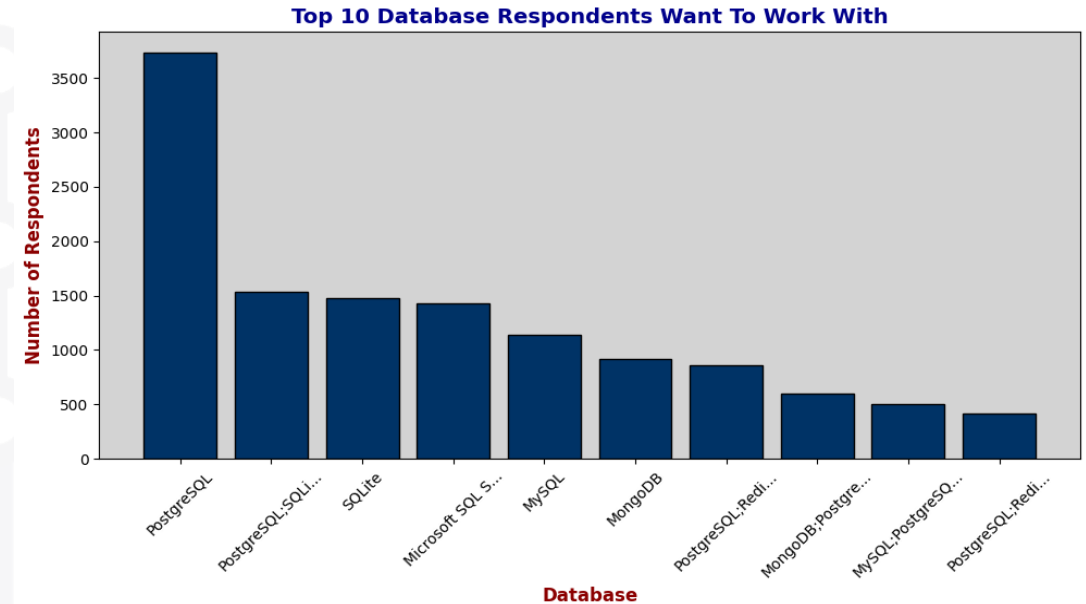
# DATABASE TRENDS

## Current Year



As seen in the graph, the most used database is PostgreSQL, standing out for its robustness and flexibility. Second is Microsoft SQL Server, widely known for its use in business environments. Third, MySQL is very popular, especially in web application development.

## Next Year



According to the graph, it can be seen that for the future, the most predominant database will be PostgreSQL, reflecting its growing recognition for its robustness, flexibility, and ability to handle complex data. This suggests that more and more professionals and companies trust PostgreSQL as one of the best options to manage databases in an efficient and scalable way.



# DATABASE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- PostgreSQL stands out as the most prominent database.
- Microsoft SQL Server and MySQL remain highly popular choices, each serving its own specific use case
- SQLite is expected to grow in use in the future.

## Implications

- The growing demand for PostgreSQL means that developers and companies should consider adopting it for projects that require handling complex, large-scale data.
- Microsoft SQL Server will continue to be an option for companies and MySQL is also still popular but with less intensity
- SQLite sees its growing demand for the future as a very lightweight and easy-to-use database management system.



