



# Technology Trends and Analysis Presentation

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# OUTLINE

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

# EXECUTIVE SUMMARY

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- Trends in programming languages and databases
- Demographics survey
- Technological gaps in countries
- Gender gaps in jobs

# INTRODUCTION

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- About: Analyzing the trends in software development
- Purpose:
  - Identify skills requirements for future
  - What are the top programming languages in demand?
  - What are the top databases skills in demand?
- What are the popular IDEs
- Audience: Human Resource and IT Head

# METHODOLOGY

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- Data Collection Sources
  - Stack Overflow Developer 2019 Survey
  - GitHub Job Postings
  - Programming Language Annual Salary
- Data Exploration
- Data Cleaning
- Data Visualization
- Presentation

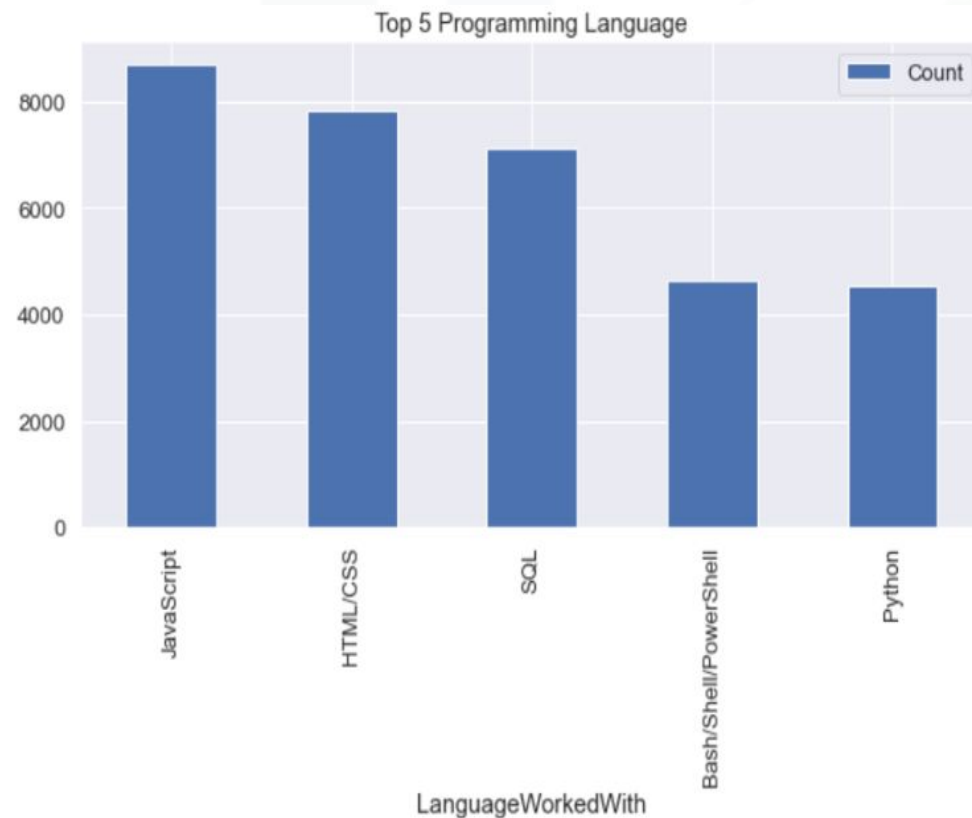
# RESULTS

Results are based on this table:

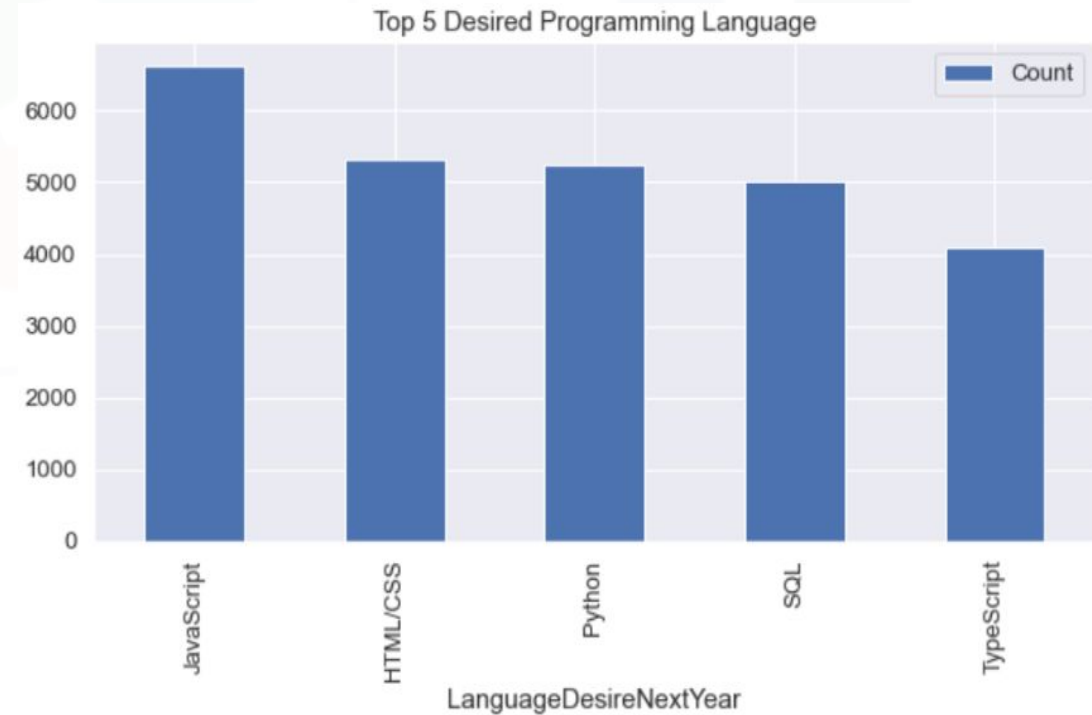
↑↓	Respondent ⌵	LanguageWorkedWith ⌵	LanguageDesireNextYea	DatabaseWorkedWith ⌵	DatabaseDesireNextYea	PlatformWorkedWith	PlatformD...eNextYear
	↑↓	↑↓	↑↓	↑↓	↑↓	↑↓	↑↓
	9	Bash/Shell/PowerShell	Bash/Shell/PowerShell	DynamoDB	PostgreSQL	AWS	AWS
	13	HTML/CSS	HTML/CSS	DynamoDB	MySQL	AWS	AWS
	16	C#	HTML/CSS	Microsoft SQL Server	MongoDB	Null	Google Cloud Platform
	16	HTML/CSS	JavaScript	MySQL	Microsoft SQL Server	Null	Microsoft Azure
	19	C#	HTML/CSS	DynamoDB	DynamoDB	Android	AWS

# PROGRAMMING LANGUAGE TRENDS

## Current Year



## Next Year



# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- JavaScript, HTML/CSS, SQL are top 3 this year.
- Python and TypeScript becoming popular next year.
- PowerShell edged out in next year.

