



In-Demand IT Skills Analysis: Programming and Databases

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OUTLINE



- Executive Summary
- Introduction
- Methodology
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 - Visualization – Charts
 - Dashboard
- Discussion
 - Findings & Implications
- Conclusion
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EXECUTIVE SUMMARY



- Summary of methodology
- Summary of all results
 - Data visualization
 - Key findings

INTRODUCTION



- **Objective:**
- Our primary goal is to gather and analyze data to pinpoint the top programming languages, database skills, and integrated development environments (IDEs) that will be crucial for our workforce in 2024. This analysis will help us understand where to focus our training and development efforts to remain competitive and meet the market demands.
- **Methodology:**
 - 1. Data Collection:**
 1. We've sourced data from multiple channels, including job postings, training portals, and industry surveys. This diverse dataset ensures a comprehensive view of the current trends.
 2. Using web scraping and APIs, we've gathered data in various formats such as CSV files, Excel sheets, and databases.
 - 2. Data Preparation:**
 1. Post data collection, we performed extensive data wrangling to clean and prepare the data for analysis. This step was crucial to ensure accuracy and reliability in our findings.
 - 3. Data Analysis:**
 1. Applying advanced statistical techniques, we analyzed the dataset to extract meaningful insights. This included identifying the most sought-after programming languages and database skills.
 2. Additionally, we explored the popularity of various IDEs to understand the tools developers are gravitating towards.
 - 4. Visualization and Reporting:**
 1. Leveraging IBM Cognos Analytics, we've created a dynamic dashboard to visualize our findings. This tool will allow us to interactively explore the data and derive actionable insights.
 2. Finally, I will present the key takeaways and recommendations based on our analysis.

METHODOLOGY



- Data collection
- Web scraping
- Data exploration
- Finding & removing duplicates
- Finding & imputing missing values
- Normalizing data
- Data visualization

RESULTS

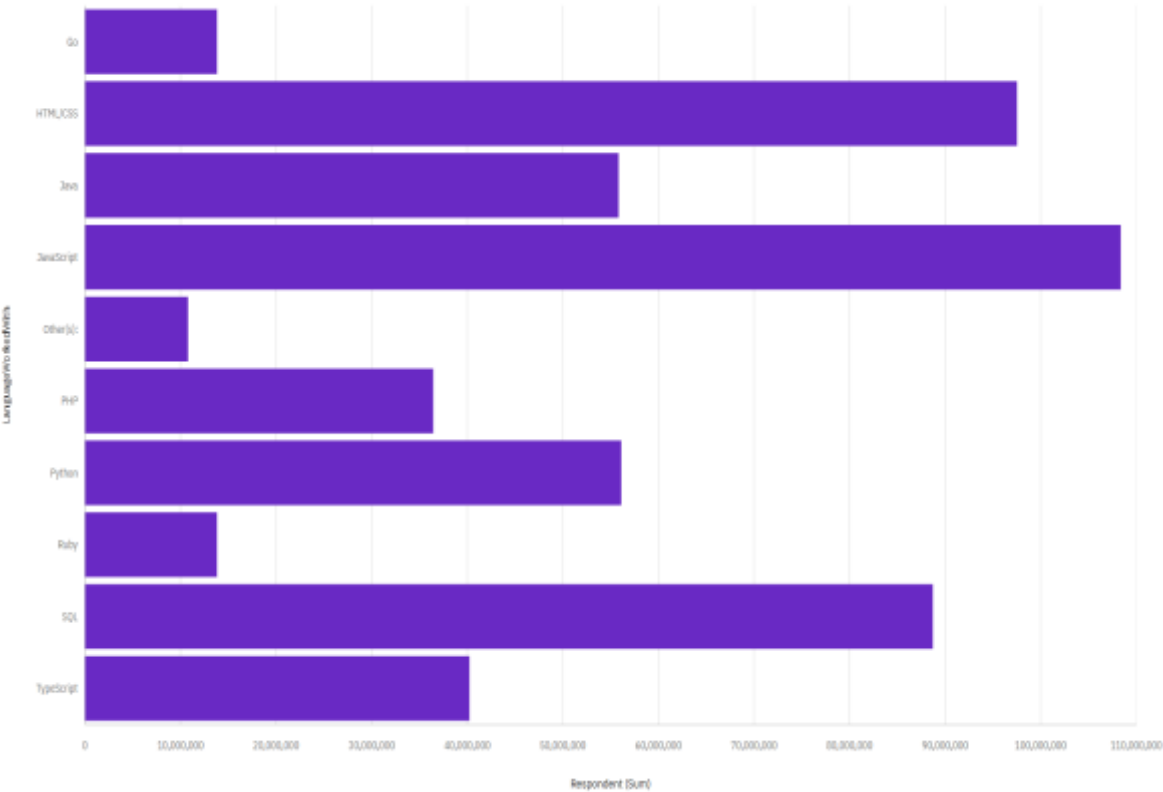
Technology	Number of Jobs
C	25114
C#	526
C++	506
Java	3428
JavaScript	2248
Python	1173
Scala	138
Oracle	899
SQL Server	423
MySQL Server	0
PostgreSQL	86
MongoDB	208

