TRENDING TECHNOLOGIES

INSIGHT ON STACK OVERFLOW DEVELOPER SURVEY 2019

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EXECUTIVE SUMMARY

- Top programming languages in demand:
  - **HTML/CSS, Powershell, JavaScript, C#, Java**

- Top database skills in demand:
  - **MySQL, Microsoft SQL Server, MongoDB, PostgreSQL**

- Popular platforms:
  - **Windows, Linux, Docker, AWS, Slack**

- Future Technology Trend:
  - **Python takes the 7th row, followed by C++ and TypeScript**
  - **Elasticsearch is in the Top 2**
  - **Android is in the Top 5 demanded platforms**
  - **React.js takes the first row and Vue.js is the latest addition**

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INTRODUCTION

- Stack Overflow conducts an inclusive survey of individuals engaged in coding globally

- Covering a wide array of topics from preferred technologies to career aspirations, 2019 marks the 9th consecutive year of survey publication.

- Several key trends have emerged in recent years

- Let's explore some of the notable findings.
  - Nearly 90,000 developers participated in this survey

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METHODOLOGY

- Data is based on the survey conducted by Stack Overflow

- Data gathered from January 23 to February 14, 2019

- Surveys 88,883 software developers from 179 countries

- Familiarization with this dataset:
  - IBM labs on Coursera
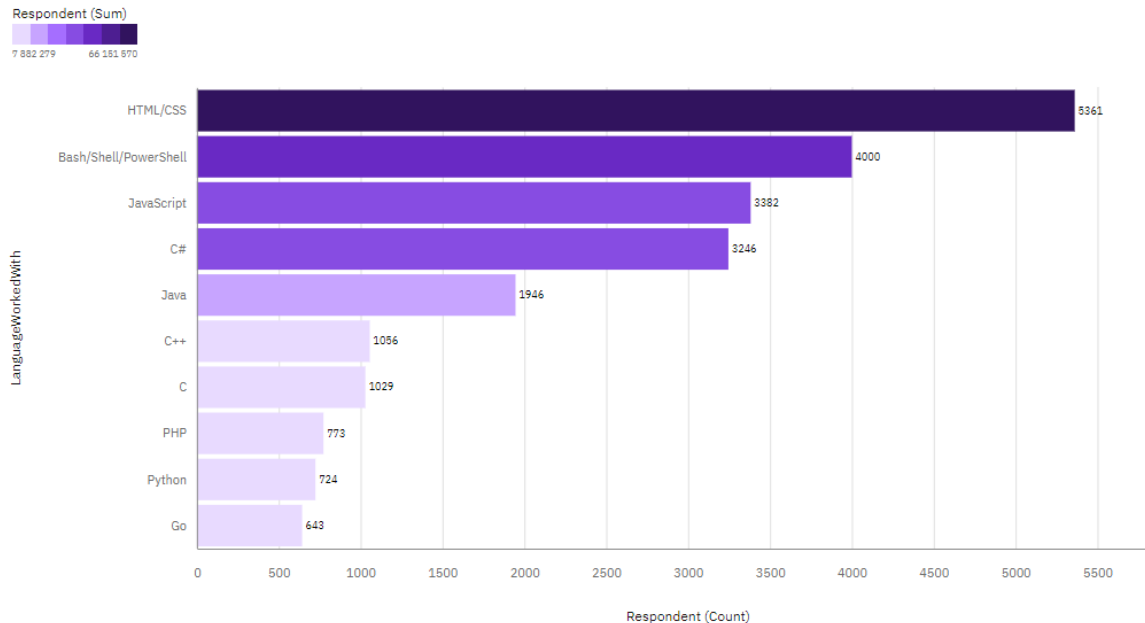 - Data analysis and visualization: IBM Cognos Analytics.

RESULTS

- Python overtakes PHP, C and C++, becoming the 7th most preferred language with significant growth. It stands as the fastest growing major programming language.

- HTML/CSS remains the most used programming language.

- JavaScript takes 2nd place as most used programming language.

- jQuery is the most widely used among web frameworks, with React.js surpassing Angular in developer usage this year.

