



Analysis of Technology uses

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OUTLINE



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

EXECUTIVE SUMMARY



- JavaScript and HTML/CSS are top languages, reflecting a heavy reliance on front-end web development.
- Widespread usage of MySQL, Microsoft SQL Server, and PostgreSQL among developers, indicating expertise in handling relational databases.
- Technologies like AWS and Docker are central to developer workflows, underlining a focus on cloud services and containerized environments.
- React.js and Angular are the most worked with, showing their importance in modern web application development.

INTRODUCTION



- This report provides an in-depth analysis of current technology usage trends and future desire of usages among developers, focusing on programming languages, databases, platforms, and web frameworks.
- In addition to identifying key trends in technology usage, the report aims to help organizations and developers anticipate shifts in technology preferences, enabling them to stay competitive in the fast-paced tech industry.
- By analyzing current technology usage and future trends, this report offers valuable insights into the skills and tools that will likely shape the development landscape in the coming year.

METHODOLOGY



- The dataset Stack Overflow under a ODbL: Open Database License.
- Analyzed those data source in Cognos Analytic and prepared useful charts.
- The analysis focused on identifying trends in current technology usage and future preferences. Key metrics such as the number of respondents per technology were calculated and visualized in charts to provide clear insights into developer trends.

RESULTS

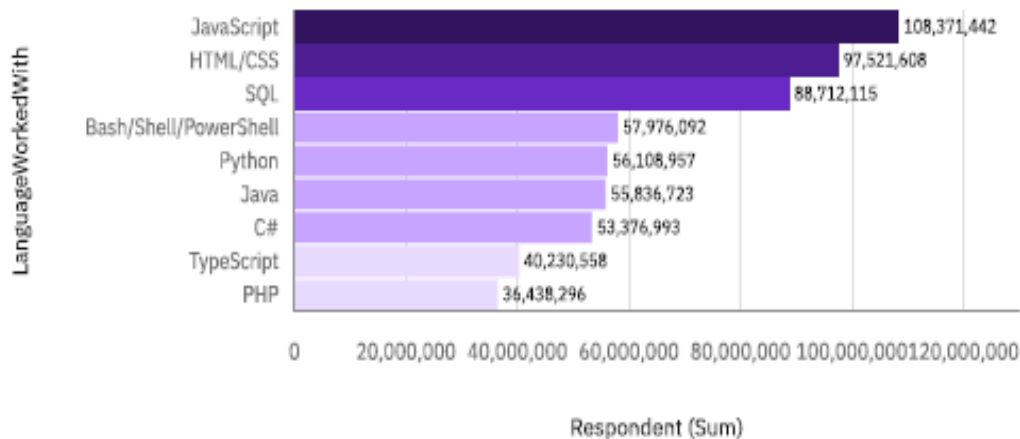
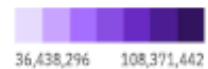
- **Programming Languages:** JavaScript, Python, and TypeScript will continue to dominate, while languages like Kotlin and Go are expected to gain traction.
- **Databases:** PostgreSQL and MongoDB will likely see increased usage, with more developers shifting to scalable, flexible database systems.
- **Platforms:** Linux, AWS, and Kubernetes are the platforms developers plan to invest in, signifying a move toward cloud computing and open-source development.
- **Web Frameworks:** React.js remains a dominant force, with strong interest in Vue.js and ASP.NET for future projects.