# DASHBOARD

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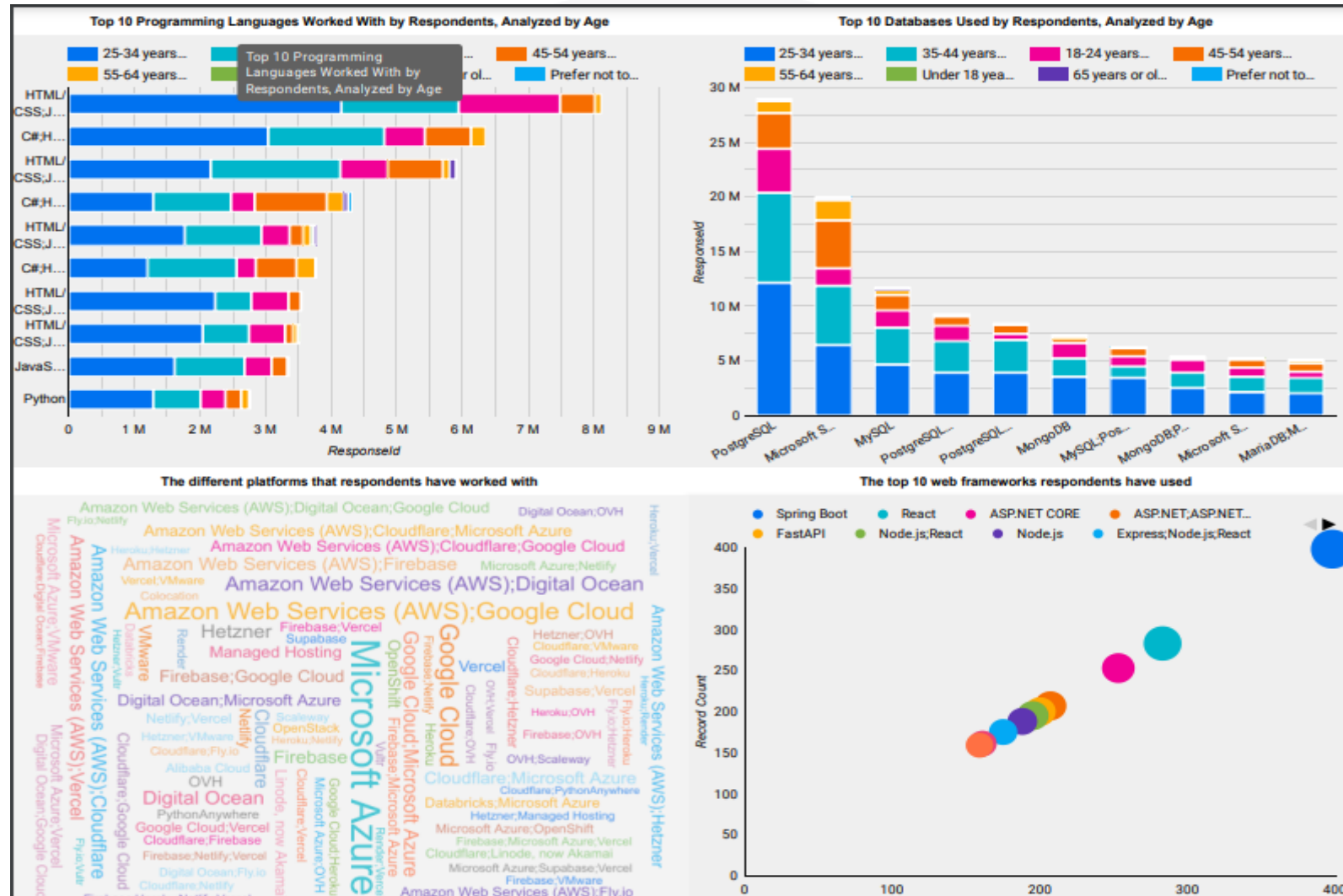
<The GitHub link of the Google Looker Studio dashboard goes click [here](#).>

