# Tech Trends Analysis: Unveiling Insights in Emerging Technologies

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# OUTLINE

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

**IBM Developer**

**SKILLS NETWORK**

# EXECUTIVE SUMMARY

- This is a data-driven journey through contemporary tech trends, employing appropriate methodology to extract actionable insights. The focus is on a comprehensive visualization result and a refined discussion of their implications, climaxing in strategic conclusions for informed decision-making.

- Objective approaches were used to unveil pertinent insights into current technology trends and leverage a systematic methodology for robust analysis.

- Data Gathering was done through compilation from job postings, blogs, and surveys and was Scrutinized for quality, relevance, and representativeness.

- Rigorous data wrangling for consistency and accuracy and statistical techniques applied to extract meaningful patterns.

- Data Visualizations was carried out utilizing visualization tools, dynamic charts and graphs to enhance comprehension.

- Results, Discussion and Findings were presented through a mix of a comprehensive graphical representations of findings, emphasis on trends and correlations for deeper insights, In-depth analysis of patterns and implications and an Identification of critical trends shaping the tech landscape.

IBM Developer

SKILLS NETWORK

# INTRODUCTION

Our exploration revolves around identifying the most sought-after programming languages, coveted database skills, and the prevalent Integrated Development Environments (IDEs). This expedition will pave the way for strategic decision-making and a nuanced understanding of the ever-evolving tech skill demands.

Key Points:

1. Data Collection: Collating insights from job postings, training platforms, and surveys.

2. Emerging Skills Focus: Identifying top programming languages, in-demand database skills, and popular IDEs.

3. Strategic Implications: Enabling informed decision-making for navigating the evolving skills landscape.

4. Delving into the nuances of programming languages shaping the industry and uncovering the pivotal database skills sought by organizations.

# METHODOLOGY
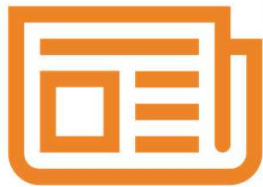
- **Collection of Data and Data Exploration**
  - Collecting Data Using APIs.
  - Collecting Data Using Webscraping.
  - Exploring Data.

- **Data Wrangling**
  - Finding Missing Values and determining missing Values .
  - Finding Duplicates  and removing Duplicates .
  - Normalizing Data.

- **Exploratory Data Analysis**
  - Distribution analysis, outliers  detection and correlation was carried out to further appreciate and understand the dataset better.

- **Data Visualization and Creation of Dashboards**
  - Visualization distribution of data showing relationships, compositions and comparisons.
  - Creation of interactive Dashboards using IBM Cognos Analytics.