- Globally, men represent approximately 90% of respondents, with higher female representation among students than professional developers in regions like the US, India, and the UK.

- Around 75% of professional developers globally hold at least a bachelor's degree, aligning with past findings.

- 75% of survey respondents in professional developer roles are under 35 years old.
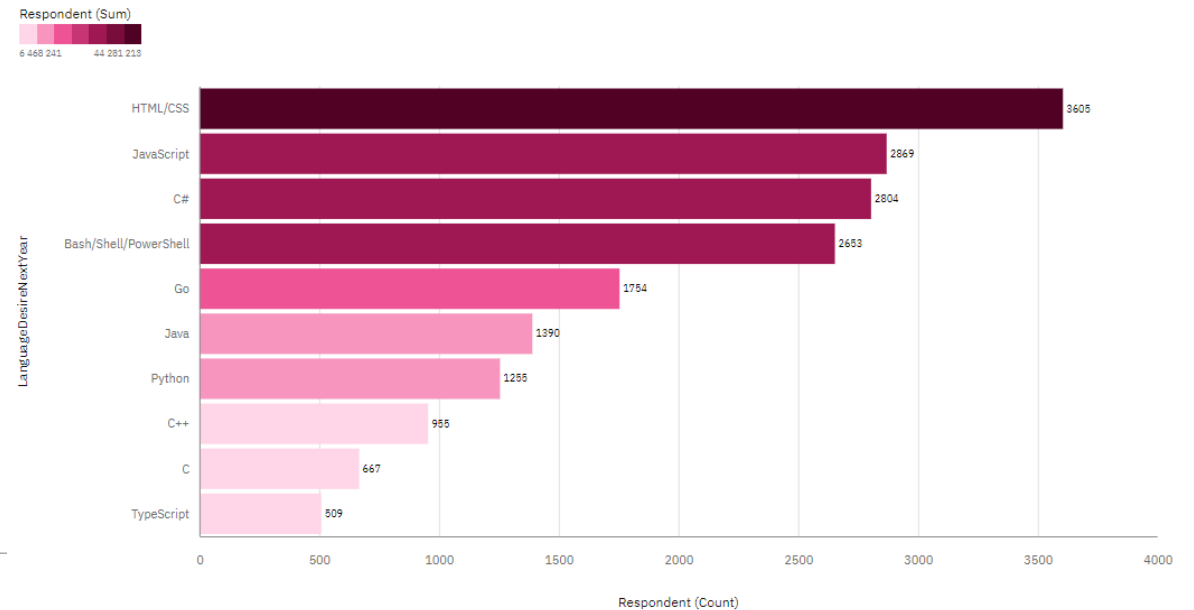
PROGRAMMING LANGUAGE TRENDS

Current Year

Next Year

Top 10 Language Worked With

Respondent (Sum)

7 882 279   66 151 670

LanguageWorkedWith	Respondent (Count)
HTML/CSS	6361
Bash/Shell/PowerShell	4000
JavaScript	3382
C#	3246
Java	1946
C++	1056
C	1029
PHP	773
Python	724
Go	643

Top 10 Language Desire Next Year

Respondent (Sum)

6 468 241   44 281 213

LanguageDesireNextYear	Respondent (Count)
HTML/CSS	3605
JavaScript	2869
C#	2804
Bash/Shell/PowerShell	2653
Go	1754
Java	1390
Python	1255
C++	955
C	667
TypeScript	509

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Findings

- JavaScript and HTML/CSS emerge as the most used programming languages among all respondents