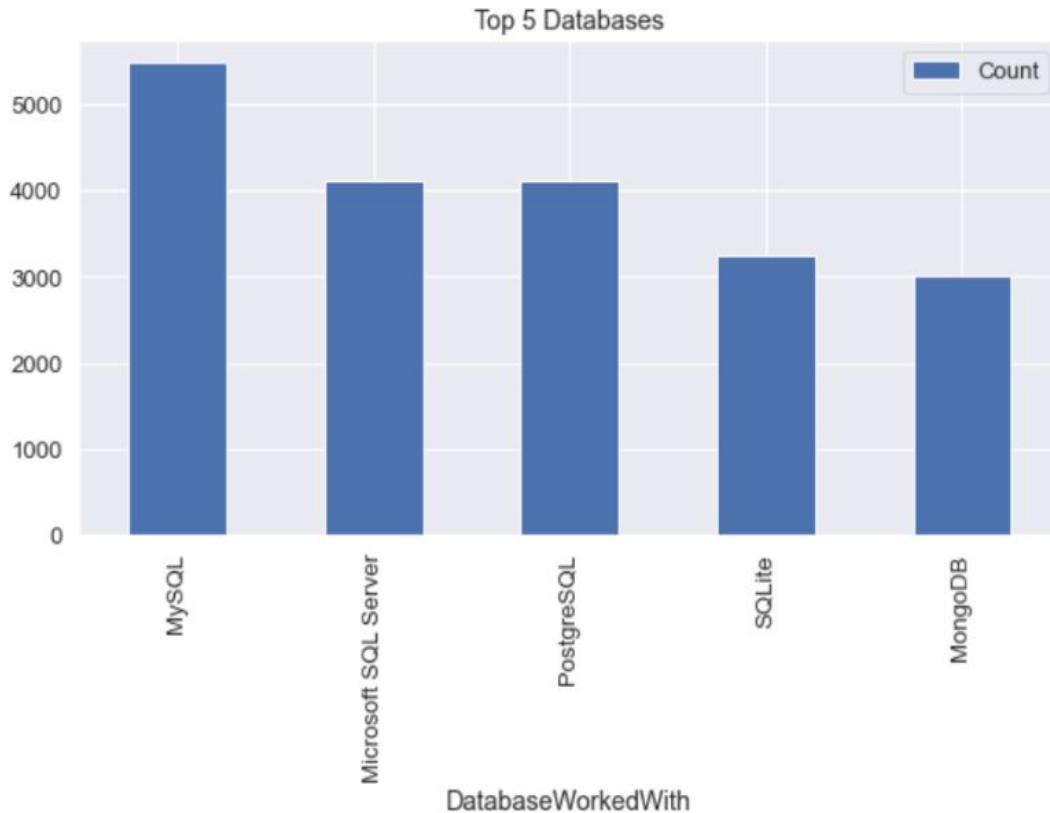
## Implications

- Web development are still in high demand
- Big data technology in companies still requires SQL.
- With AI and ML in rising demand, python is the best choice.

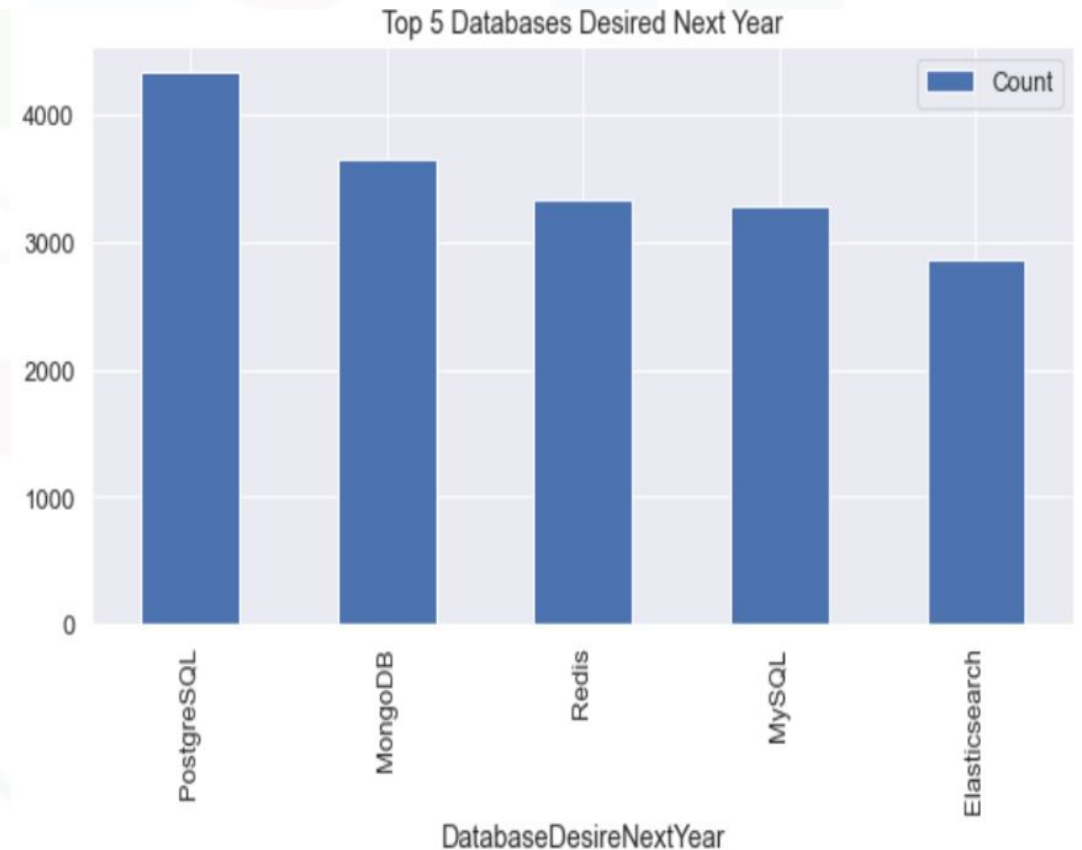


# DATABASE TRENDS

## Current Year



## Next Year



# DATABASE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- MySQL most popular
- Behind is Microsoft SQL
- MongoDB and Redis are upcoming favorites
- New kid on the block: Elasticsearch