- **Presentation of Findings**

# RESULTS

# PROGRAMMING LANGUAGE TRENDS

Current Year
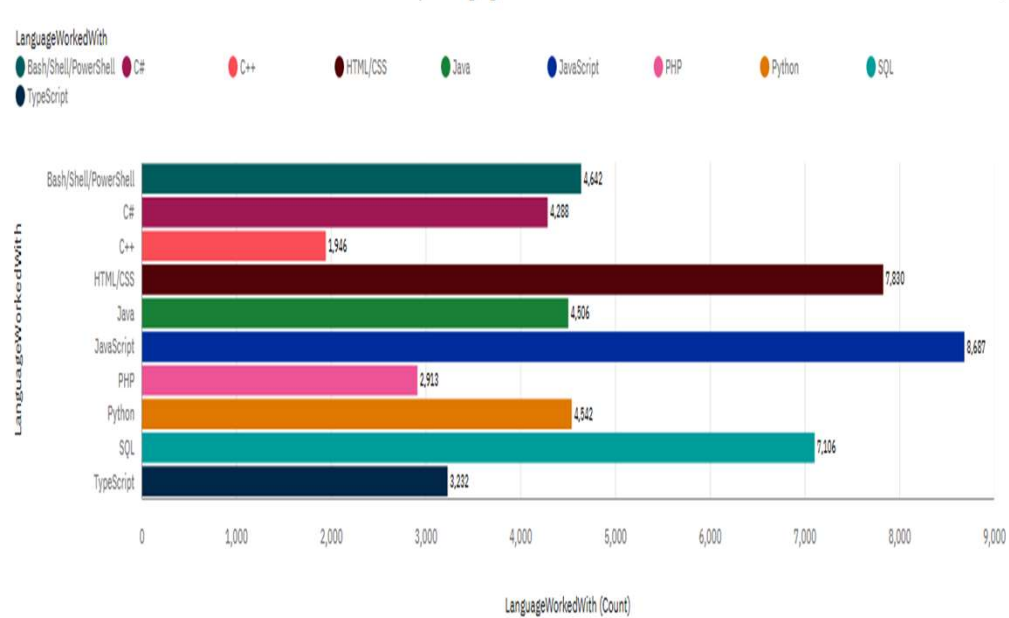
Next Year
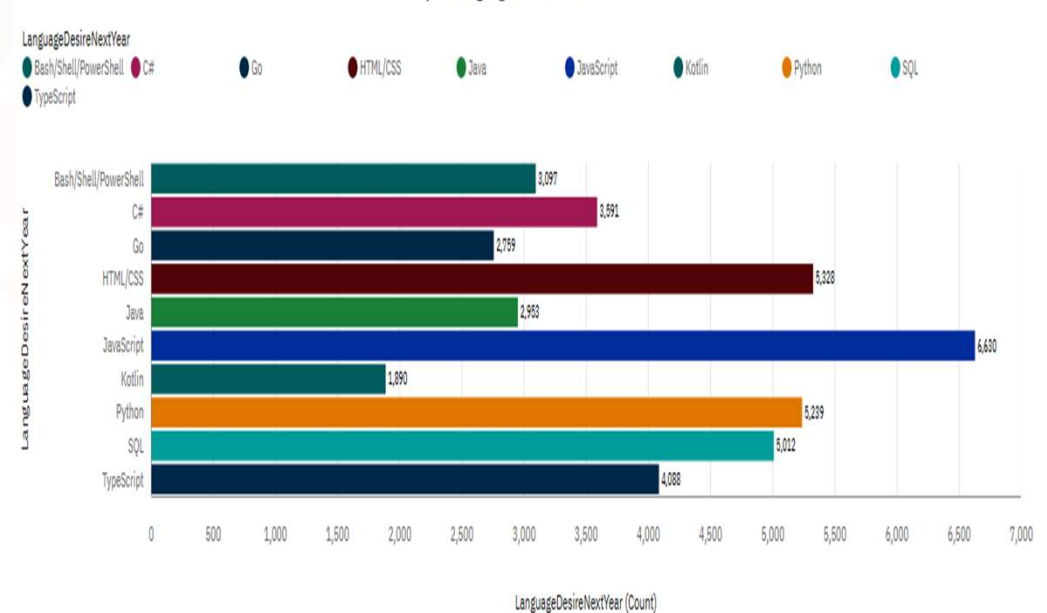
# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

## Findings

- JavaScript, HTML/CSS and SQL are the top 3 most utilized programming languages in the current year.

- JavaScript still maintains the lead but python is fast growing as a sought after language to learn in the coming year.

- Some languages (C++ and PHP) which appeared in the top 10 list in the current year showed no desired to be learned in the future and the list was replaced by new comers (GO and Kotlin).

## Implications

- JavaScript still maintains the lead as the top most sought after programming language in the coming years but with a steady decline.

- Python language is emerging as one of the most sought after programing languages in the coming years.

