



# IBM Data Analyst Professional

## 2019 Stack Overflow Developer Survey Analysis

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# OUTLINE

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# EXECUTIVE SUMMARY

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- The 2019 StackOverflow Survey provides insights into programming language, database, and platform usage across different geographies.
- JavaScript remains the dominant language, with emerging trends in Python and TypeScript.
  - JavaScript leads in both current and desired usage.
  - PostgreSQL and MongoDB are gaining traction in the database space.
  - Linux and Docker dominate platform preferences.
- Significant differences in framework usage, with React.js showing strong future growth.
- The survey demographics highlight a gender imbalance with the majority being male respondents.

# INTRODUCTION

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- StackOverflow conducts an annual survey of its users to gather insights on industry trends.
- The 2019 survey focused on tools, technologies, and platforms developers use today and what they desire for the future.
- Key areas surveyed include programming languages, databases, web frameworks, and platforms.
- The data provides insight into the evolving preferences of developers, including :
  - PostgreSQL is replacing MySQL.
  - Most popular languages remain those focused on web development.

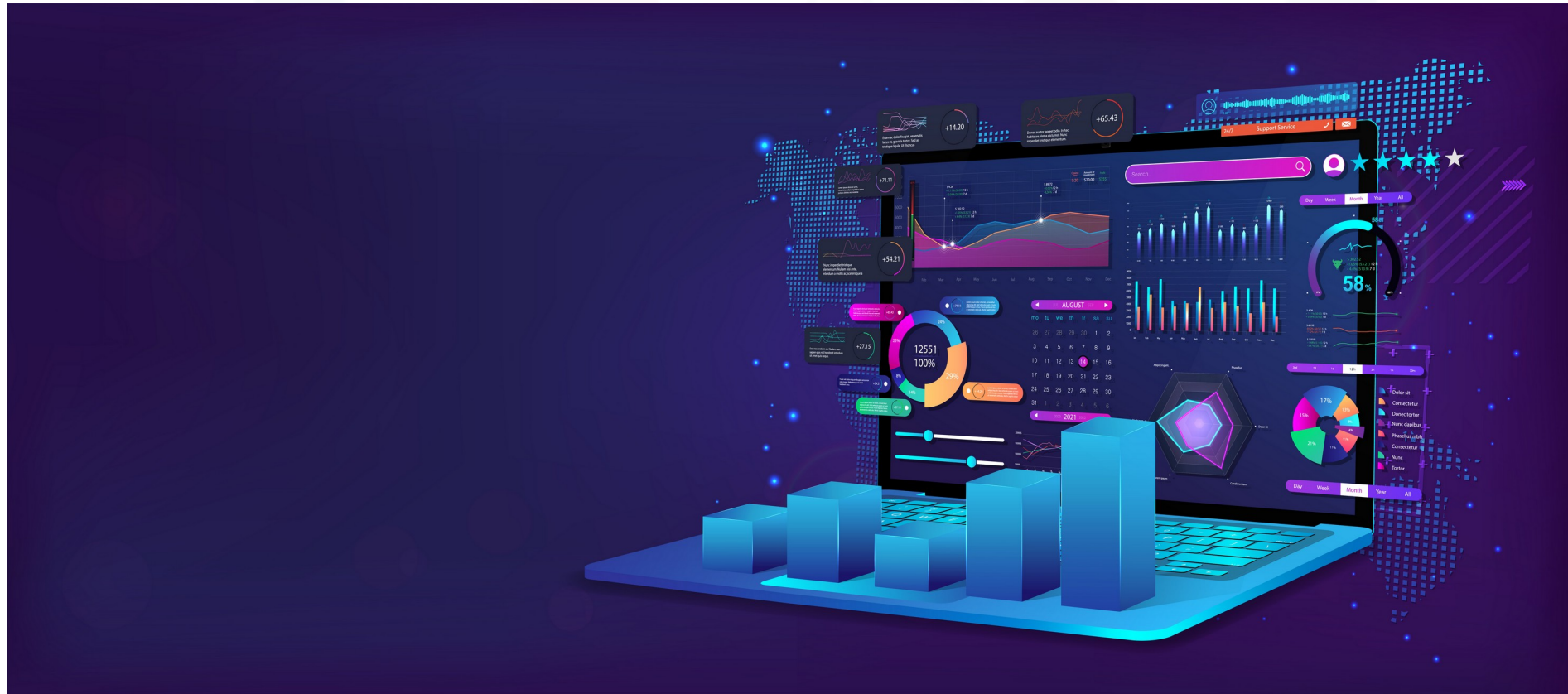
# METHODOLOGY

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- The survey data was collected from StackOverflow users through an online questionnaire.
- The data was gathered by using webscraping and APIs.
- Data cleaned and normalized before analysis.
  - Duplicates rows and missing values were traited.
  - Tools such as Looker Studio, Excel and Seaborn with Python were used for visualizing the findings.