## Implications

- Open-source databases are still preferable in companies
- NoSQL databases will make an impact for storing non-relational data
- Redis support abstract data types
- Pre-tuned search to website, app, or ecommerce store

# DASHBOARD

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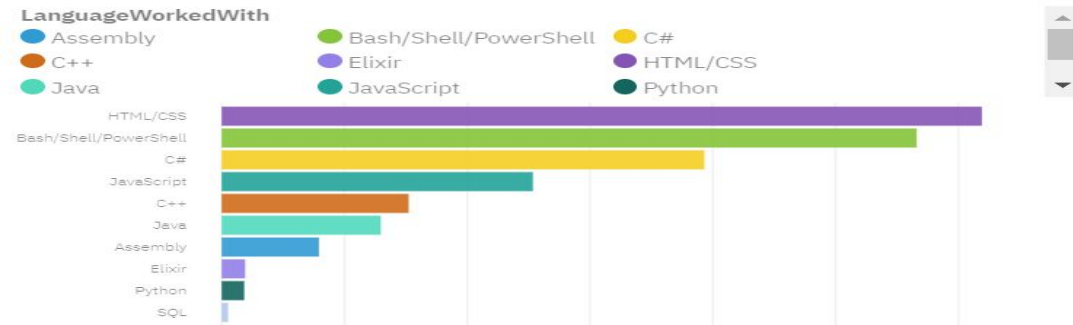
## IBM Cognos link dashboard



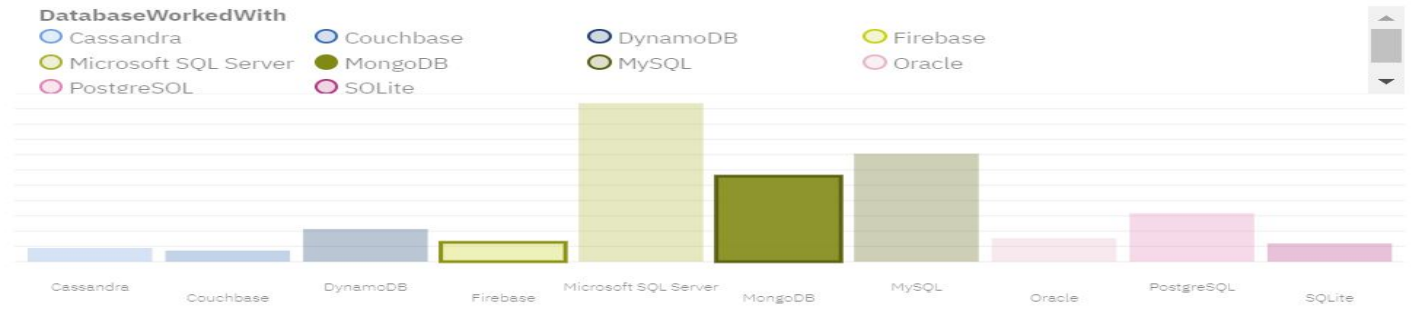
<https://dataplatfrom.cloud.ibm.com/dashboards/805a2024-f8ae-49ee-946b-a6da661e534e/view/5464d13a398317cd56f2f2e4079a29017d657755e7bbd155d48d7b4909347797f06010c4c82d435f8f470437a1b81a0d9d>