- Bash/Shell/PowerShell is surpassed by Javascript and C#

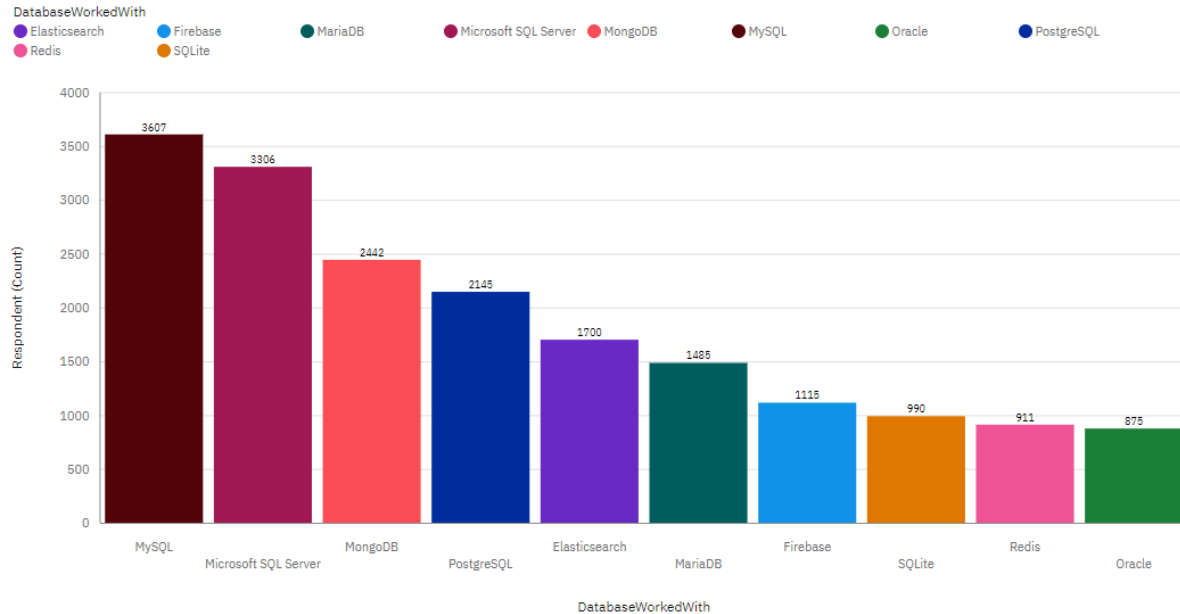- Python keeps rising.

Implications

- The dominance of JavaScript and HTML/CSS underscores their indispensability in modern web development, highlighting the importance of it's mastery for developers.

- Bash/Shell/PowerShell is decreasing in usage and may very well continue on this trend.

- The rise of Python might also reflect its versatility and ease of use, attracting developers across various domains from data science to software development.
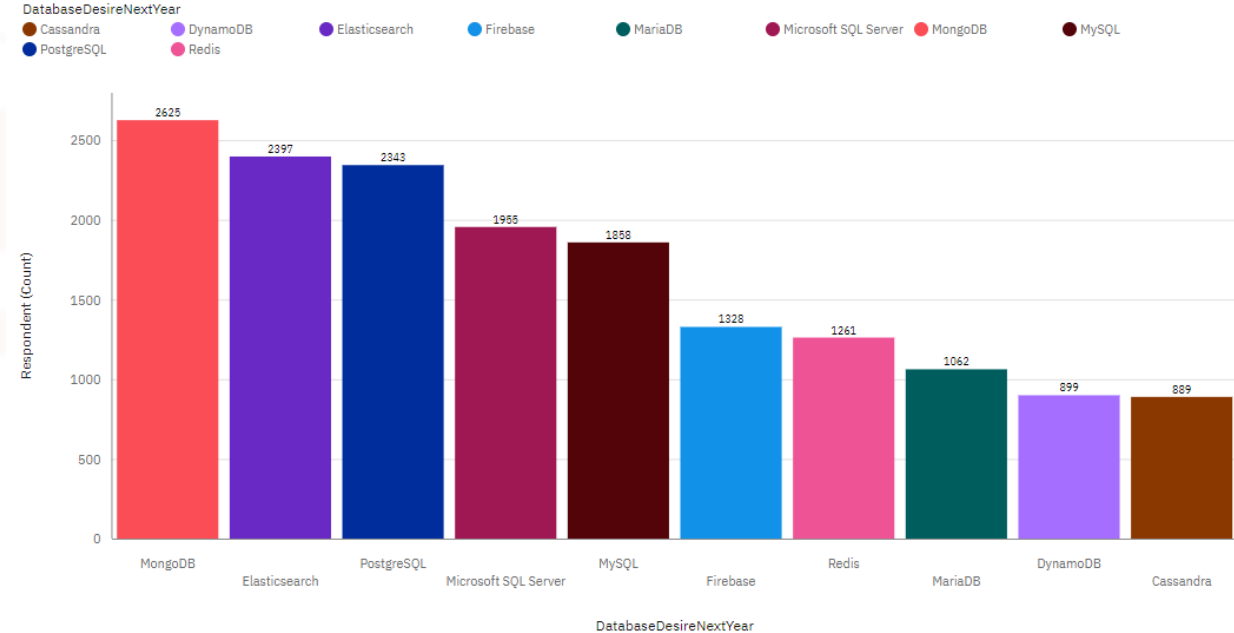
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DATABASE TRENDS