Programming Language,Annual Average Salary	Language,Average Annual 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 \$

PROGRAMMING LANGUAGE TRENDS

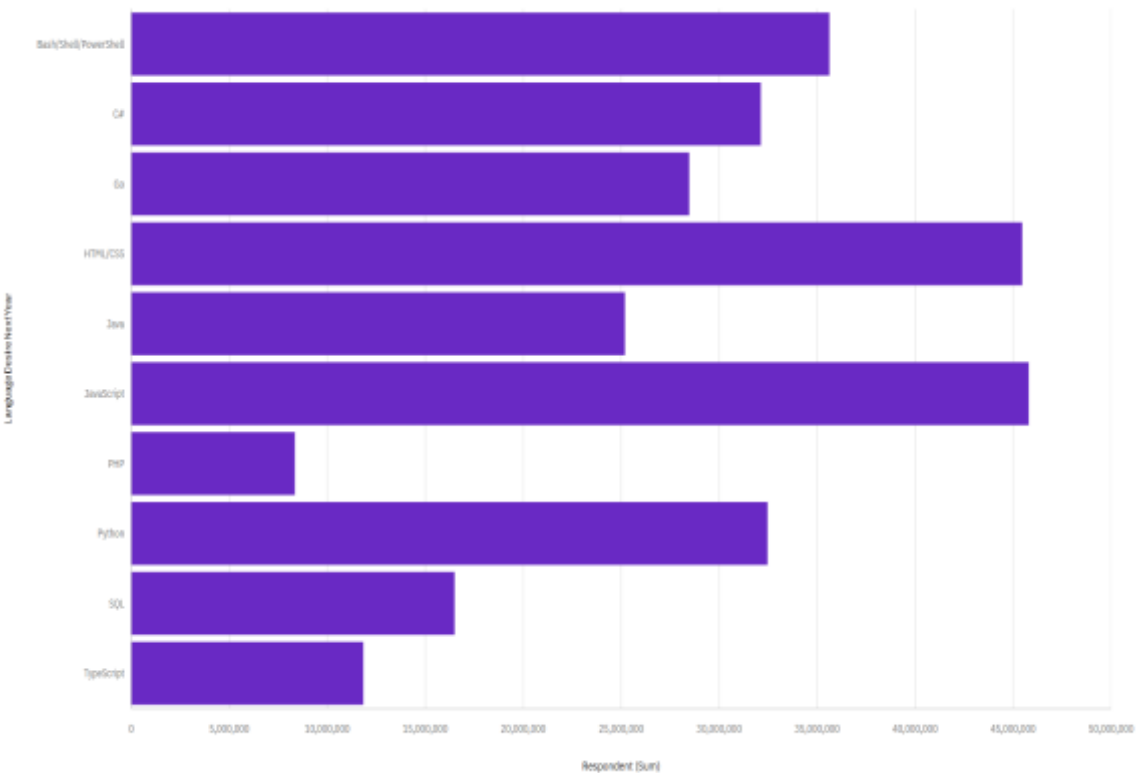
Current

Top 10 languages worked with



Next

Top 10 Language Desire Next Year



PROGRAMMING LANGUAGE TRENDS – FINDINGS & IMPLICATIONS

Findings

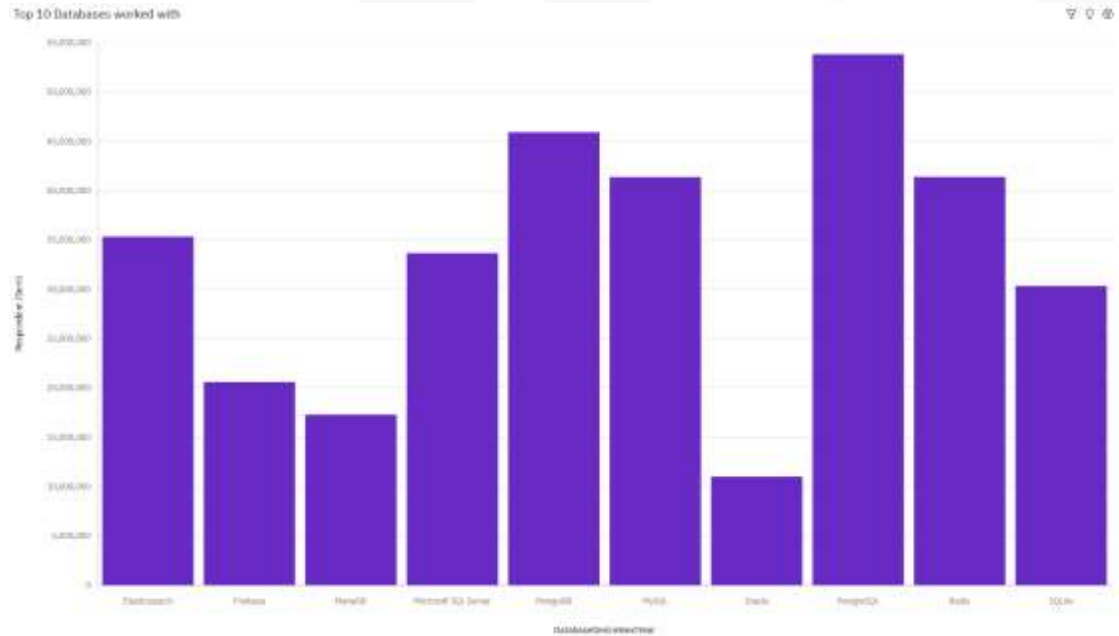
- JavaScript is the most popular
- More wants to learn it
- SQL is popular but less wants to learn it