# Current Technology Usage Dashboard

Top 10 LanguageWorkedWith



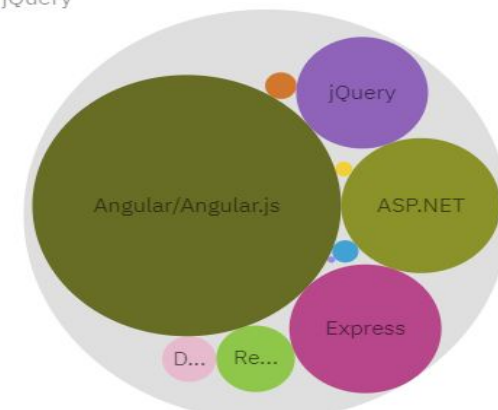
Top 10 DatabaseWorkedWith



PlatformWorkedWith

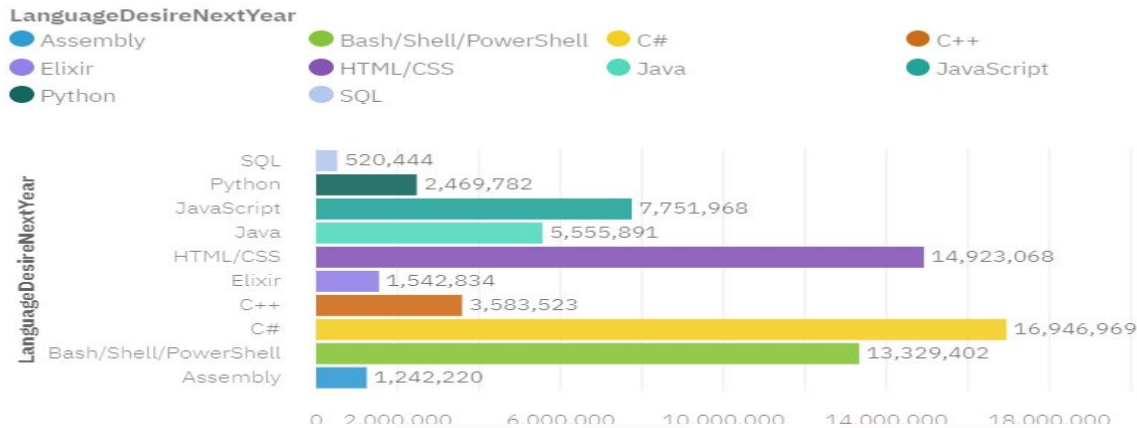


Top 10 WebFrameWorkedWith

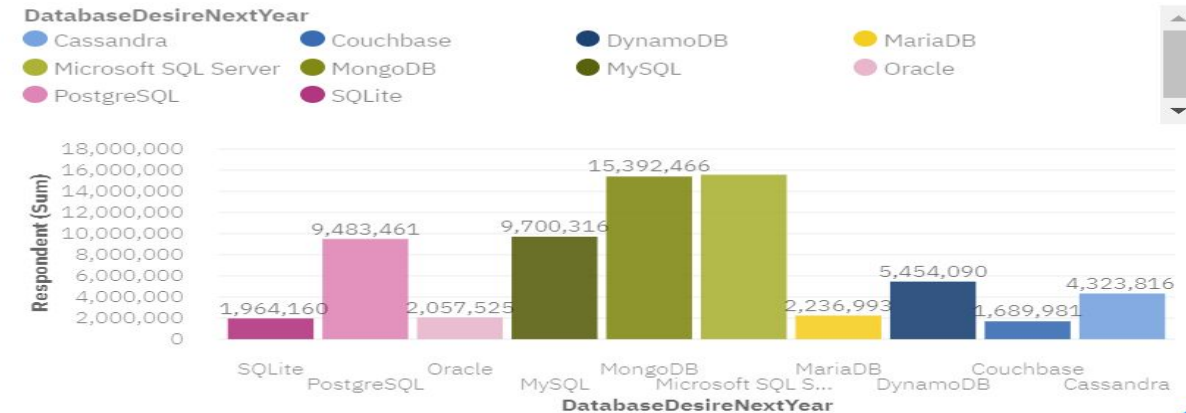


# Future Technology Trend Dashboard

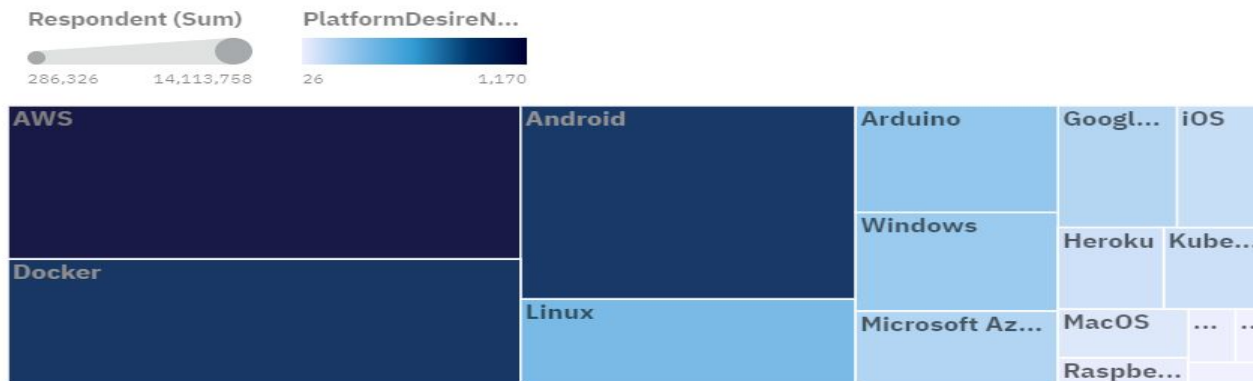
## Top 10 LanguageDesireNextYear



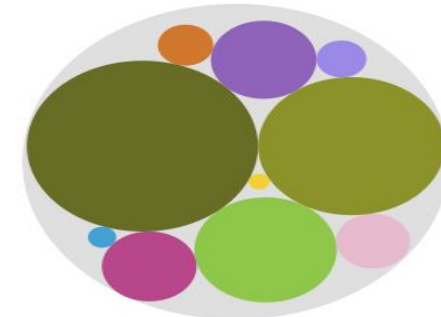
## Top 10 DatabaseDesireNextYear



## PlatformDesireNextYear



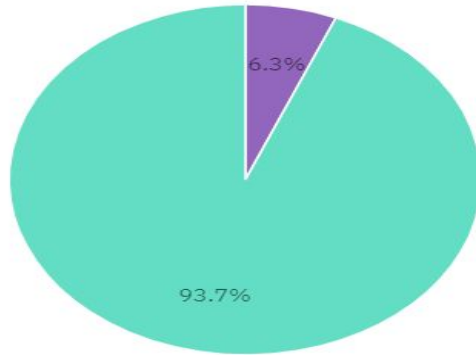