- Some programming languages (C++ and PHP) have high probability of becoming obsolete in the coming years with the emergence of new languages (GO and Kotlin).
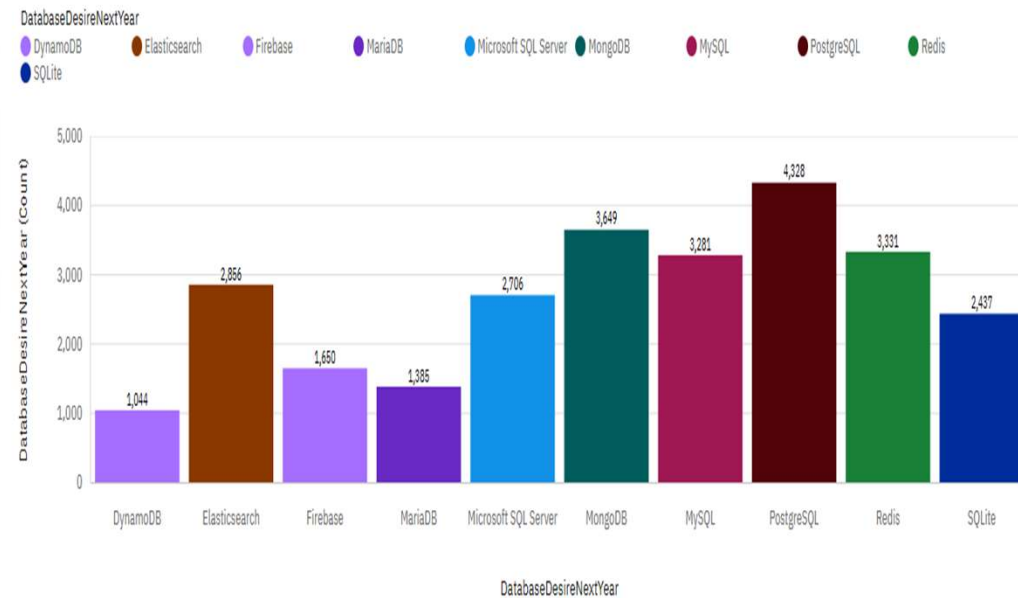
# DATABASE TRENDS

Current Year
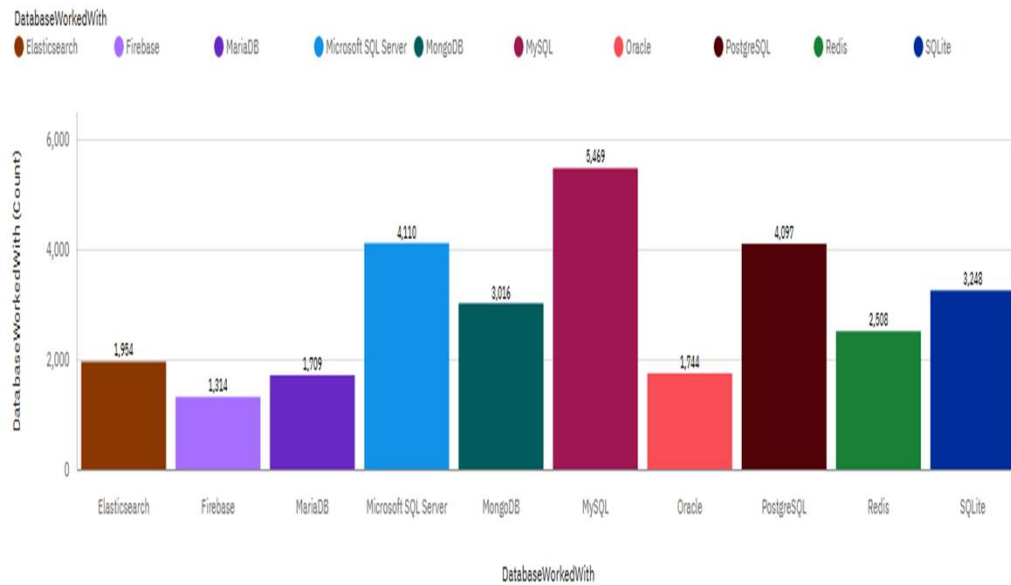
Next Year

# DATABASE TRENDS - FINDINGS & IMPLICATIONS

## Findings

- MySQL, Microsoft SQL Server and PostgreSQL are the top most Databases being worked with by most programmers in the current year.