Current Year

Top 10 Database Worked With

DatabaseWorkedWith
● Elasticsearch ● Firebase ● MariaDB ● Microsoft SQL Server ● MongoDB ● MySQL ● Oracle ● PostgreSQL
● Redis ● SQLite

Next Year

Top 10 Database Desire Next Year

DatabaseDesireNextYear
● Cassandra ● DynamoDB ● Elasticsearch ● Firebase ● MariaDB ● Microsoft SQL Server ● MongoDB ● MySQL
● PostgreSQL ● Redis

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DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL leads as the most used DBMS among all respondents but drops significantly for next year.

- Elasticsearch takes 2nd place for next year.

- MongoDB becomes the most desirable Database.

Implications

- The popularity of MySQL, PostgreSQL, and Microsoft SQL Server underscores the importance of relational databases in various applications.

- The high usage of MongoDB reflects the growing trend towards NoSQL databases, driven by the need for flexible data models and scalability, particularly in modern web and mobile applications.

- The diverse range of database systems utilized by developers indicates the importance of selecting the right tool for the job, considering factors such as data structure, scalability, and performance requirements.
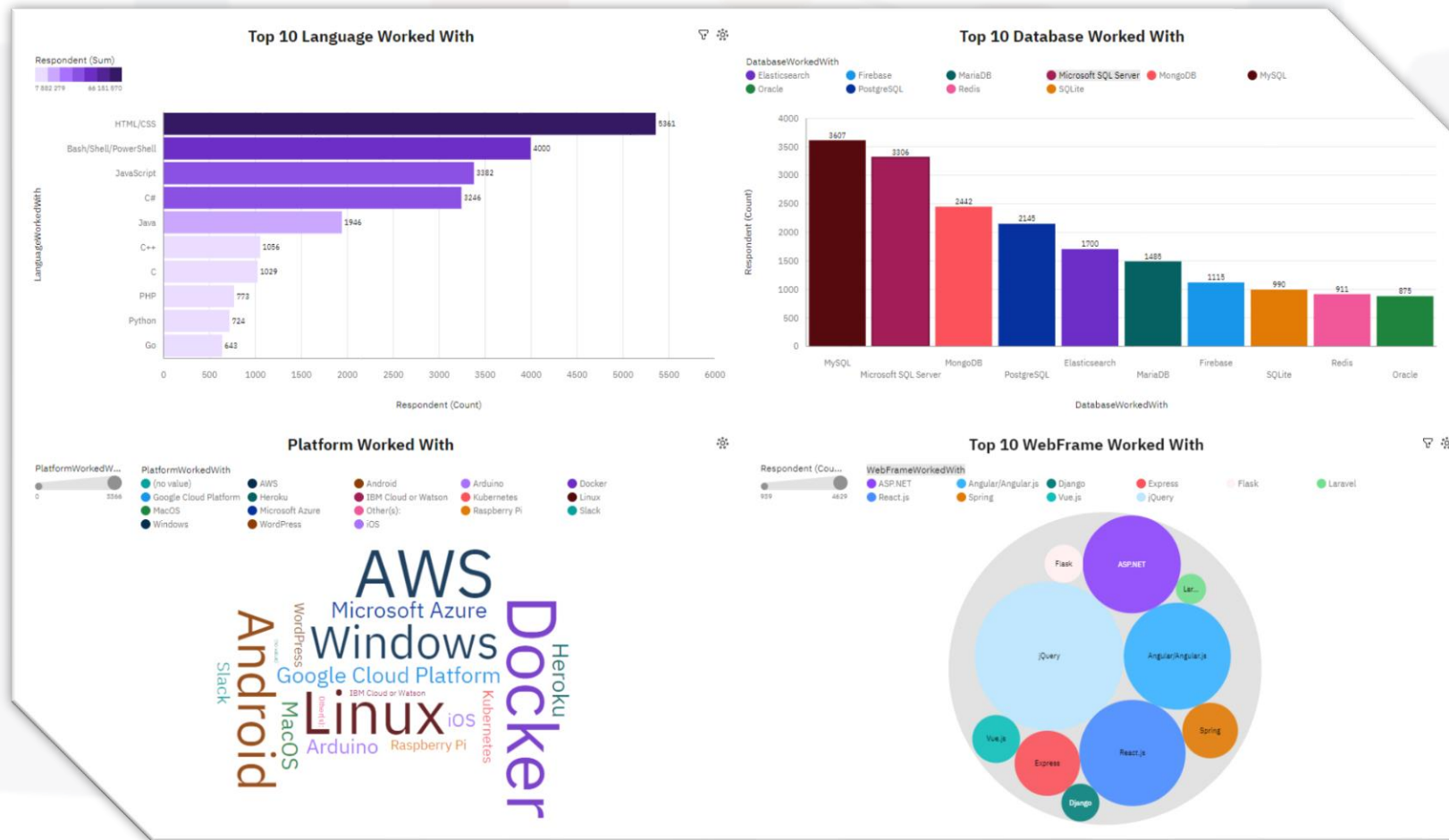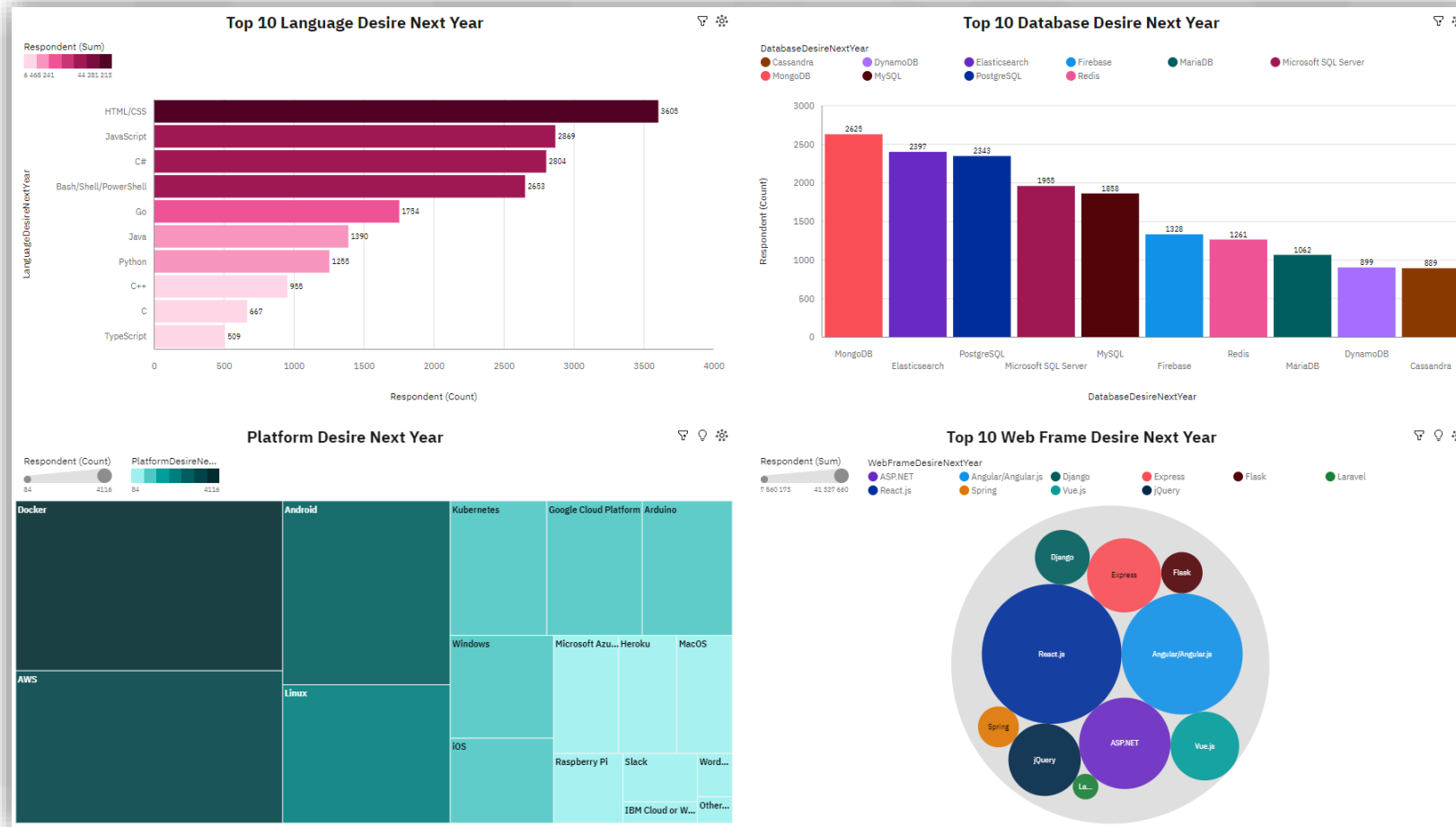
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DASHBOARD