# RESULTS

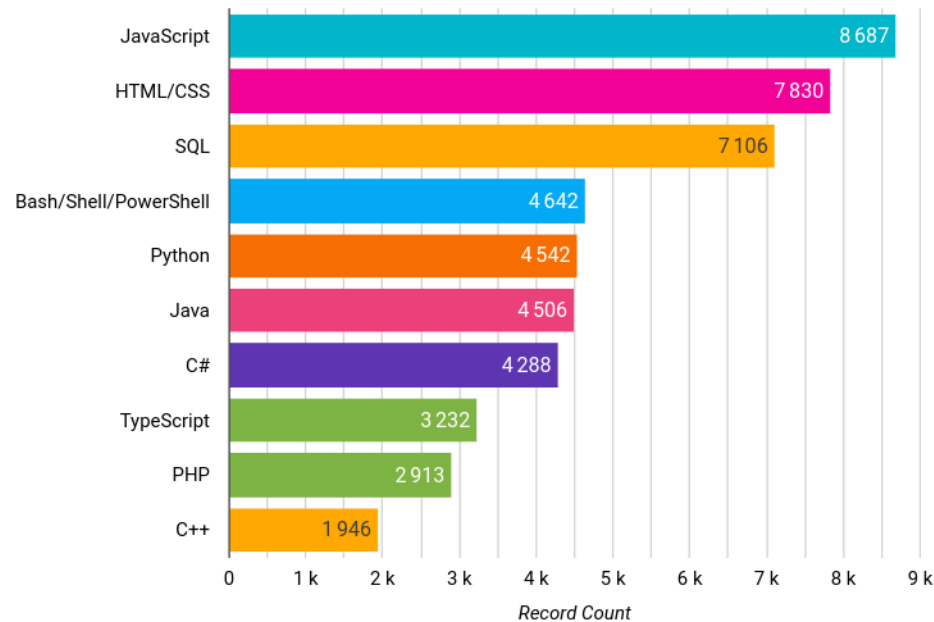




# PROGRAMMING LANGUAGE TRENDS

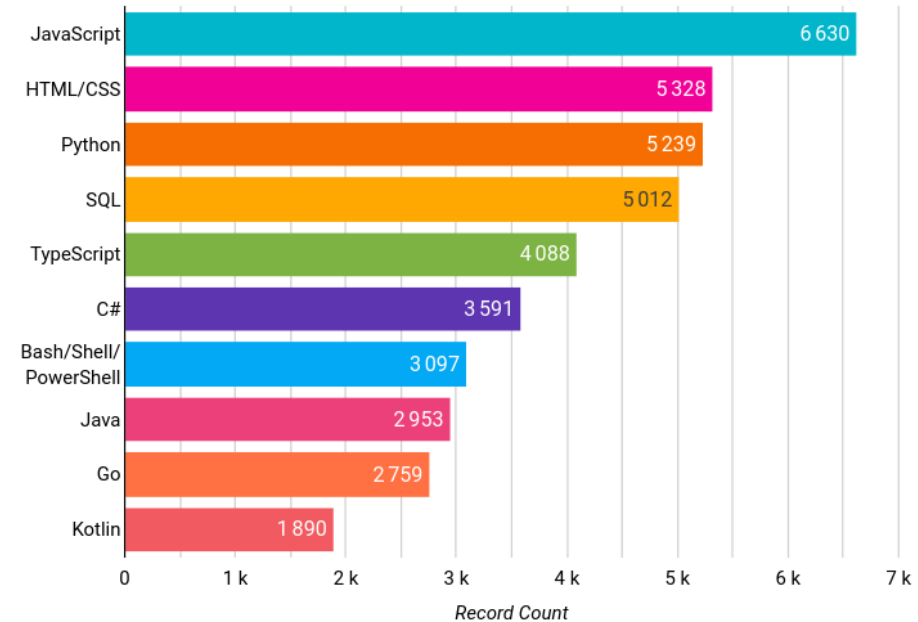
## Current Year

Top 10 Language Worked With



## Next Year

Top 10 Languages Desire Next Year



# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- JavaScript remains the most widely used language, followed closely by HTML/CSS and SQL.
- Python is increasingly popular and has a strong presence in both current and future trends.