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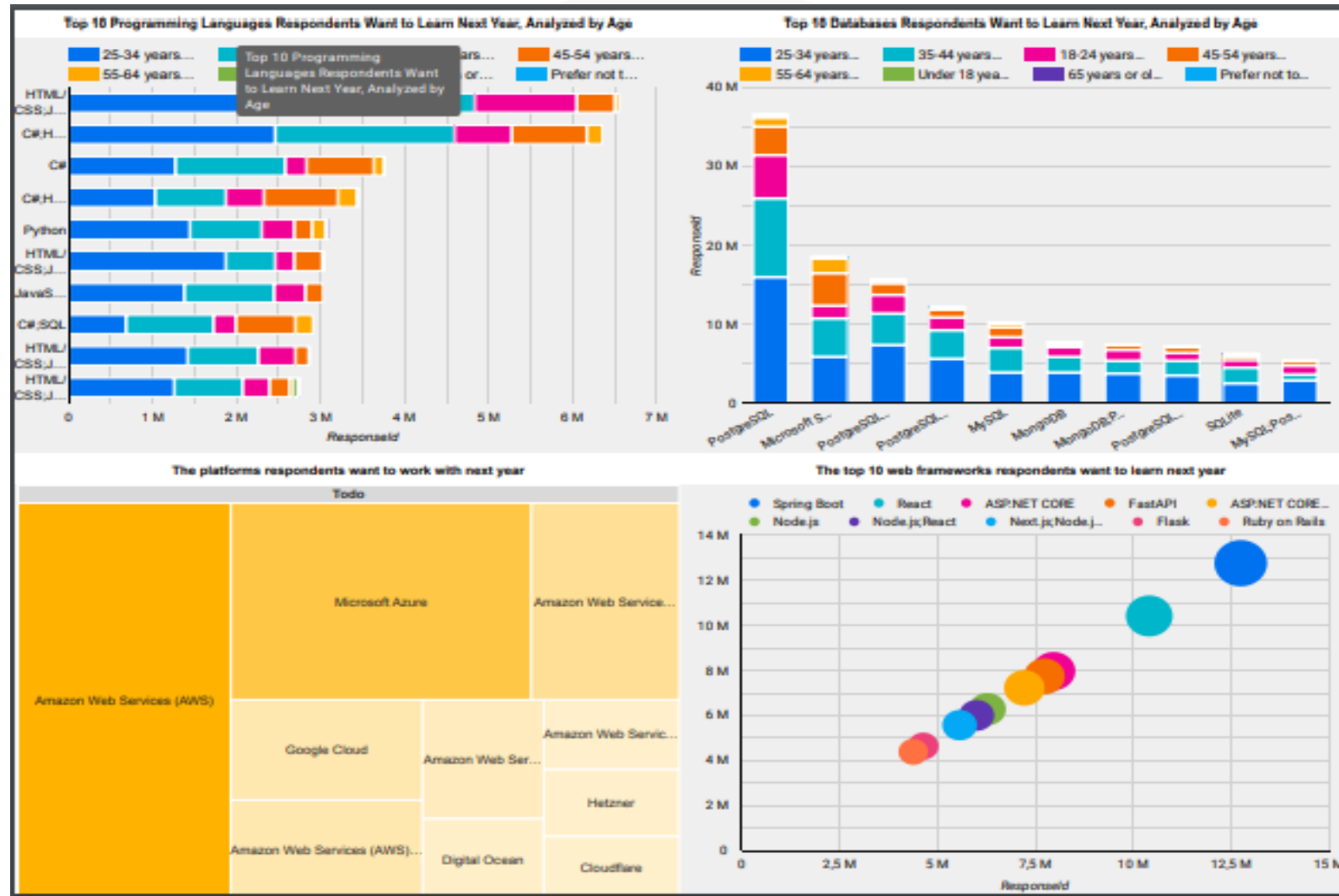
[https://github.com/Jacobladsant/IBM/blob/main/Lab\\_Option\\_B\\_-\\_Building\\_a\\_Dashboard\\_with\\_Google\\_Looker\\_Studio.pdf](https://github.com/Jacobladsant/IBM/blob/main/Lab_Option_B_-_Building_a_Dashboard_with_Google_Looker_Studio.pdf)