Implications

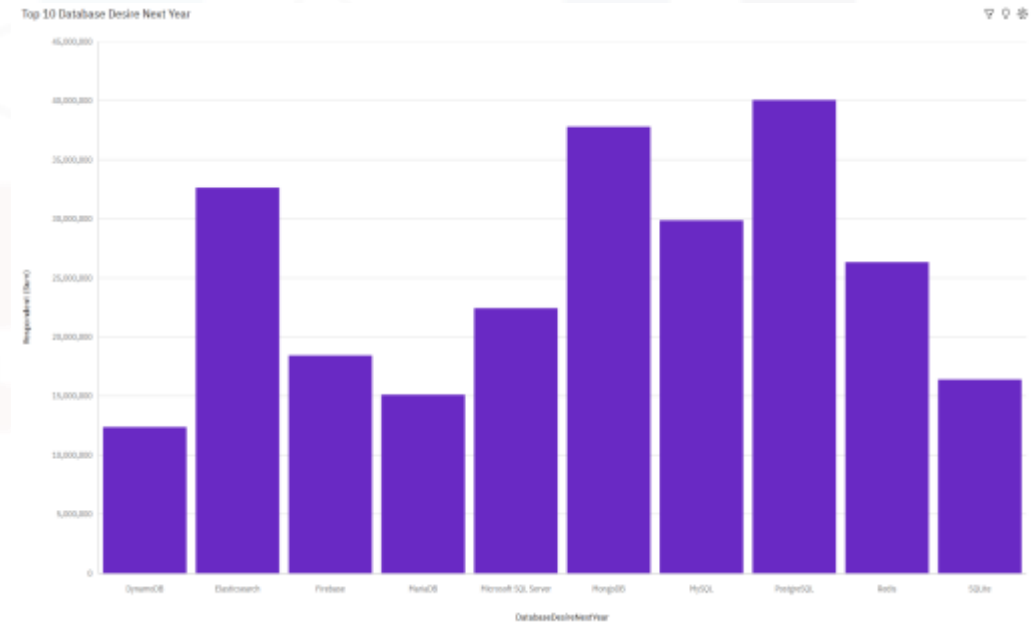
- High demand for JavaScript skills necessitates prioritizing hiring and training. Companies should invest in robust JavaScript tools and frameworks like React and Node.js. Continuous updates and performance optimization of JavaScript codebases are essential.
- Training programs should expand to meet the growing interest in JavaScript. Businesses can offer in-house training to upskill employees. Leveraging community resources will support this learning.
- A potential skill gap in SQL expertise may arise, necessitating targeted training programs. Companies should maintain existing SQL systems and integrate SQL with modern data technologies. Encouraging hybrid skills can bridge the gap.

DATABASE TRENDS

Current



Next



DATABASE TRENDS – FINDINGS & IMPLICATIONS

Findings

- PostgreSQL is the most popular
- Most want to learn it
- Oracle has the least and doesn't appear in the top 10 desired to learn

Implications

- High demand for PostgreSQL skills suggests businesses should prioritize its training and integration. Investment in PostgreSQL tools and support will be crucial for companies. PostgreSQL's popularity can lead to a larger pool of experienced developers.
- Growing interest in PostgreSQL presents opportunities for expanded educational programs. Companies can offer in-house PostgreSQL training to meet the learning demand. Encouraging PostgreSQL learning can enhance the technical capabilities of the workforce.
- Oracle's limited usage and learning interest may indicate a shift towards other database technologies. Businesses might need to reconsider their investment in Oracle training and support. Companies using Oracle may face challenges in finding new talent proficient in its technology.