- C# and Java are still significant, though Go and Kotlin are gaining interest for future development.

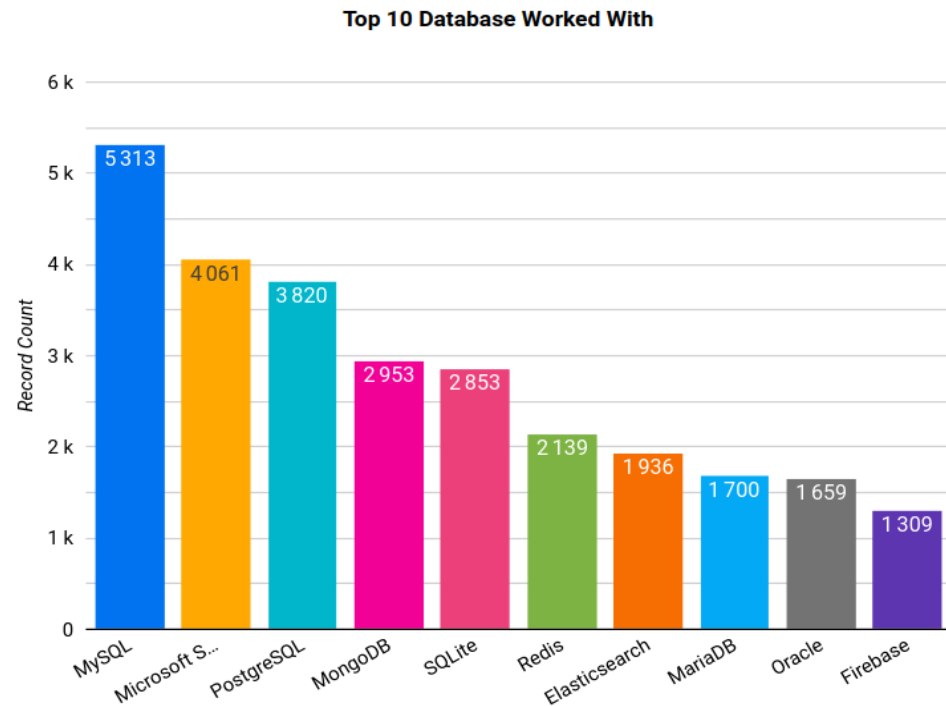
## Implications

- Companies need to focus on hiring developers proficient in JavaScript and Python.
- SQL skills are essential for database-related roles, particularly with the rise of PostgreSQL.
- The demand for TypeScript and frameworks like React.js signals a move towards modern JavaScript ecosystems.