https://github.com/DS-Web-St/Capstone-Project/blob/aa0a69f19ee368fe31d7cdf75a540b9e2b931c0a/M5%20-%20Cognos%20Dashboard.pdf
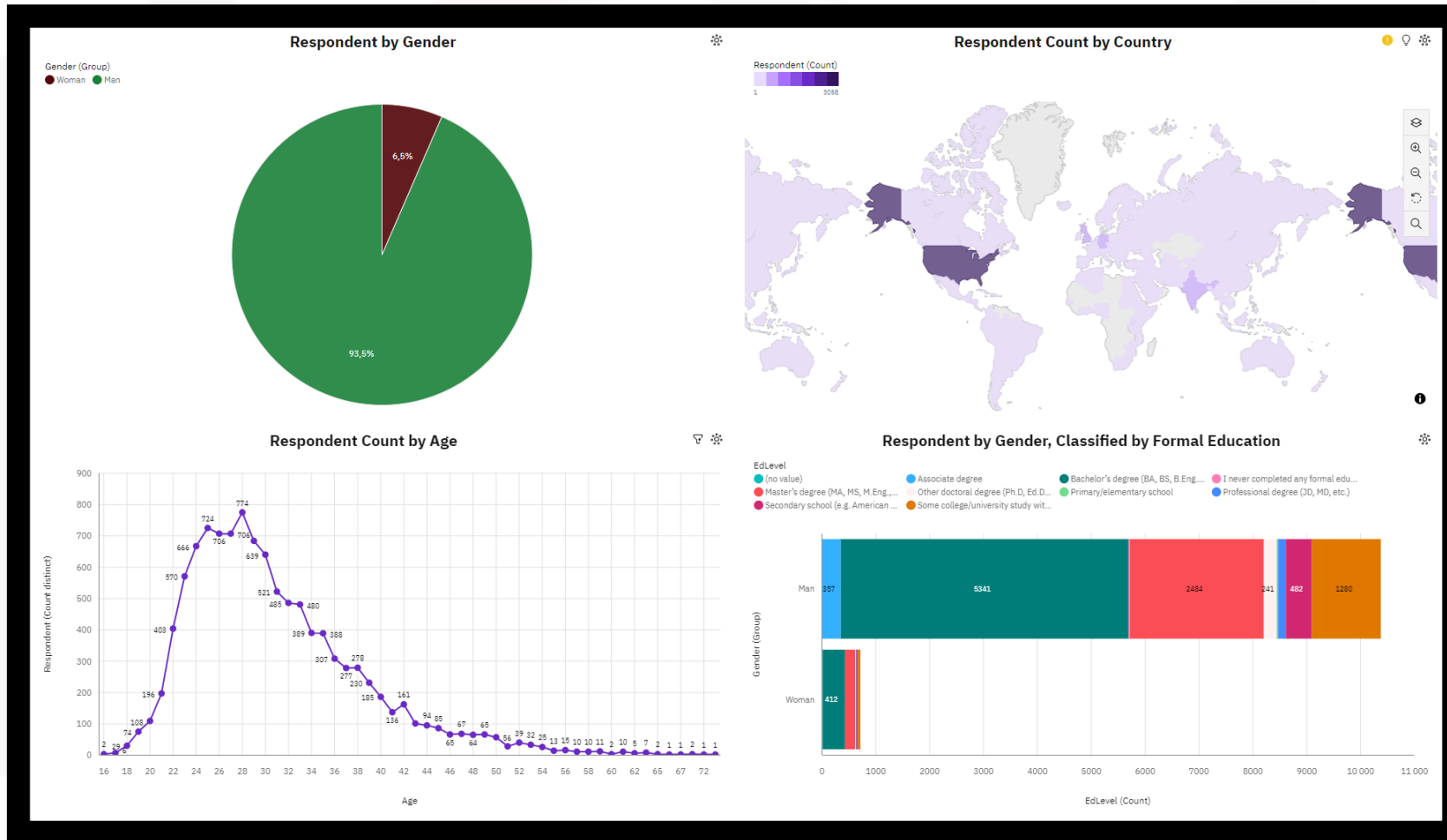
DASHBOARD TAB 1 CURRENT TECHNOLOGY USAGE