DASHBOARD

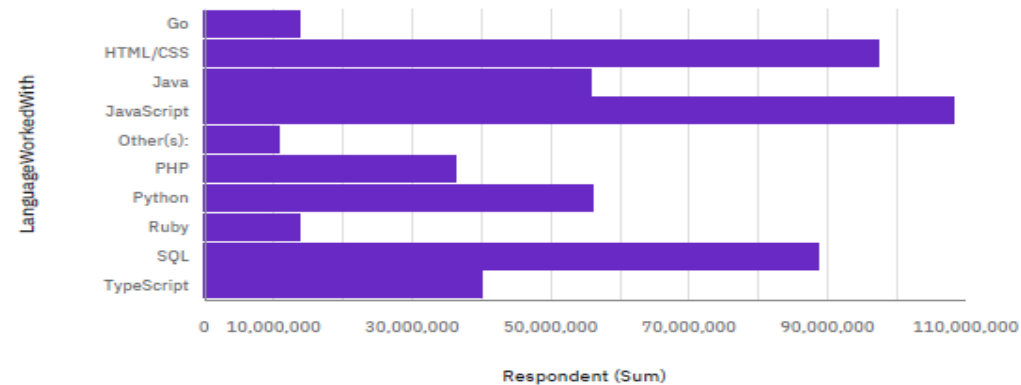


- Current technology usage
- Future technology trend
- Demographics

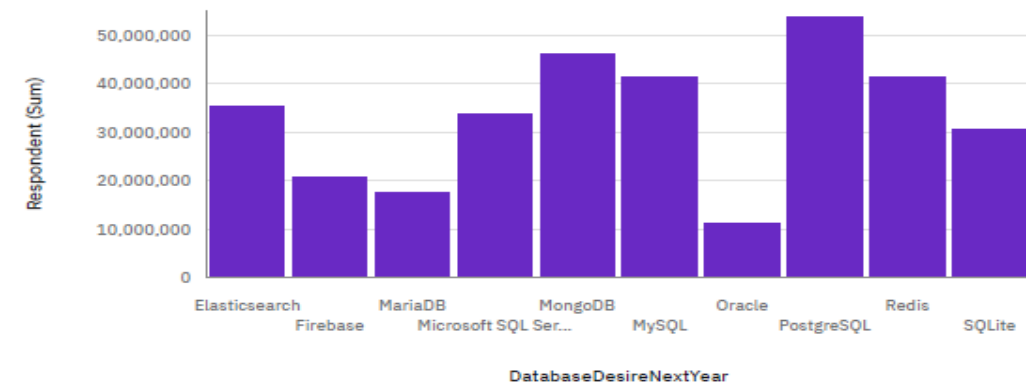
DASHBOARD TAB 1

Current Technology Usage