PROGRAMMING LANGUAGE TRENDS

Current Year

Top 10 LanguageWorkedWith

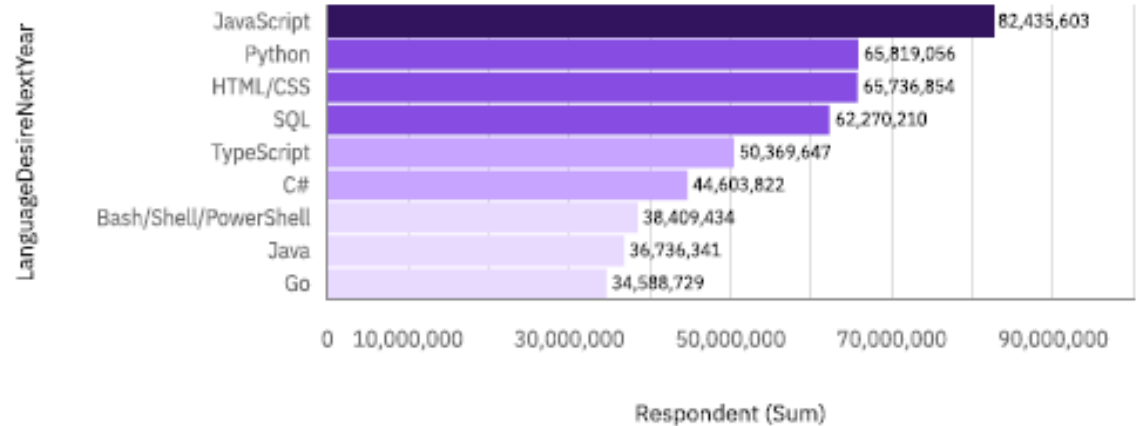
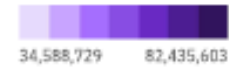
Respondent (Sum)



Next Year

Language Desire Next Year by Respondent

Respondent (Sum)



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript remains the most used and desired language, highlighting its importance in web development.
- Python is growing in popularity, especially for data science, AI, and automation.
- SQL remains crucial for backend development and database management.
- TypeScript and C# are seeing increased usage for scalable and enterprise applications.
- Go and Kotlin are gaining traction, especially in scalable applications and Android development.

Implications


- Businesses should continue investing in JavaScript skills to build dynamic, interactive web applications
- Companies should leverage Python for its versatility across multiple domains.²
- SQL proficiency will continue to be essential for data-driven industries.
- Developers should focus on these languages for enterprise-level solutions and large-scale applications.
- Businesses should consider these for system-level programming and mobile development.

DATABASE TRENDS

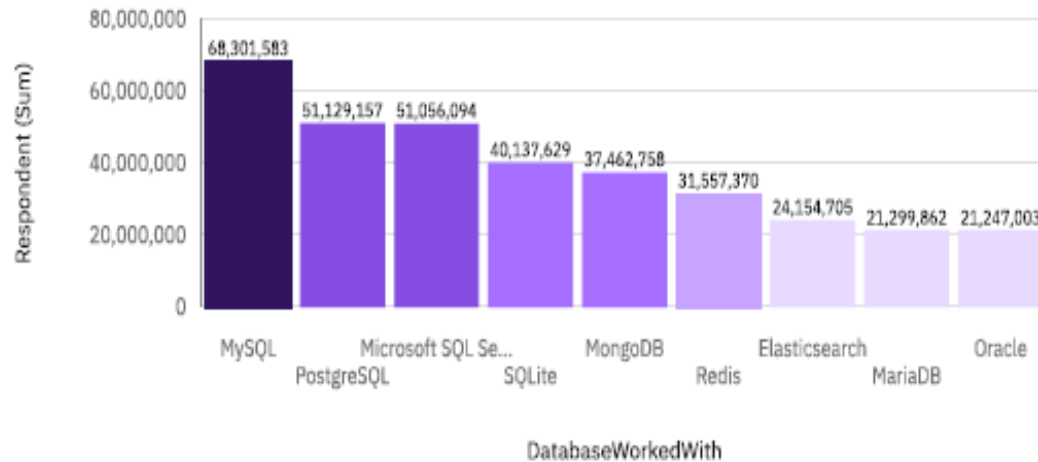
Current Year

Top 10 Database Worked With

Respondent (Sum)