## Top 10 WebFrameDesireNextYear



# Demographics Dashboard

Respondent classified by Gender

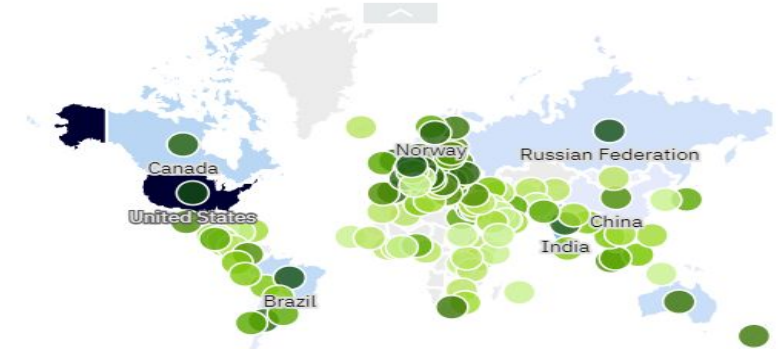
Gender  
Woman Man



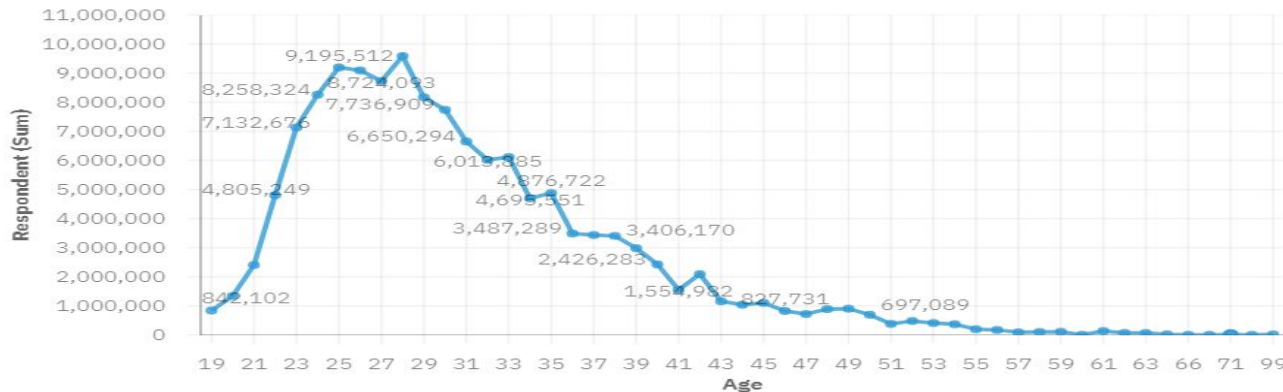
Respondent Count for Countries

Respondent (Sum)  
865 38,070,767

EdLevel (Count di...  
1 9



Respondent Count by Age



Respondent Count by Gender, classified by Formal Education Level

EdLevel - Gender - Measures group (2)