Top 10 languages worked with



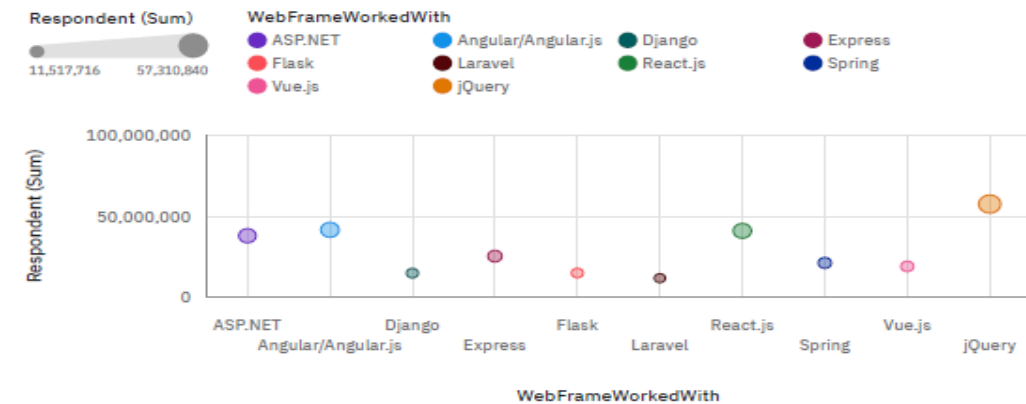
Top 10 Databases worked with



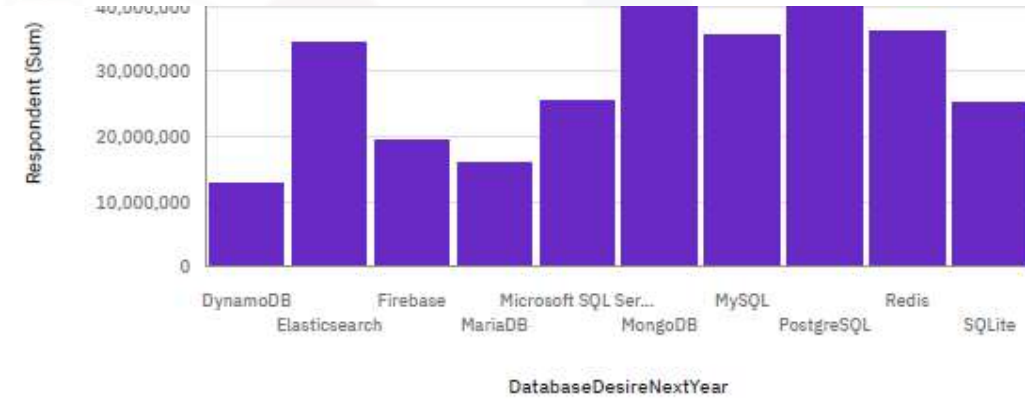
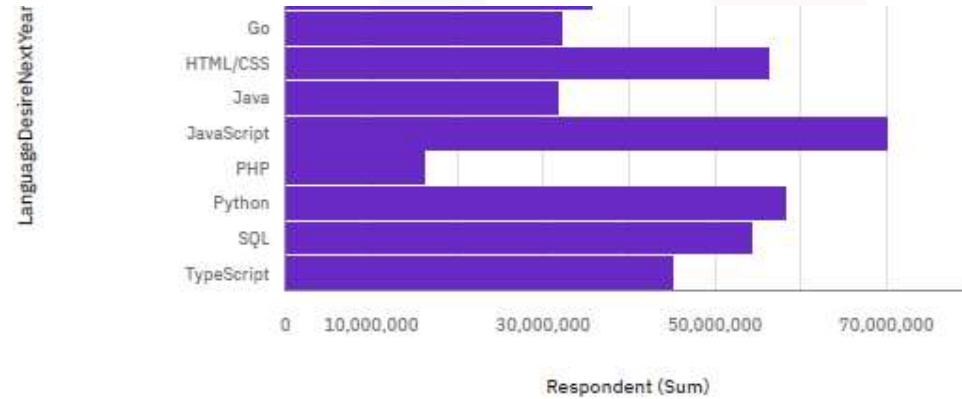
Platform Worked With