- Firebase, MariaDB and Oracle are in the bottom tier of the top 10 most used Databases in the current year.

- PostgreSQL takes the lead as the most desired database to use in the coming year with a dramatic drop in desire for MySQL. Also MongoDB is on the rise as a desired database of usage.

## Implications

- Programmer are opting for PostgreSQL and MongoDB at the expense of MySQL and Microsoft SQL Server as databases of choice.

- Programmers seem to be picking up interest for open source databases (PostgreSQL, MySQL and MongoDB) against commercial ones (Oracle, Microsoft SQL Server, MariaDB etc.)
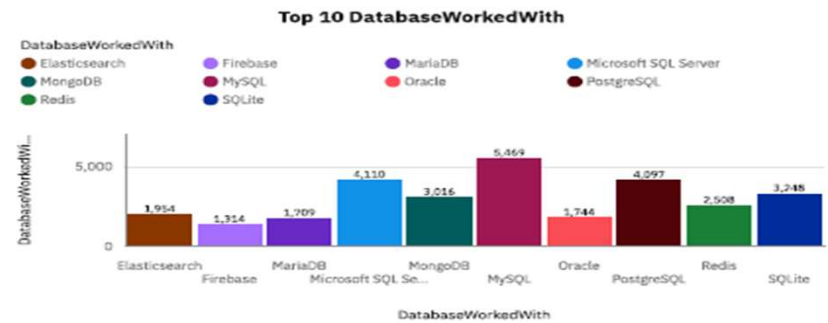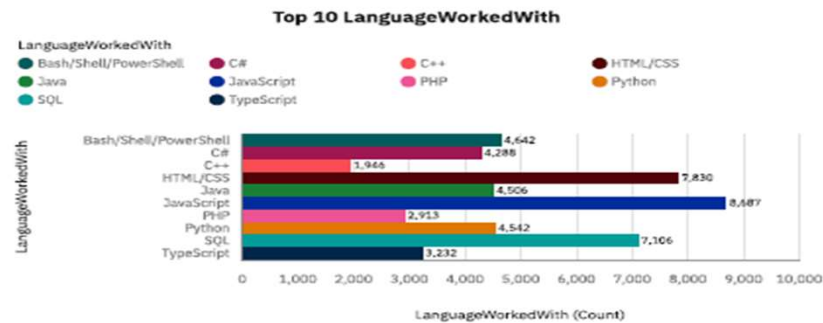
# DASHBOARD