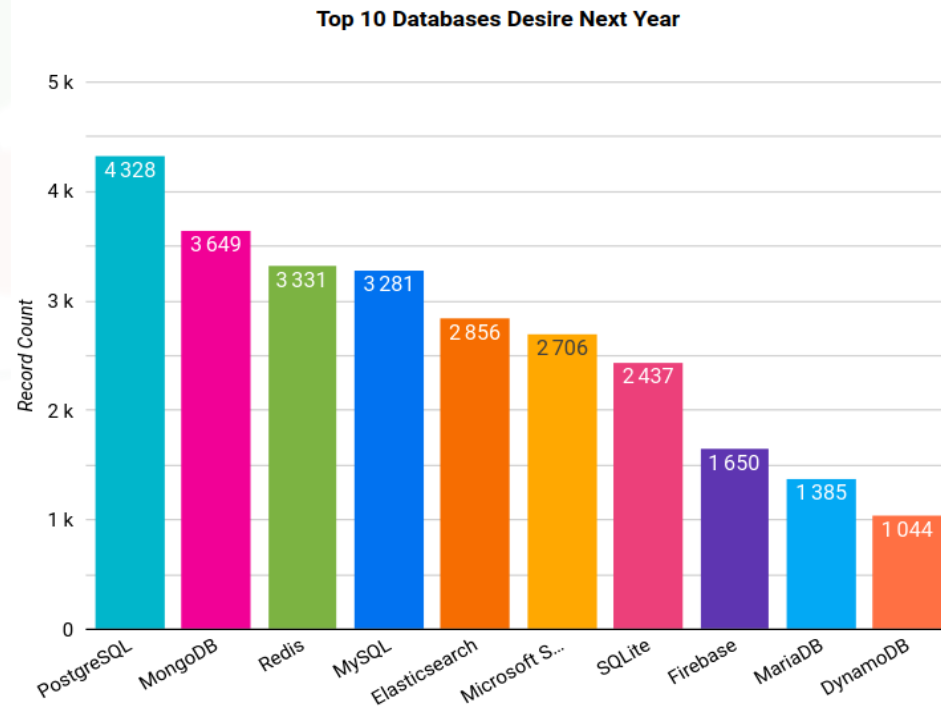


# DATABASE TRENDS

## Current Year



## Next Year



# DATABASE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- MySQL leads, but PostgreSQL is highly desired.
- MongoDB is rising in popularity.
- Redis and Elasticsearch are emerging tools.