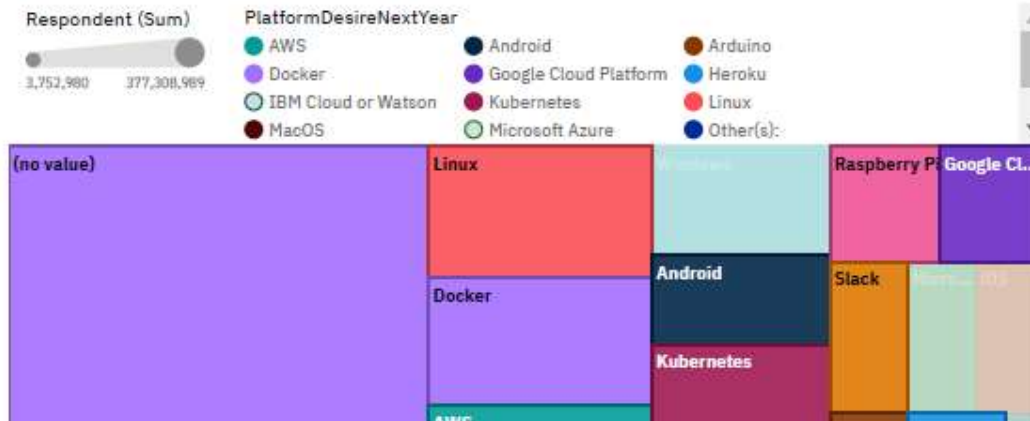
Top 10 Web Frame Worked With



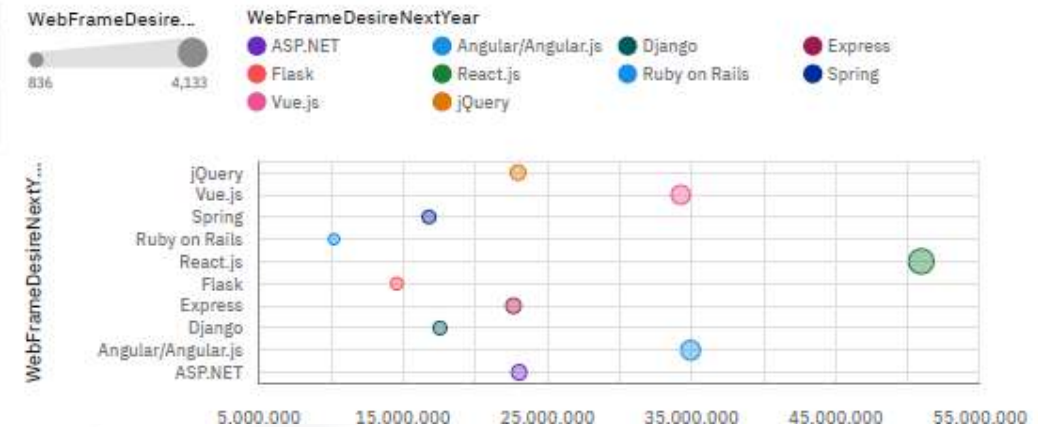
DASHBOARD TAB 2



Platform Desire Next Year.