[Data-Analyst-Capstone-Project/Peer-Graded Assignment Building Dashboards with IBM Cognos Analytics.pdf at main · ajogwusalifu/Data-Analyst-Capstone-Project (github.com)](https://github.com)
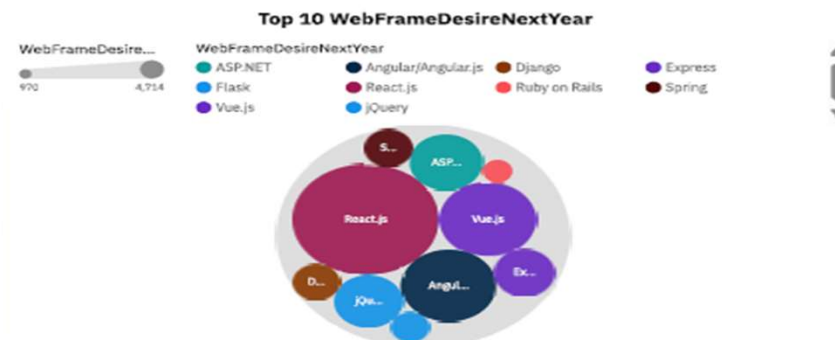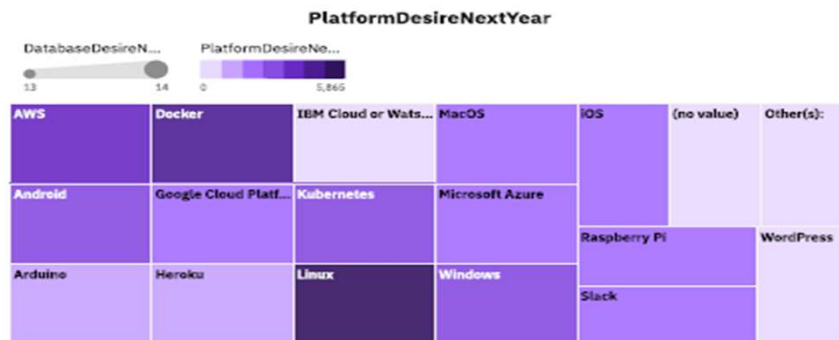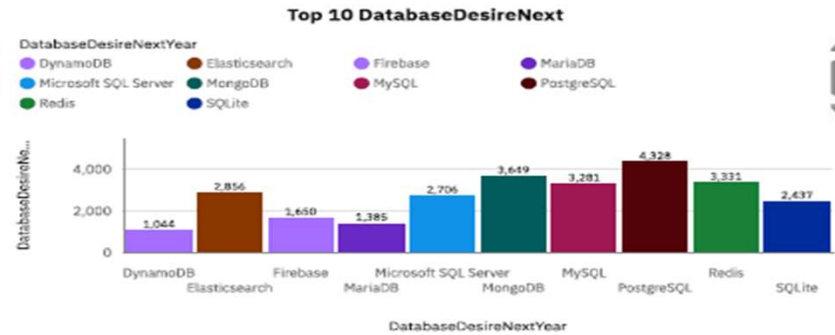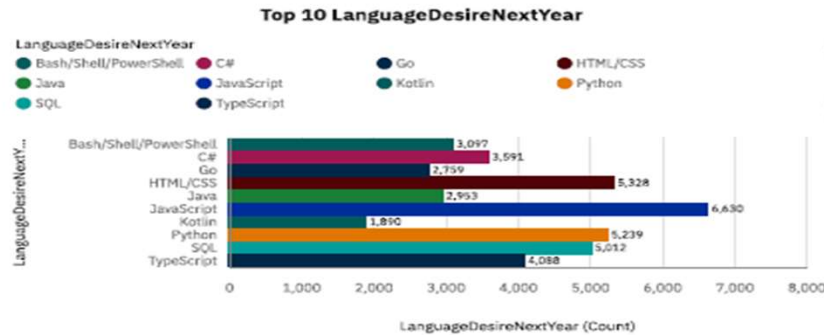
# DASHBOARD TAB 1
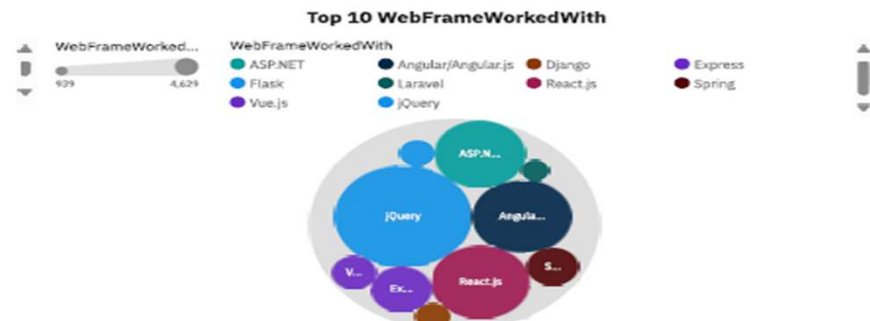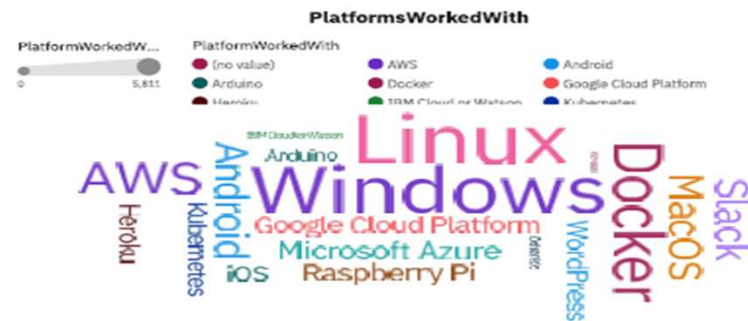
# DASHBOARD TAB 2