## Implications

- Transition to PostgreSQL for future projects.
- Invest in MongoDB for modern applications.
- Use Redis and Elasticsearch for caching and search.

# DASHBOARD

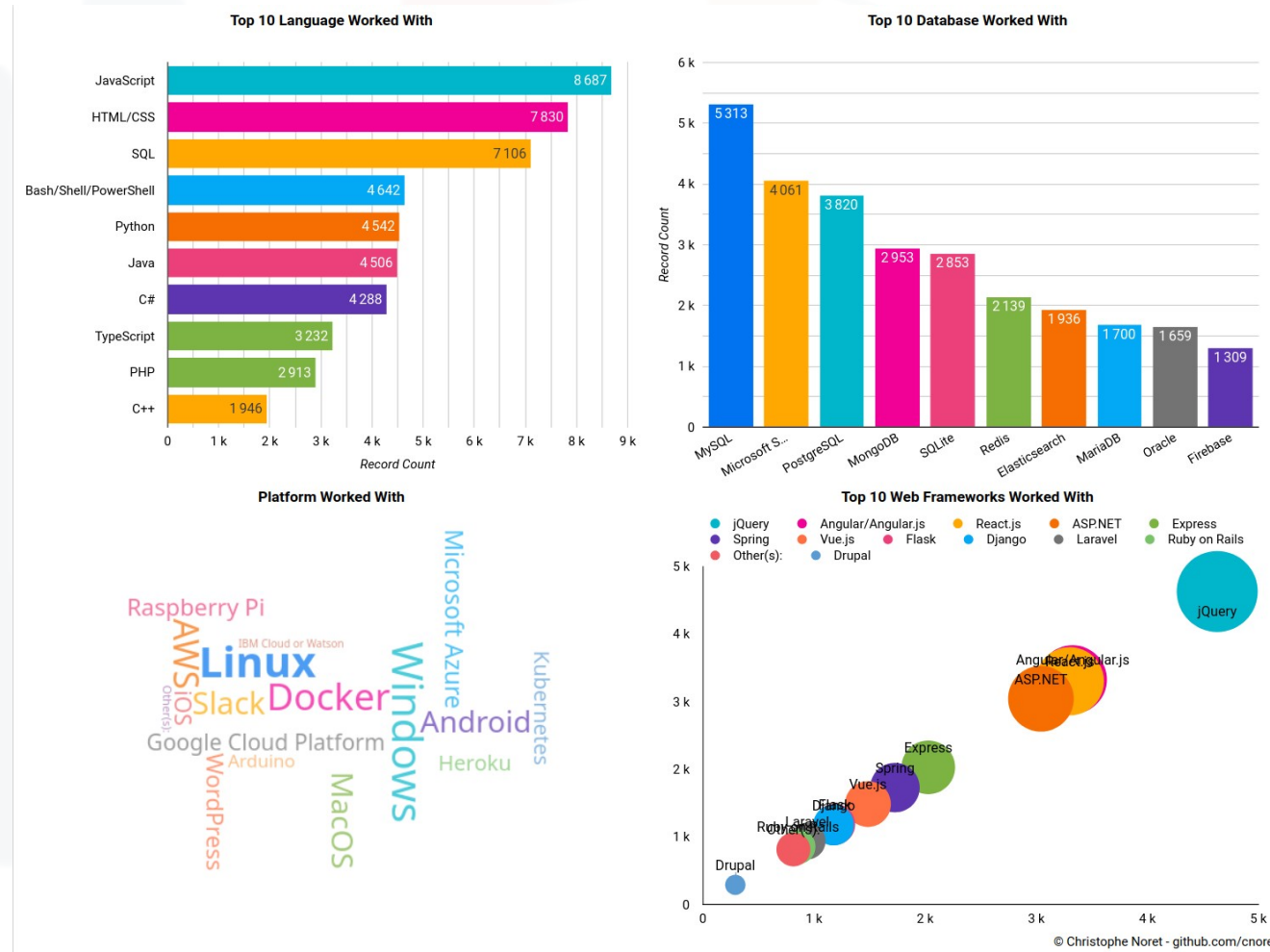
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[2019 StackOverflow Survey Dashboard \(PDF\)](#)