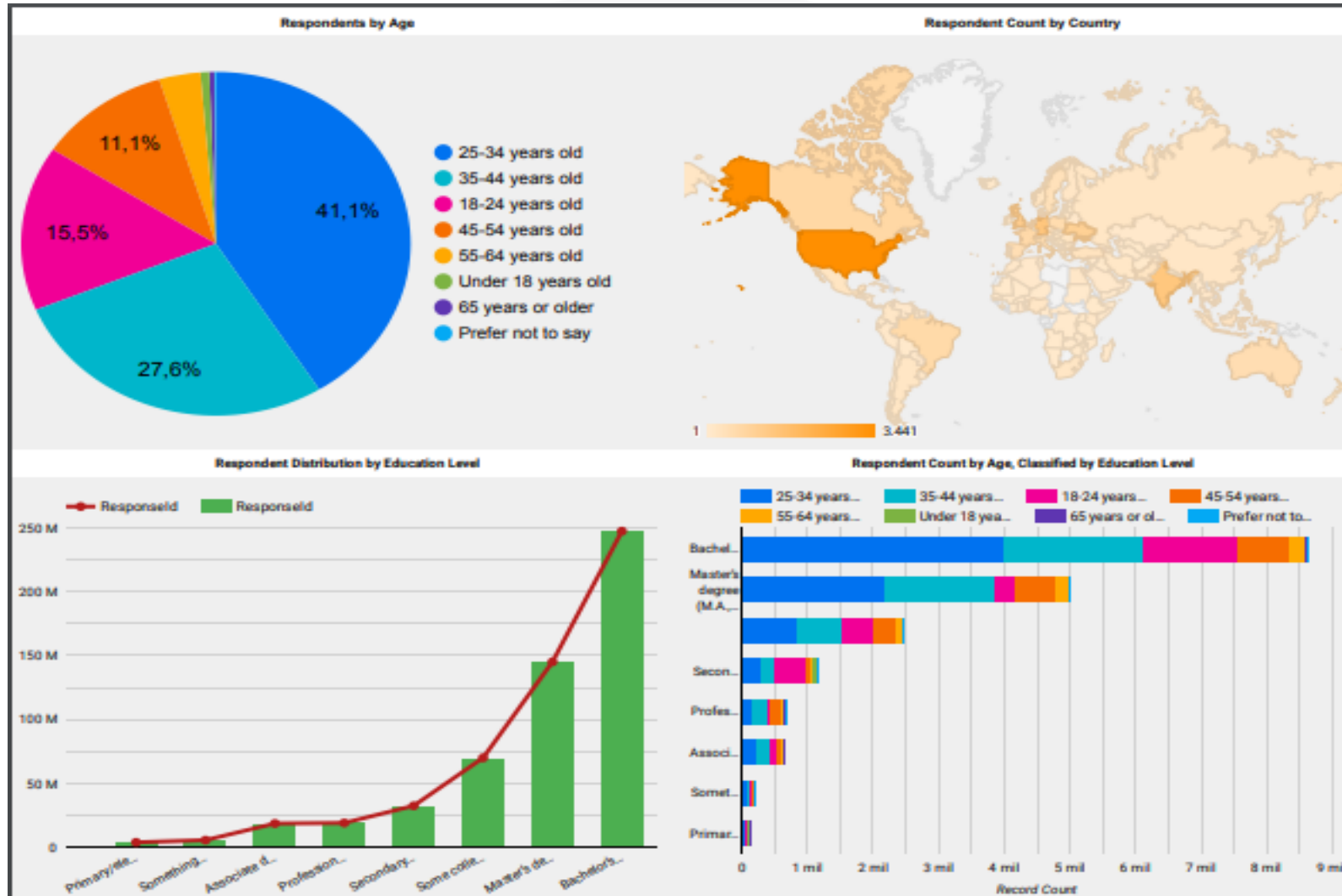
# DASHBOARD CURRENT TECHNOLOGY USAGE TAB 1



# DASHBOARD FUTURE TECHNOLOGY TRENDS TAB 2



# DASHBOARD DEMOGRAPHICS TAB 3



# DISCUSSION

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- As can be seen, each result obtained during the analysis shows which skills are most in demand in the programming language and database. Along with this data, the demographics to which this study was applied are presented.