21,247,003 68,301,583



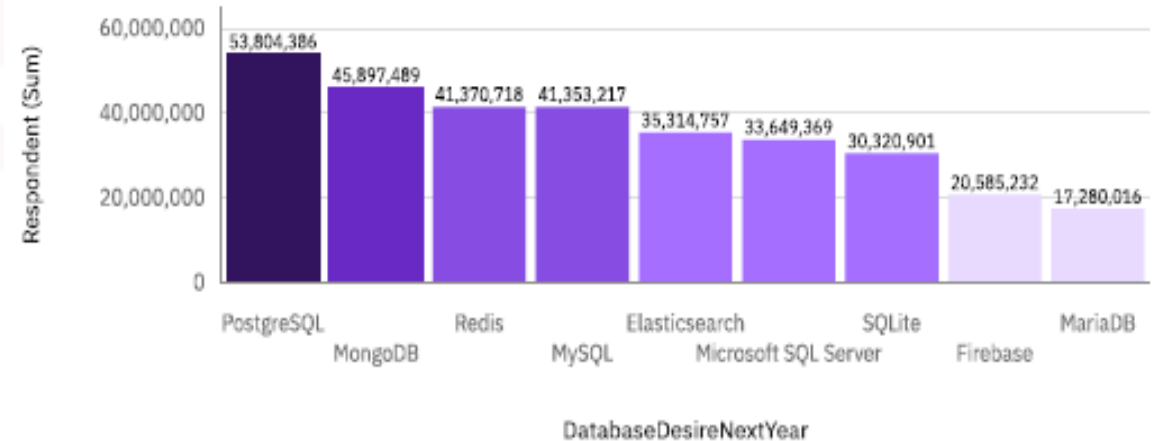
Next Year

Respondent by Database Desire Next Year

Respondent (Sum)



17,280,016 53,804,386



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

1. MySQL is the most used database, with 5,467 respondents currently using it.
2. PostgreSQL is both the third most used and the top desired database for the future, with 4,328 respondents planning to use it next year.
3. Microsoft SQL Server remains a stable choice, used by 4,110 respondents, and still relevant in future preferences.

Implications

1. Its reliability and scalability make it a popular choice for businesses across industries.
2. PostgreSQL's advanced features and flexibility are increasingly appealing for complex applications. 2
3. It continues to serve enterprises, especially in Windows-based environments.

DASHBOARD



[The Github link of the Dashboard](#)

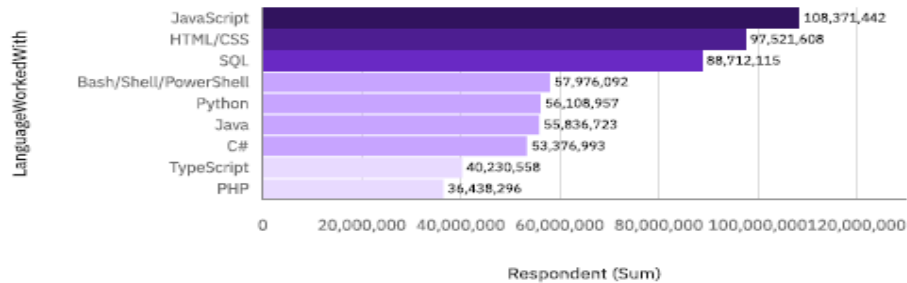
[CourseraDashboard/Technology-IBM.pdf at main · umorfaruk/CourseraDashboard · GitHub](#)

DASHBOARD TAB 1

Current Technology Usage

Top 10 LanguageWorkedWith

Respondent (Sum)



Platform Worked With by Respondent

Respondent (Sum)

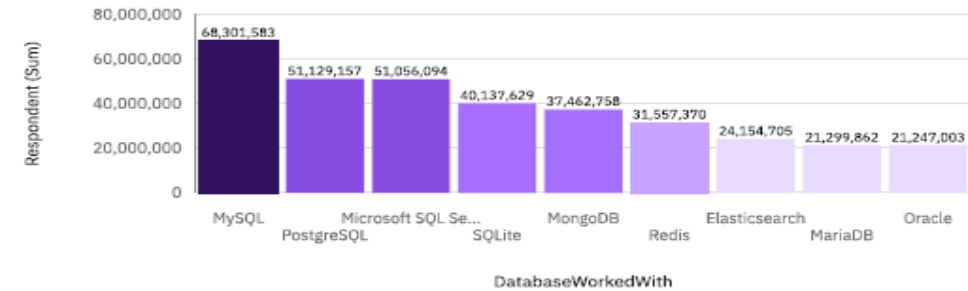


Respondent (Sum)



Top 10 Database Worked With

Respondent (Sum)

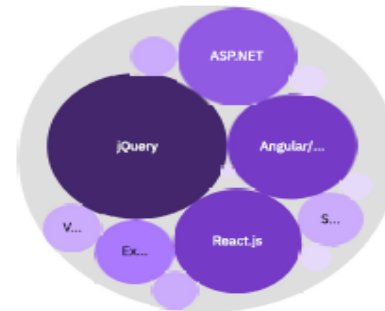


Web Frame Worked With hierarchy by Respondent

Respondent (Sum)



