



# DATA ANALYSIS OF TECHNOLOGY TRENDS & DEMOGRAPHIES

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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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- Current trends in technology and databases.
- Expected future trends in technology and databases.
- Demographics survey
- Technological gap in countries
- Gender gap in jobs

# INTRODUCTION

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- About: analyzing the trends in computer technology.
- Purpose:
  - What are the top programming languages in demand?
  - What are the top database skills in demand?
  - Identify skill requirements for future.
  - Identify the database that will be used in future.
- Target audience : human resource management.

# METHODOLOGY

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- Data collection
  - Using APIs
  - Using web scraping
- Data exploration
- Data cleaning
  - Finding duplicates and missing values.
  - Removing duplicates and missing values.
- Data visualization
  - Plotting data using various charts.
  - Visualizing the relationships between the data.
- Presentation

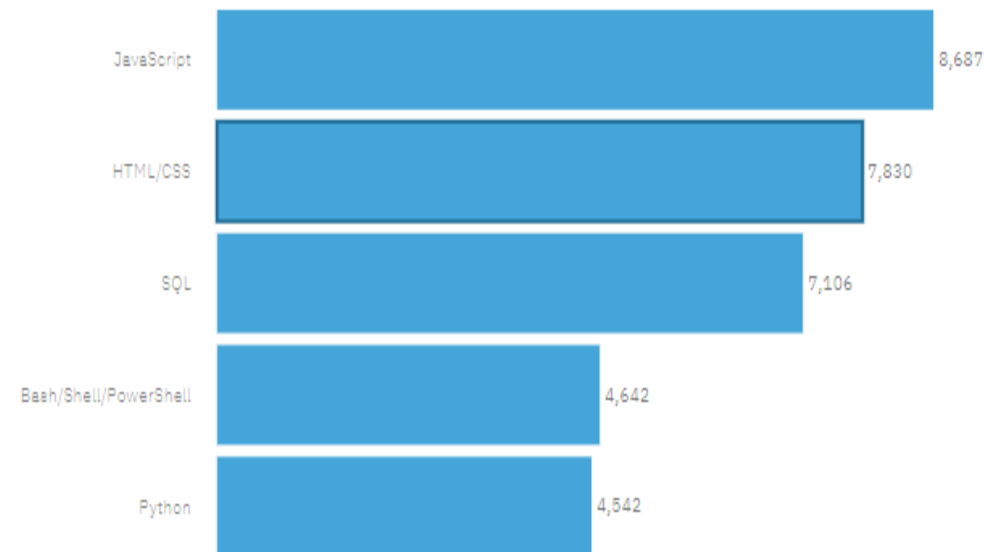
# RESULTS

	Respondent	LanguageWorkedWith	LanguageDesireNextYear	DatabaseWorkedWith	DatabaseDesireNextYear	PlatformWorkedWith
0	4	C	C	MySQL	MySQL	Linux
1	4	C++	C#	SQLite	SQLite	Windows
2	4	C#	JavaScript	NaN	NaN	NaN
3	4	Python	SQL	NaN	NaN	NaN
4	4	SQL	NaN	NaN	NaN	NaN
...	...	...	...	...	...	...
74584	25142	Go	Python	NaN	NaN	NaN
74585	25142	HTML/CSS	R	NaN	NaN	NaN
74586	25142	PHP	NaN	NaN	NaN	NaN
74587	25142	Python	NaN	NaN	NaN	NaN
74588	25142	R	NaN	NaN	NaN	NaN