# OVERALL FINDINGS & IMPLICATIONS

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## Findings

- PostgreSQL is the preferred database for the future
- HTML/CSS;JavaScript;TypeScript is still highly required
- Amazon Web Service(AWS)

## Implications

- The fact that PostgreSQL is so popular indicates that having knowledge and experience in this database will be a significant advantage in the job market.
- The high demand for these languages suggests that learning and mastering HTML/CSS, JavaScript and TypeScript will be key to accessing new job opportunities in web and application development.
- The high demand for AWS suggests that learning and becoming certified on this platform could open up many career opportunities.



# CONCLUSION

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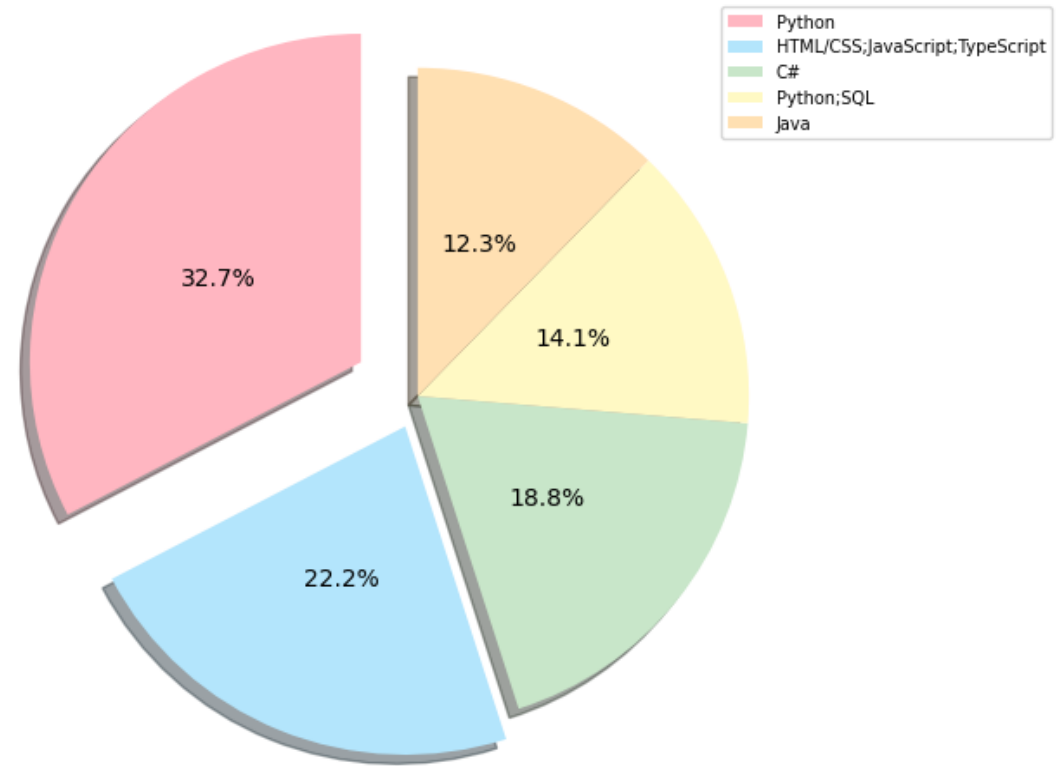
According to the analysis carried out, the trend of the most in-demand technological skills both currently and for the future can be clearly observed.

- Programming languages: HTML/CSS, JavaScript and TypeScript languages are highly in demand, especially for the development of web pages. As businesses in many countries have gone completely digital, these technologies are essential for creating interactive and functional experiences on the web.
- Database Technology: PostgreSQL stands out as the most requested database, both today and for the future. Knowing and delving into this technology is essential for professionals who want to work with robust and scalable databases, making it a key skill for the future of technological development.
- Tech skills for the future: In general, all these tech skills, whether in web development or databases, are crucial for the future. It is important to research, learn and, in many cases, specialize in these technologies in order to implement them effectively and stay competitive in the job market.