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DASHBOARD TAB 3 DEMOGRAPHICS

DISCUSSION

- The dominance of JavaScript and HTML/CSS and the adoption of MongoDB as the leading database management system highlights the central role of web development in the programming landscape.

- Opens up discussions on the significance of client-side scripting and styling, trends in web development frameworks, and the evolving nature of web technologies.

OVERALL FINDINGS & IMPLICATIONS

Findings

- **Trends:**
  - The dominance of JavaScript and HTML/CSS underscores the importance of staying updated with technology trends in web development.

- **Data Management:**
  - The high usage of MongoDB reflects the growing trend towards NoSQL databases.

- **Diversity of Tools:**
  - The diverse range of programming languages and database systems utilized by developers underscores the importance of understanding the strengths and weaknesses of different tools.

Implications

- **Web Dominance:**
  - The widespread usage of JavaScript and HTML/CSS indicates the dominance of web development in the programming ecosystem, reflecting the growing importance of online platforms and digital experiences.

- **Database Diversity:**
  - The variety of database management systems used highlights the importance of flexibility and adaptability in data storage solutions. Organizations must consider factors such as data structure, scalability, and performance when selecting a database system.

- **Industry Standardization:**
  - The popularity of certain technologies like JavaScript and MySQL suggests a degree of industry standardization, where certain tools become widely adopted due to their proven reliability and effectiveness. This can simplify collaboration and interoperability within the developer community.

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CONCLUSION

- The findings underscore the dynamic nature of the programming landscape and the critical role of technology in driving innovation across industries.

- As developers navigate this ever-changing terrain, a keen understanding of diverse programming languages and database systems becomes essential to meet the demands of modern applications, ensuring optimal outcomes in software development projects.