Respondent (Sum)



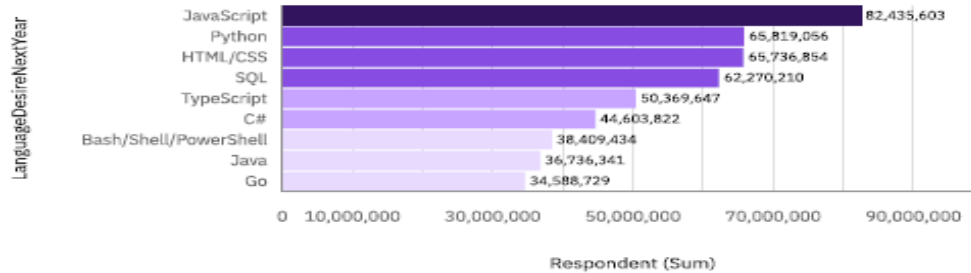
DASHBOARD TAB 2

Future Technology Trend

Language Desire Next Year by Respondent

Respondent (Sum)

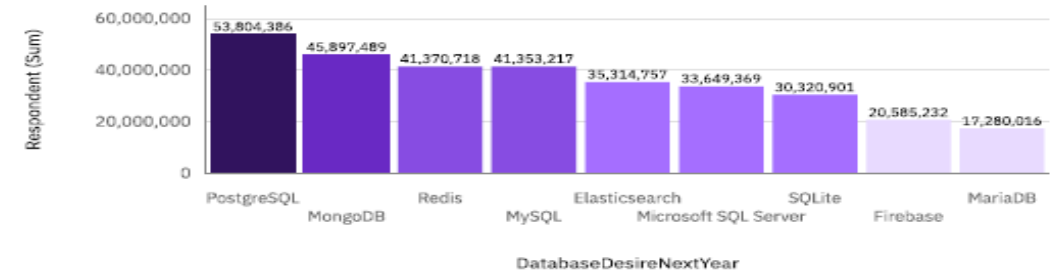
34,588,729 82,435,603



Respondent by Database Desire Next Year

Respondent (Sum)

17,280,016 53,804,386



Platform Desire Next Year by Respondent

Respondent (Sum)

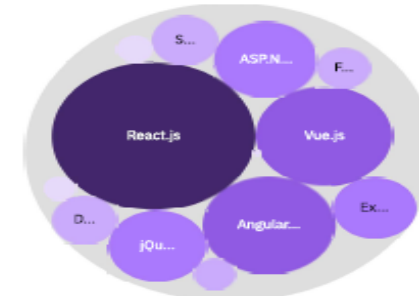
3,752,980 73,486,491



Web Frame Desire Next Year by Respondent

Respondent (Sum)