# APPENDIX



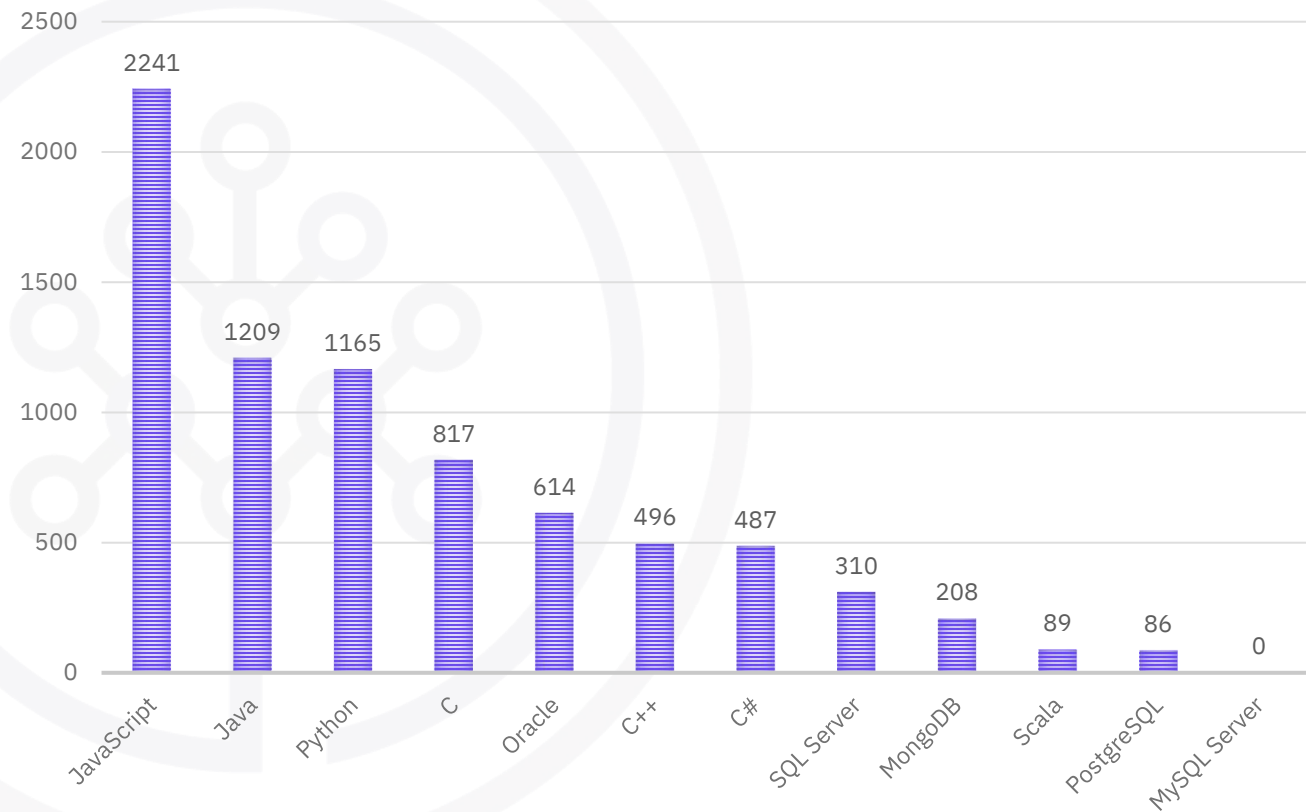
The top 5 admired languages.



# JOB POSTINGS

Technology	Job Postings
JavaScript	2241
Java	1209
Python	1165
C	817
Oracle	614
C++	496
C#	487
SQL Server	310
MongoDB	208
Scala	89
PostgreSQL	86
MySQL Server	0

JOB POSTING BY TECHNOLOGICAL SKILL



# POPULAR LANGUAGES

Language Name ▼	Annual Average Salary ▼
Swift	\$ 130.801,00
Python	\$ 114.383,00
C++	\$ 113.865,00
Javascript	\$ 110.981,00
Java	\$ 101.013,00
Go	\$ 94.082,00
R	\$ 92.037,00
C#	\$ 88.726,00
SQL	\$ 84.793,00
PHP	\$ 84.727,00