[Live Dashboard \(Looker Studio\)](#)

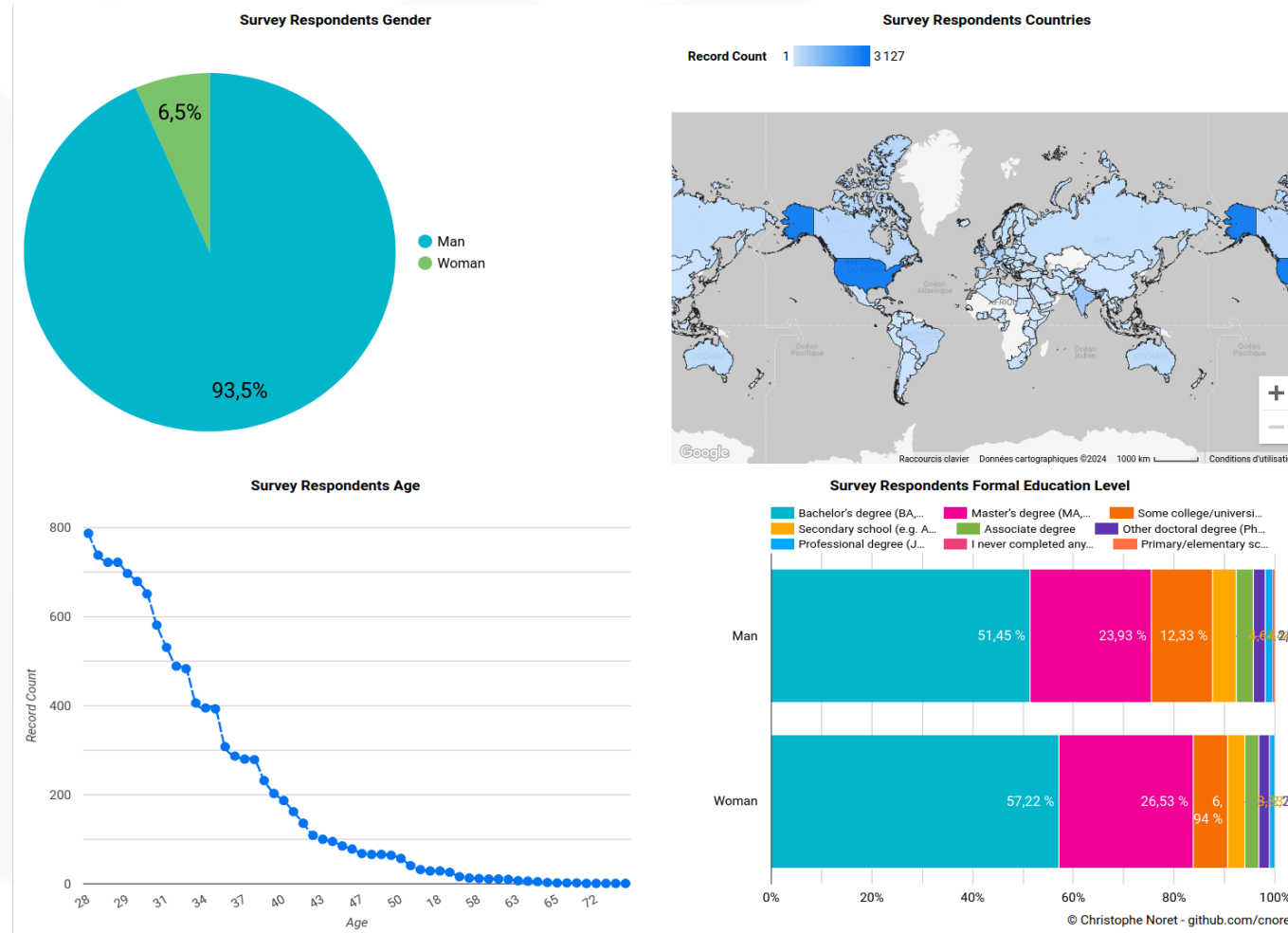
# Current Technology Usage (TAB 1)