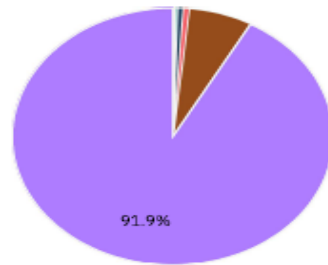
1,970,796 58,321,909



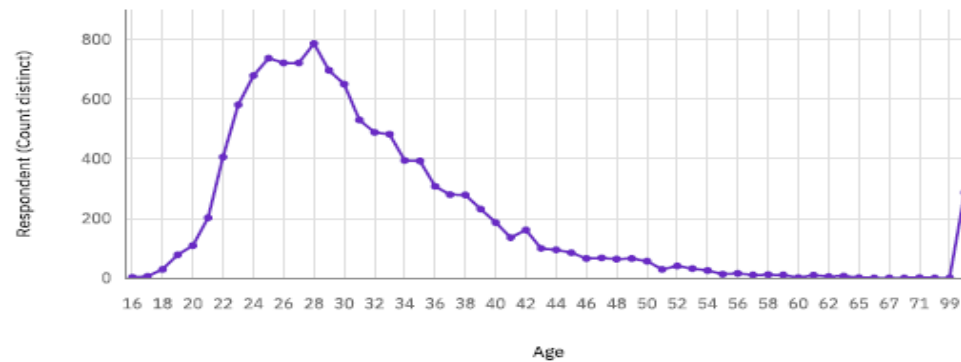
DASHBOARD TAB 3

Demographics

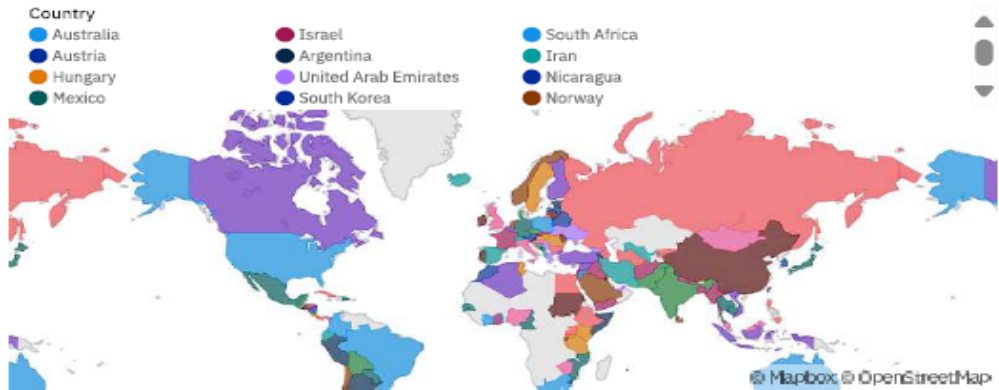
Respondent by Gender



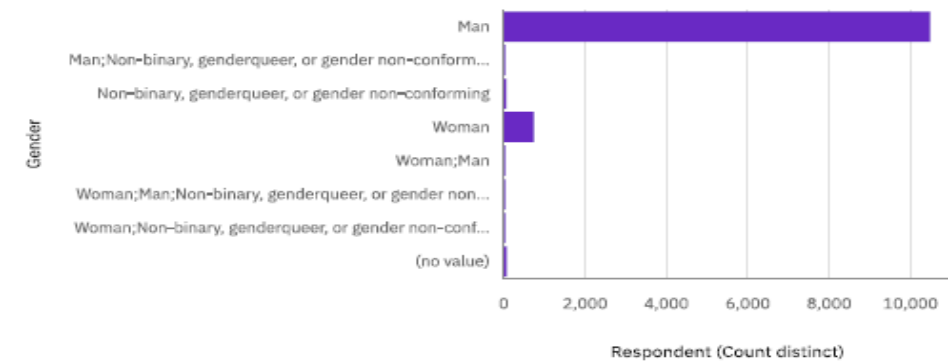
Respondent by Age



Country for Country regions



Respondent by Gender



DISCUSSION



- The trends show **JavaScript** and **Python** continuing to dominate, essential for web development and data science. **PostgreSQL** and **MySQL** remain popular, with **NoSQL** databases like **MongoDB** gaining traction for handling unstructured data. The growing interest in **cloud databases** like **Firebase** reflects the shift toward cloud-native applications.

OVERALL FINDINGS & IMPLICATIONS

- **JavaScript and Python Lead:**
 - These two languages remain essential for web development and data science.
 - **Implication:** Companies should continue investing in these skills for competitive advantage.
- **PostgreSQL and MySQL Popularity:**
 - Both databases are widely used, with PostgreSQL gaining future interest.
 - **Implication:** Organizations should focus on these databases for robust, scalable solutions.
- **Rising Demand for NoSQL and Cloud Databases:**
 - MongoDB and cloud platforms like Firebase are seeing growing interest.
 - **Implication:** Businesses must adopt these technologies to handle unstructured data and build scalable cloud applications.
- **Focus on Emerging Technologies:**
 - Languages like Go and Kotlin are gaining momentum for specialized use cases.
 - **Implication:** Companies should watch these trends for future opportunities in mobile and system-level development.

CONCLUSION



- **JavaScript and Python remain critical:** These languages will continue to drive web development and data science, making them essential skills for developers and businesses alike.
- **PostgreSQL is on the rise:** With growing interest in its advanced features, PostgreSQL is becoming a preferred choice for scalable, complex applications.
- **Shift toward NoSQL and cloud databases:** The increasing use of MongoDB and Firebase reflects the need for flexible, scalable solutions to manage unstructured data and cloud-native applications.
- **Emerging technologies demand attention:** Languages like Go and Kotlin are gaining ground, indicating potential growth in system programming and Android development, areas where future investment may pay off.