● Bachelor's degree (BA, BS, B.E... ● Bachelor's degree (BA, BS, B.E...  
● Bachelor's degree (BA, BS, B.E... ● Bachelor's degree (BA, BS, B.E...





# DISCUSSION

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- Technology trends now and future
- Training and reskilling workers
- Females participation in technology field
- Bridge divide of technology gaps in developing countries
- Eliminate age and education discrimination in employment.

# OVERALL FINDINGS & IMPLICATIONS

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## Findings

- Fast changing technology every year
- Concentration on several countries like USA and Indian
- Gender gaps in technology jobs
- platforms like Docker and AWS are growing.

## Implications

- Companies to be flexible and adapt to rapid changes.
- Need to spread technology out to lagging countries
- Impact on job hiring
- Shift to faster app development and cloud services in future



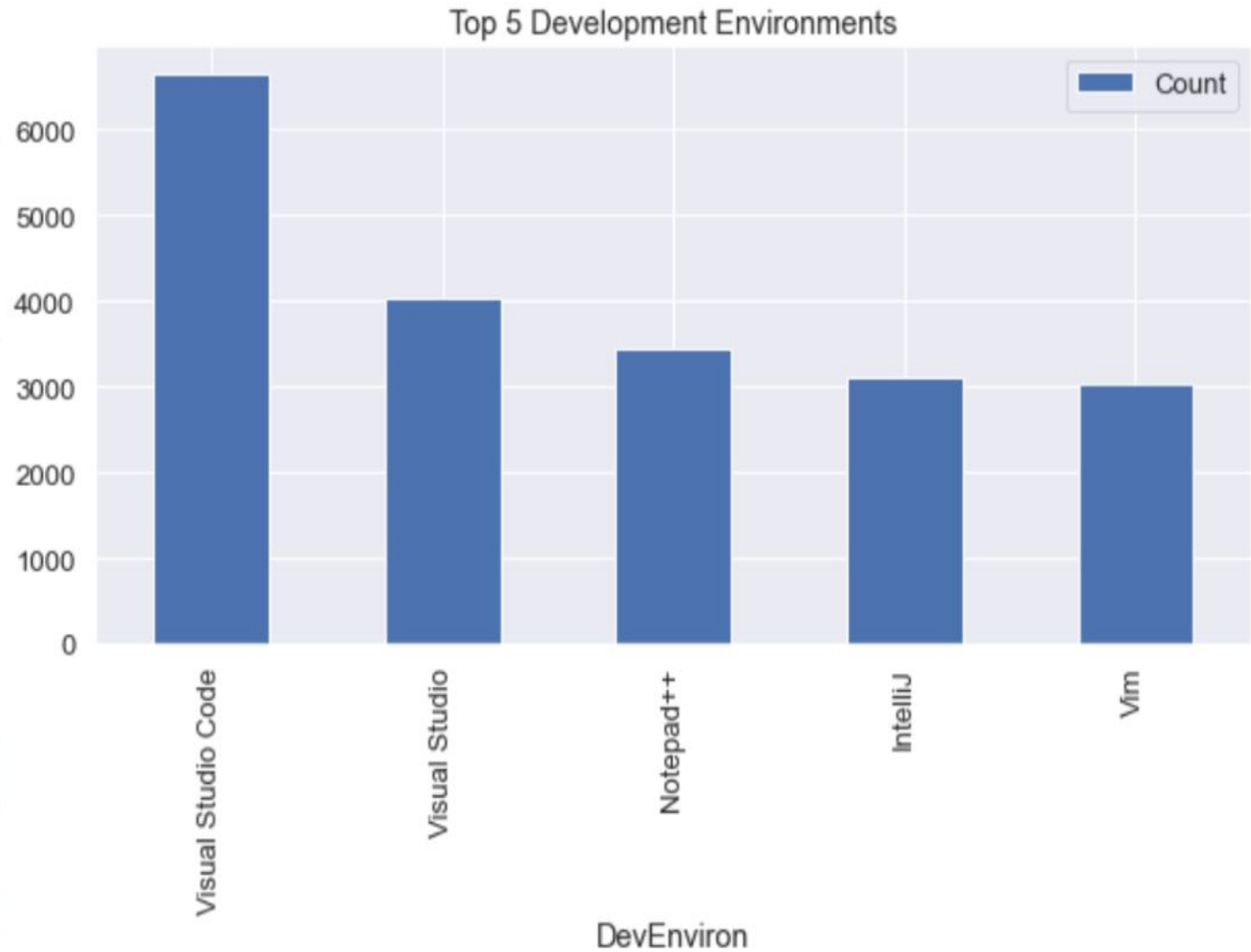
# CONCLUSION

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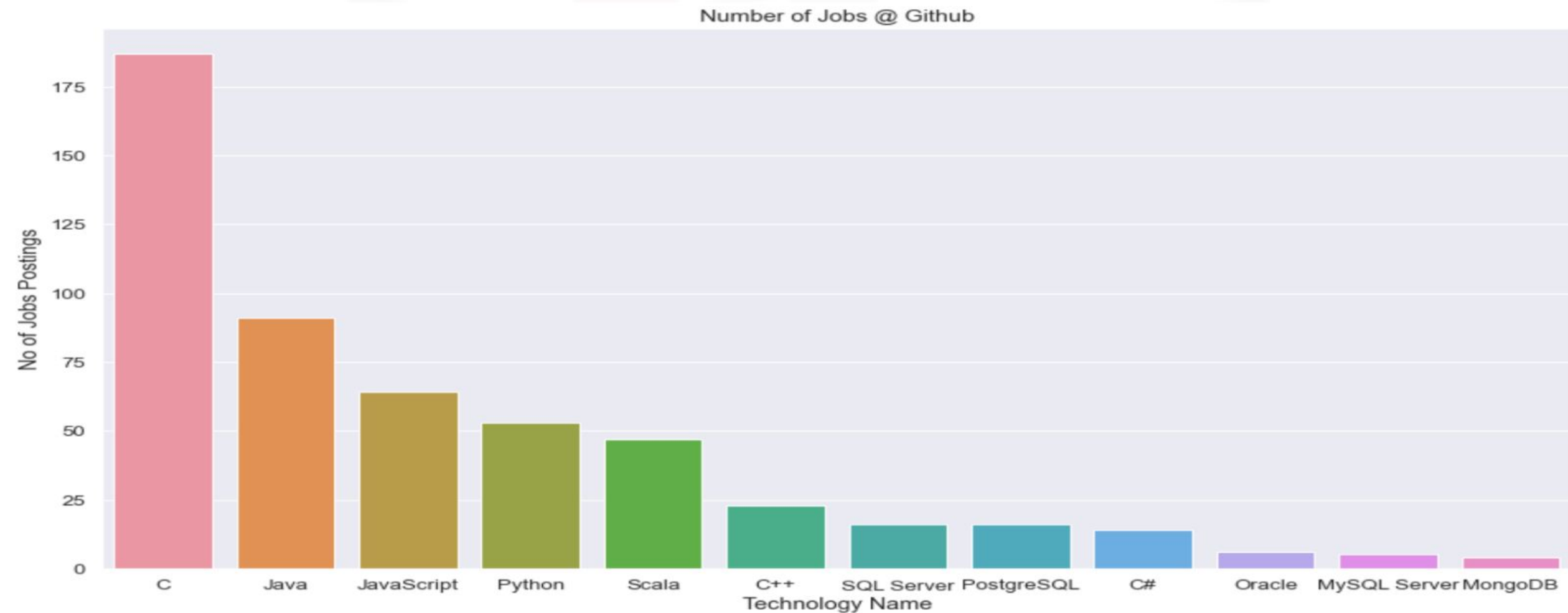


- Technology trends for current and next year
- Programming languages, Database and Platform overview
- Demographics overview
- Actions to be taken
- In future, incorporate Machine Learning to predicts trends and salaries.

# APPENDIX



# GITHUB JOB POSTINGS



# POPULAR LANGUAGES