# Future Technology Trend (TAB 2)



# Demographics (TAB 3)





# DISCUSSION

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- JavaScript's dominance.
- The rise of Python and Go.
- PostgreSQL and MongoDB as leading database technologies.
- Linux and Docker's strong presence in the platform space.
- React.js's future dominance in web frameworks.

# OVERALL FINDINGS & IMPLICATIONS

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## Findings

- JavaScript dominates current and future usage.
- PostgreSQL and MongoDB gain popularity.
- React.js leads future web frameworks.

## Implications

- Prioritize JavaScript and frameworks (e.g., React.js).
- Invest in PostgreSQL and MongoDB expertise.
- Shift focus to modern web frameworks and technologies.

# CONCLUSION

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- Restate the significance of the findings for developers and companies.
- Emphasize the importance of staying up to date with modern technologies like JavaScript, PostgreSQL, and React.js.
- Suggest the need for continuous learning and adaptation in a rapidly changing tech landscape.

# APPENDIX

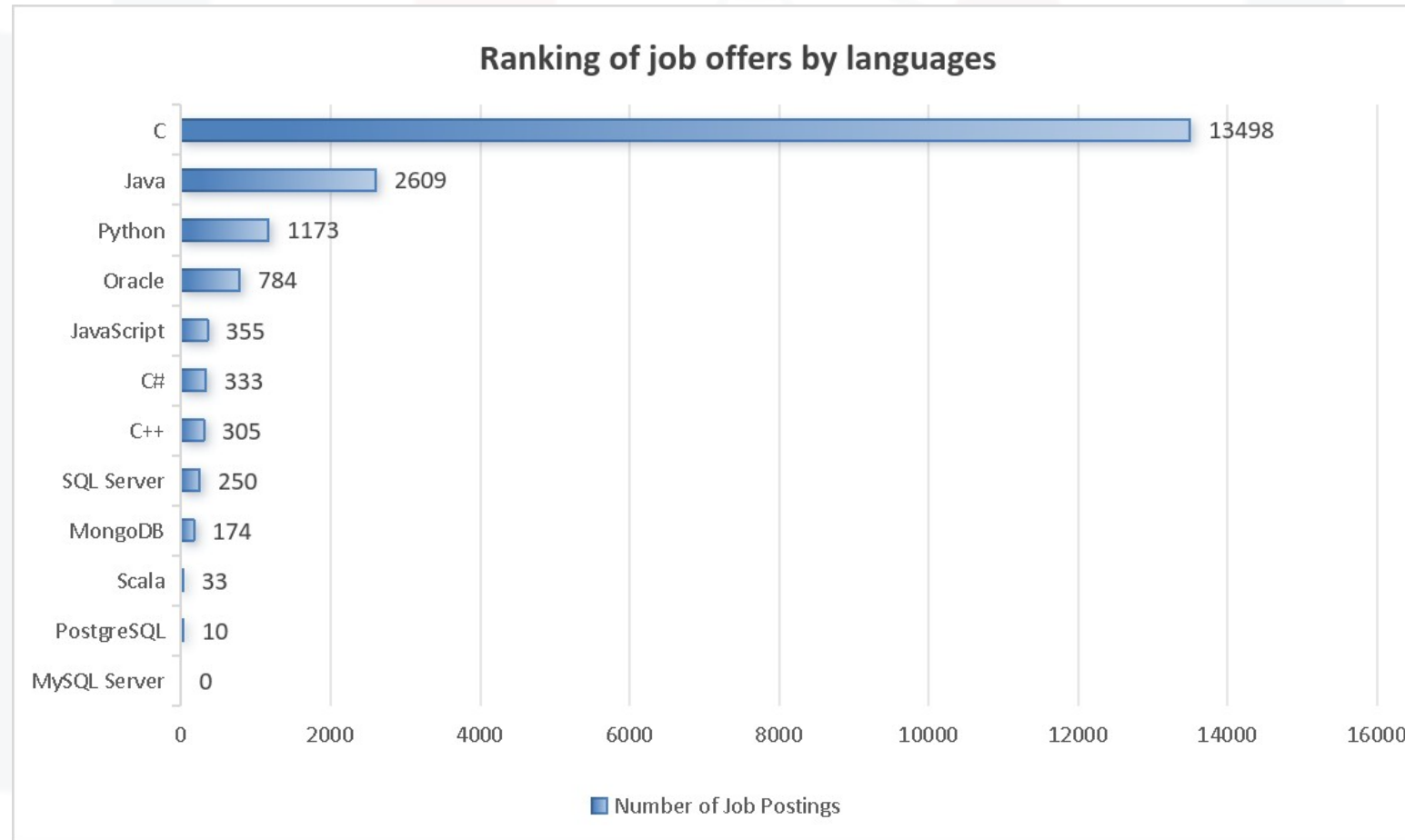
## Demographics Data Sample

	A	B	C
1	Respondent	MainBranch	Hobbyist
2	4	I am a developer by profession	No
3	9	I am a developer by profession	Yes
4	13	I am a developer by profession	Yes
5	16	I am a developer by profession	Yes
6	17	I am a developer by profession	Yes
7	19	I am a developer by profession	Yes
8	20	I am not primarily a developer, but I write code sometimes as part of my work	No
9	22	I am a developer by profession	Yes
10	23	I am a developer by profession	Yes
11	24	I am a developer by profession	Yes
12	25	I am a developer by profession	No
13	26	I am a developer by profession	Yes
14	29	I am a developer by profession	Yes
15	32	I am a developer by profession	No
16	38	I am a developer by profession	Yes
17	39	I am a developer by profession	Yes
18	43	I am a developer by profession	Yes
19	44	I am a developer by profession	Yes
20	49	I am a developer by profession	Yes
21	50	I am a developer by profession	Yes
22	53	I am not primarily a developer, but I write code sometimes as part of my work	Yes
23	54	I am a developer by profession	Yes
24	56	I am a developer by profession	No
25	57	I am not primarily a developer, but I write code sometimes as part of my work	Yes
26	60	I am a developer by profession	Yes