APPENDIX

- A- Job Postings Chart

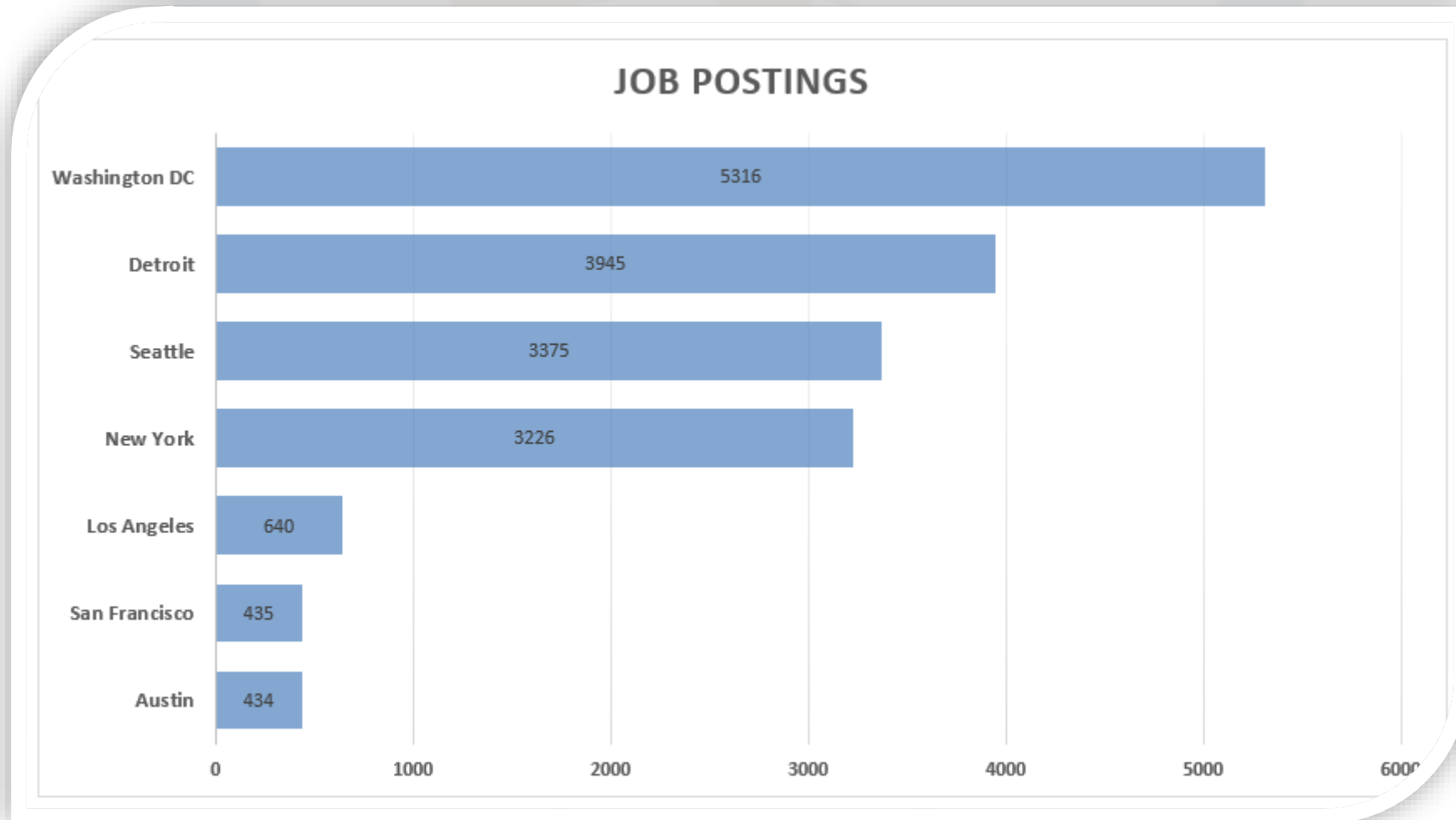- B- Popular Languages Chart

JOB POSTINGS

JOB POSTINGS

City	Job Postings
Washington DC	5316
Detroit	3945
Seattle	3375
New York	3226
Los Angeles	640
San Francisco	435
Austin	434

POPULAR LANGUAGES

Average Annual Salary

Language	Salary
Swift	$130 801
Python	$114 383
C++	$113 865
Javascript	$110 981
Java	$101 013
Go	$94 082
R	$92 037
C#	$88 726
SQL	$84 793
PHP	$84 727