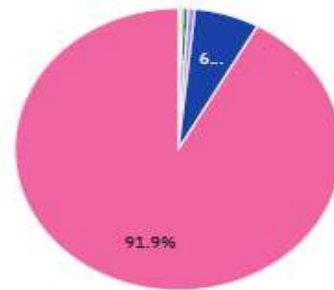
Top 10 Web Frame Desire Next Year



DASHBOARD TAB 3

Demographics

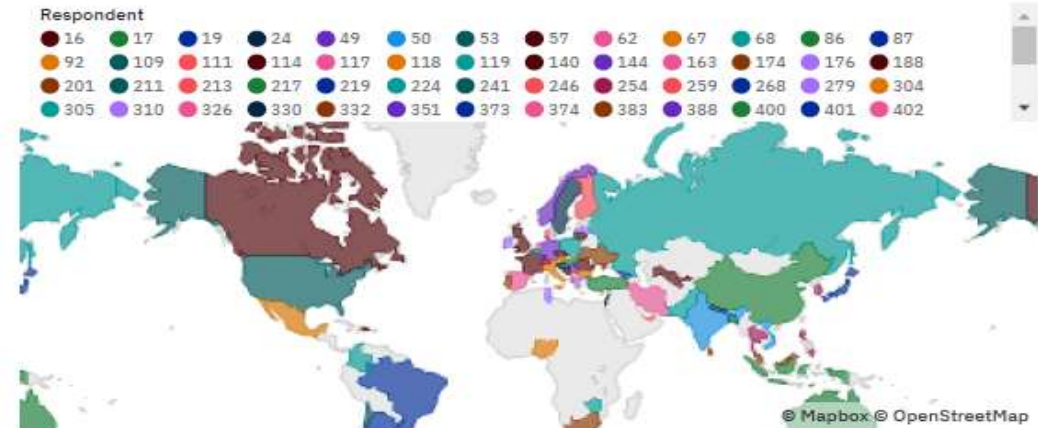
Respondent by Gender



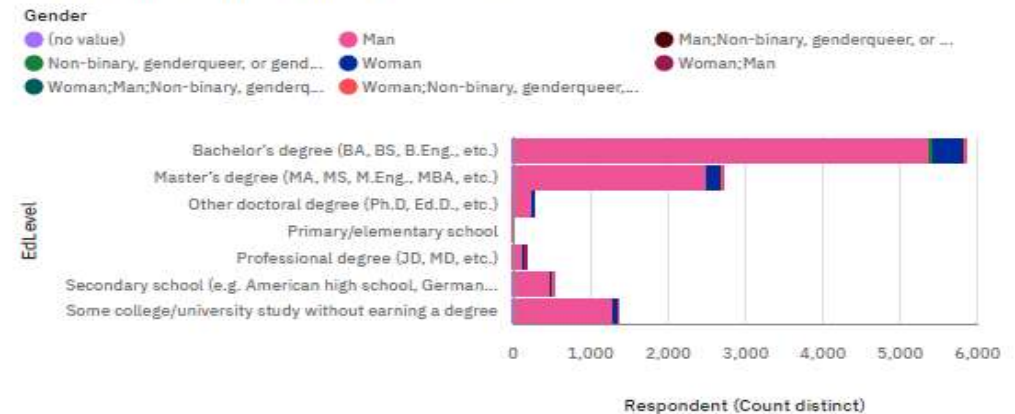
Respondent by Age



Respondent for Country regions



Respondent by EdLevel colored by Gender



DISCUSSION



OVERALL FINDINGS & IMPLICATIONS

Findings

- Mainly men
- People in their 20s
- Most has a bachelor degree

Implications

- The group is predominantly male, indicating a potential gender imbalance. This could impact team dynamics, perspectives, and inclusiveness within the group.
- Most individuals are in their 20s, suggesting the group is relatively young. This might imply that they are early in their careers, potentially more adaptable to new technologies but with less experience compared to older colleagues.
- The majority have a bachelor's degree, indicating a high level of formal education. This could reflect a strong foundation in theoretical knowledge and