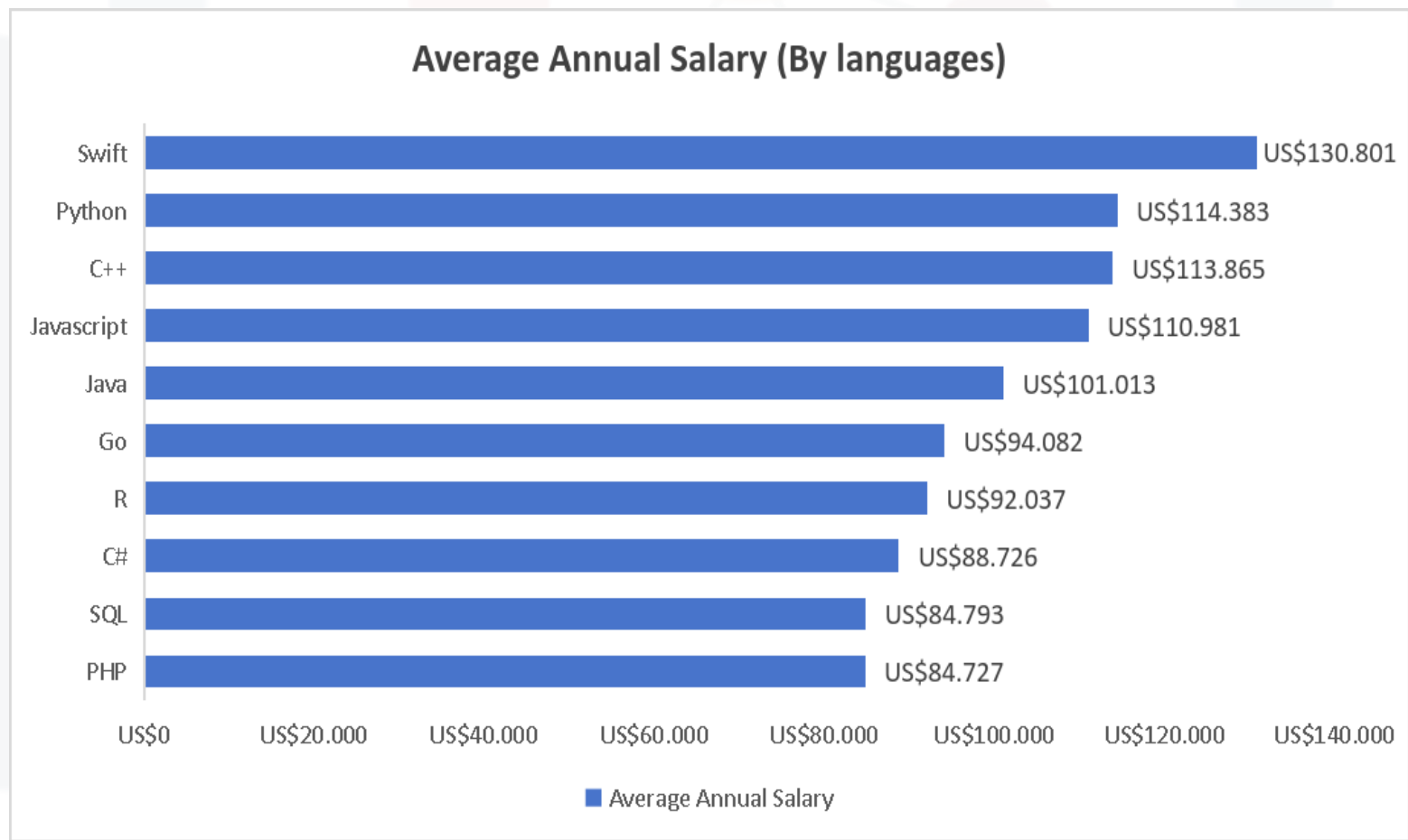
## Technologies Data Sample

	A	B	C	D	E
1	Respondent	LanguageWorkedWith	LanguageDesireNextYear	DatabaseWorkedWith	DatabaseDesireNextYear
2					
3	4	C	C	MySQL	MySQL
4	4	C++	C#	SQLite	SQLite
5	4	C#	JavaScript		
6	4	Python	SQL		
7	4	SQL			
8	9	Bash/Shell/PowerShell	Bash/Shell/PowerShell	DynamoDB	PostgreSQL
9	9	C#	C	PostgreSQL	Redis
10	9	HTML/CSS	HTML/CSS	SQLite	SQLite
11	9	JavaScript	JavaScript		
12	9	Python	Ruby		
13	9	Ruby	Rust		
14	9	Rust	SQL		
15	9	SQL	TypeScript		
16	9	TypeScript	WebAssembly		
17	9	WebAssembly	Other(s):		
18	9	Other(s):			
19	13	Bash/Shell/PowerShell	Bash/Shell/PowerShell	Couchbase	Firebase
20	13	HTML/CSS	HTML/CSS	DynamoDB	MySQL
21	13	JavaScript	JavaScript	Firebase	Redis
22	13	PHP	Rust	MySQL	
23	13	SQL	SQL		
24	13	TypeScript	TypeScript		
25	13		WebAssembly		
26	13				

# JOB POSTINGS



# POPULAR LANGUAGES





# FINISHED

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Thank you for your attention !