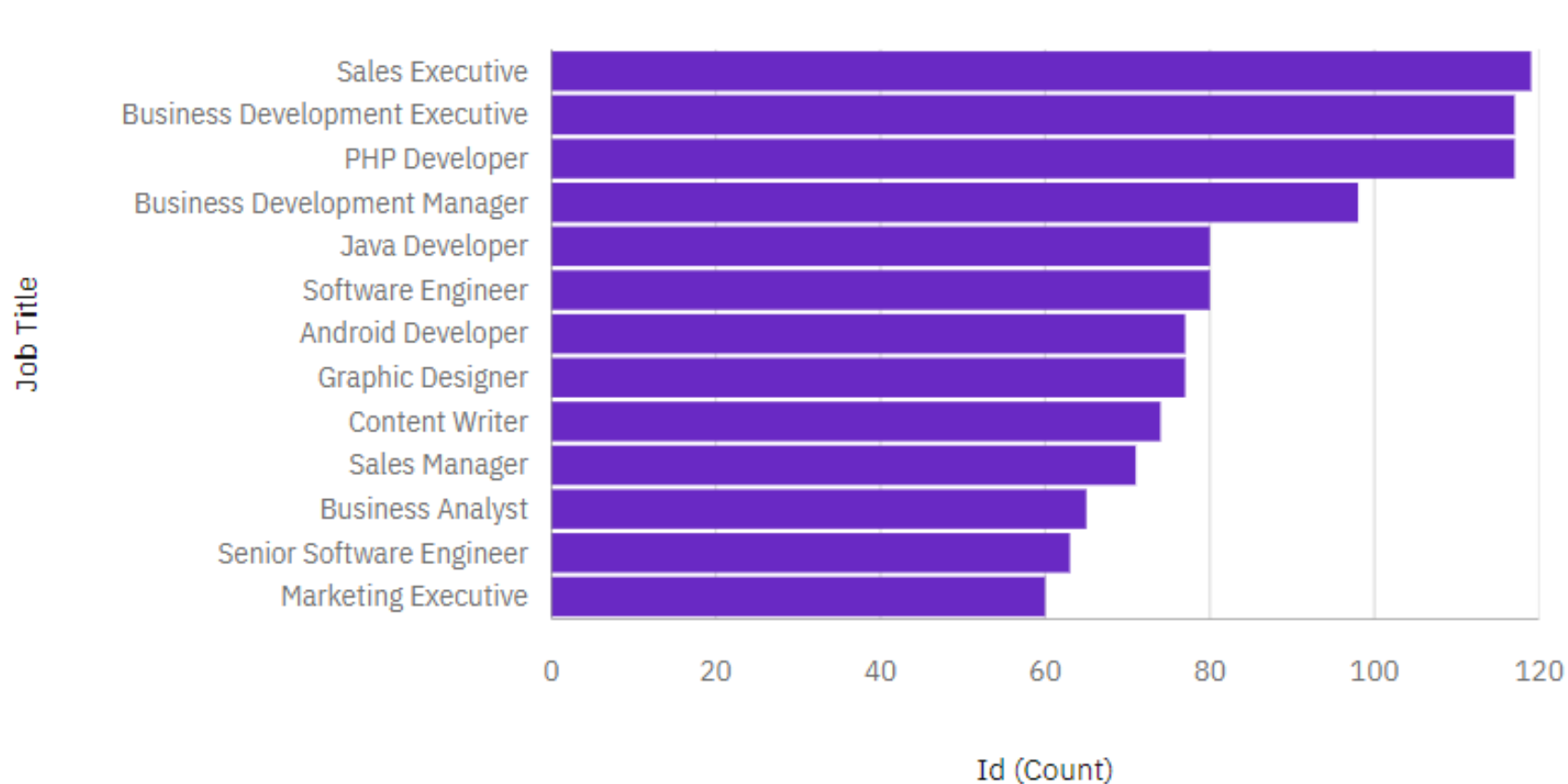
APPENDIX



- Relevant additional charts---

JOB POSTINGS

Job Postingby Job Title



POPULAR LANGUAGES

Average Salary by Language