# DASHBOARD TAB 3
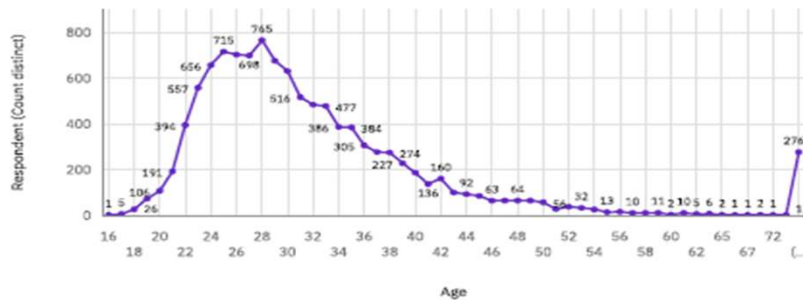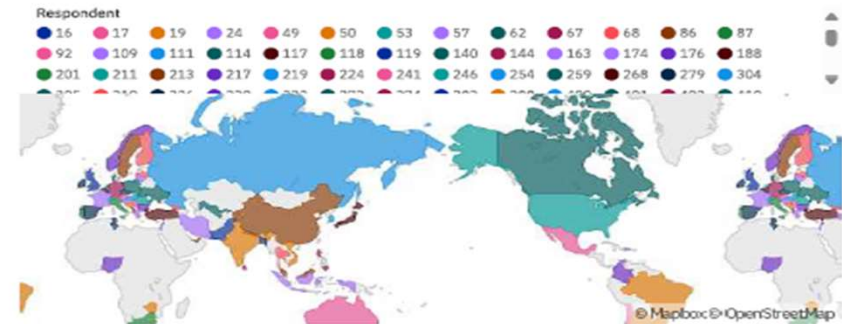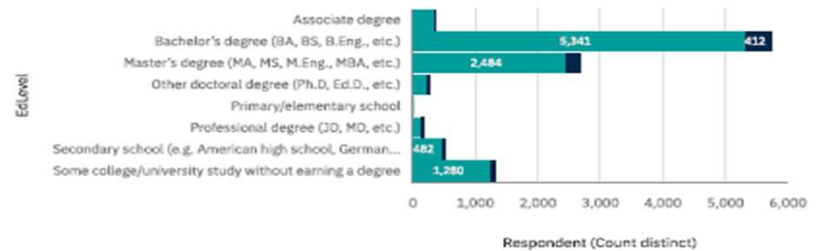
# DISCUSSION

The data portrays a dynamic landscape in programming languages and databases, highlighting the need for continual adaptation in the tech industry.

# OVERALL FINDINGS & IMPLICATIONS

## Findings

- JavaScript maintains its dominance, while Python's rapid ascent suggests a changing tide.

- PostgreSQL's surge to the lead and MongoDB's traction underscore a preference for robust open-source databases.

- The declining interest in certain languages emphasizes the necessity for proactive skill adaptation among professionals.

- Organizations should consider these language and database trends when planning their technology stacks and talent acquisition strategies.

## Implications

- The decline of languages like C++ and PHP implies a potential shift in relevance, emphasizing the need for developers to diversify their language repertoire.

- This shift signals potential challenges for commercial alternatives, urging organizations to reevaluate their database strategies.