CONCLUSION



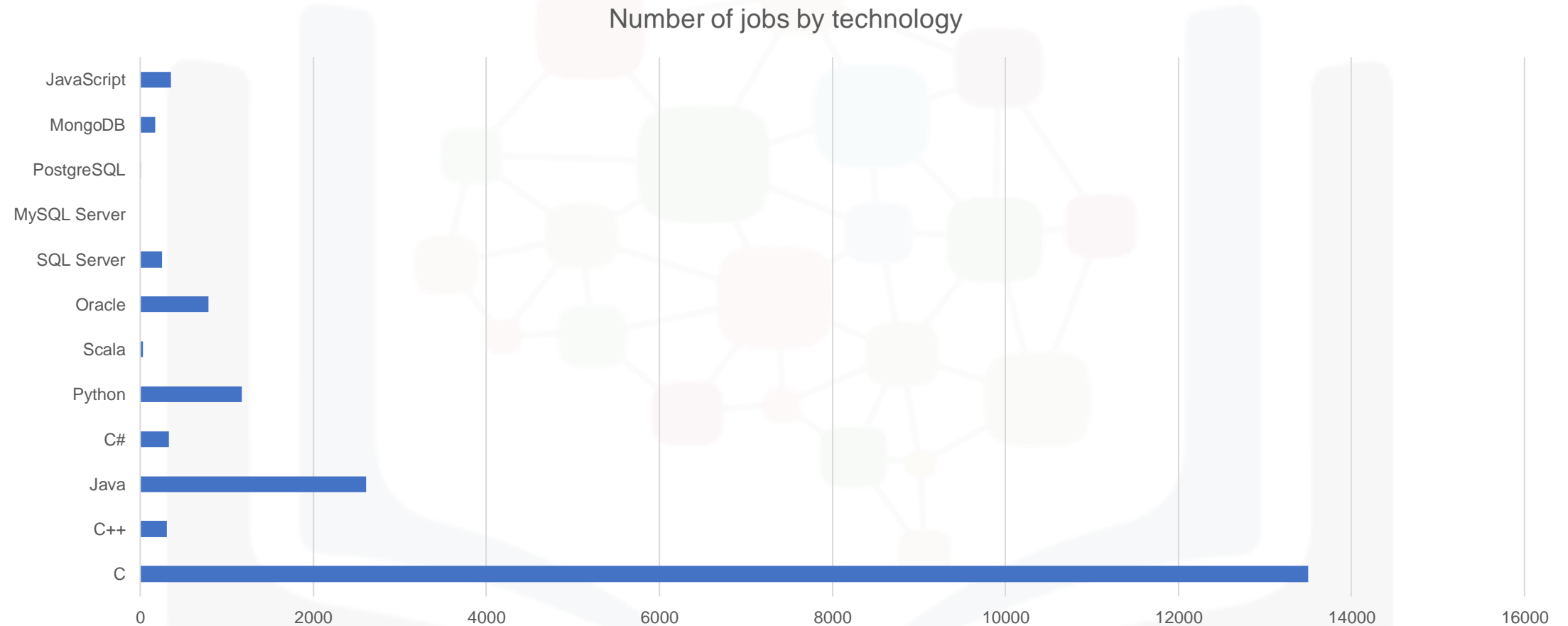
- Workfield dominated by men
- Most of them have a bachelor degree
- Young workforce
- JavaScript and PostgreSQL are respectively the most popular language and database

APPENDIX



- Include any relevant additional charts, or tables that you may have created during the analysis phase.

JOB POSTINGS



POPULAR LANGUAGES