- Staying aligned with industry trends becomes crucial to remain competitive in the evolving tech landscape.

- Strategic decision-making becomes paramount in navigating the evolving technological landscape.

# CONCLUSION

**Continuous Learning and Adaptation:**

- The ever-changing landscape of programming languages and databases underscores the importance of continuous learning. Developers and organizations must prioritize staying abreast of emerging technologies to remain competitive.

**Strategic Talent Acquisition:**

- The findings emphasize the need for strategic talent acquisition, considering the rising popularity of languages like Python and databases like PostgreSQL. Organizations should align their hiring strategies with the evolving preferences of the developer community.

**Open Source and Industry Collaboration:**

- The growing preference for open-source databases signals a shift towards collaborative industry practices. Embracing open-source technologies can foster innovation and collaboration within the developer community.
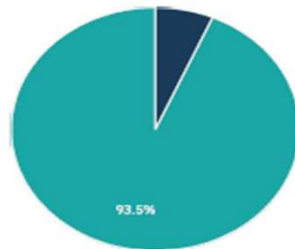
**Future-Proofing Technology Stacks:**

- To future-proof technology stacks, organizations should invest in versatile languages and databases. This ensures adaptability to industry trends and positions them strategically in a competitive tech landscape.
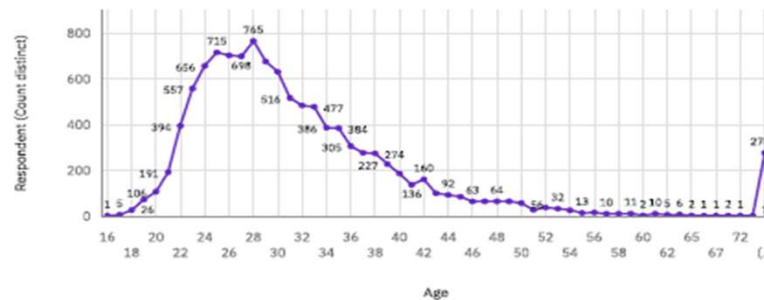
# APPENDIX



Demographics
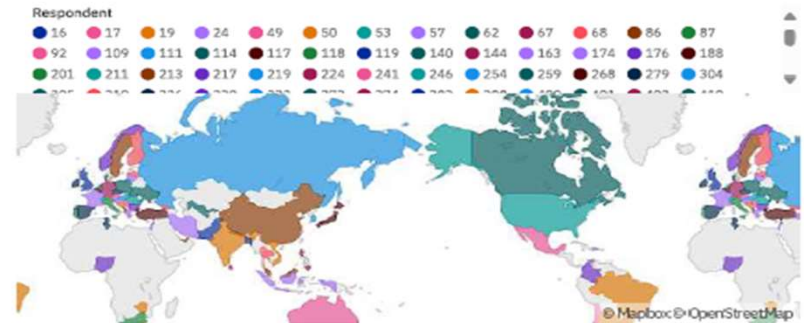
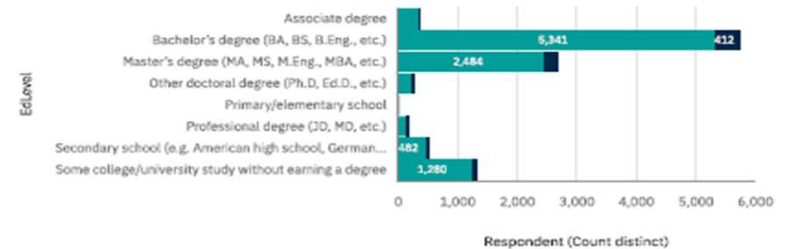**Total Respondent Categorized by Gender**

**Total Respondent categorized by Country**

**Total Respondent Categorized by Age**

**Total Respondent Categorized by EdLevel and Gender**

# JOB POSTINGS

# POPULAR LANGUAGES



**Most popular programing languages**