# PROGRAMMING LANGUAGE TRENDS

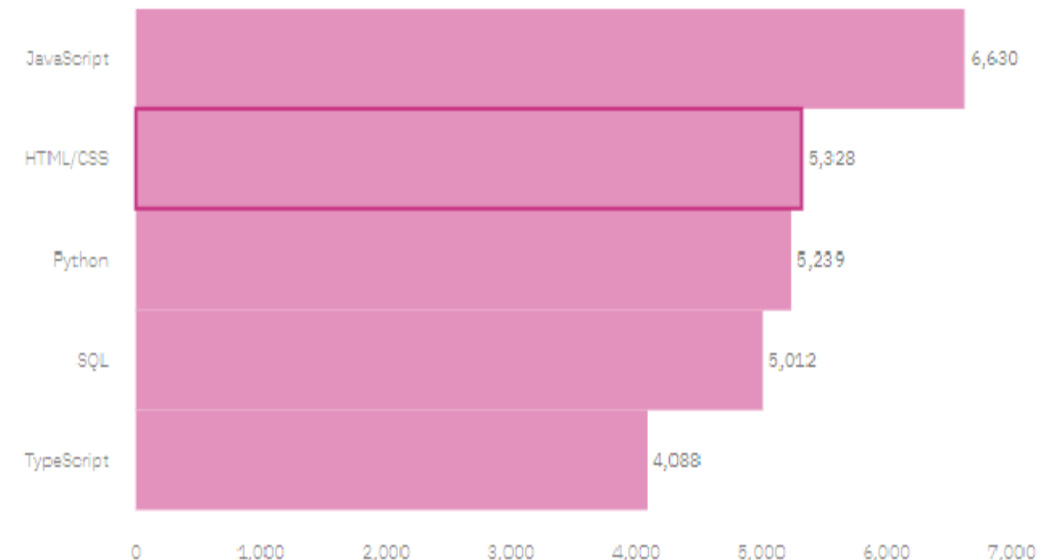
Current Year

Top 10 LanguageWorkedWith



Next Year

Top 10 LanguageDesireNextYear



# PROGRAMMING LANGUAGE TRENDS – FINDINGS & IMPLICATIONS

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## Findings

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

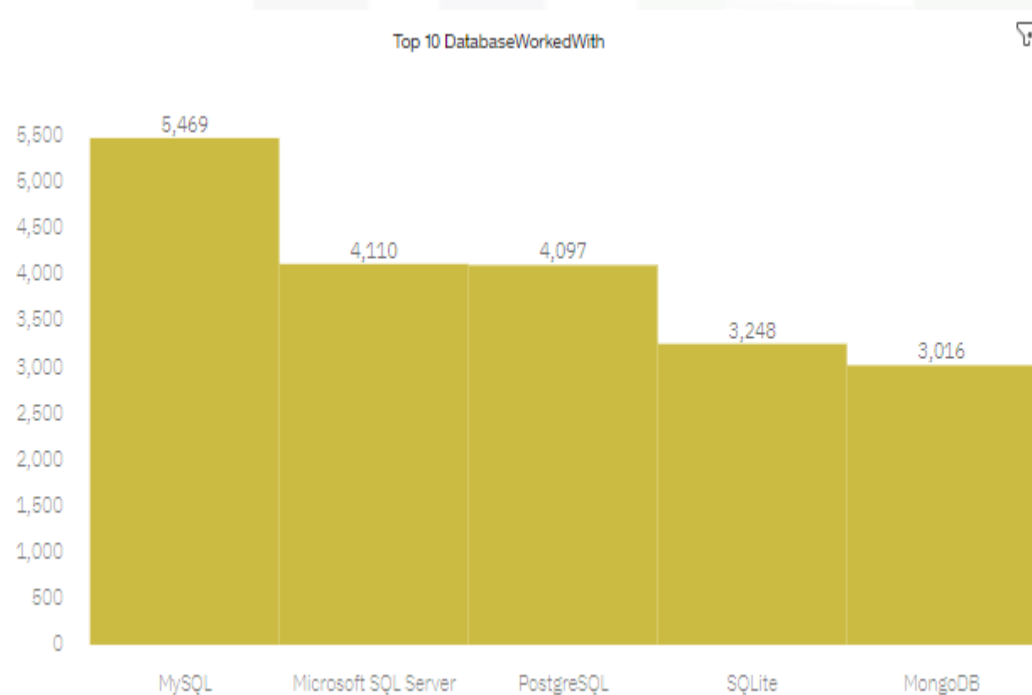
## Implications

- Web development are still in high demand
- Big Data technology in companies still requires SQL
- With AI and ML in rising demand, Python is best choice

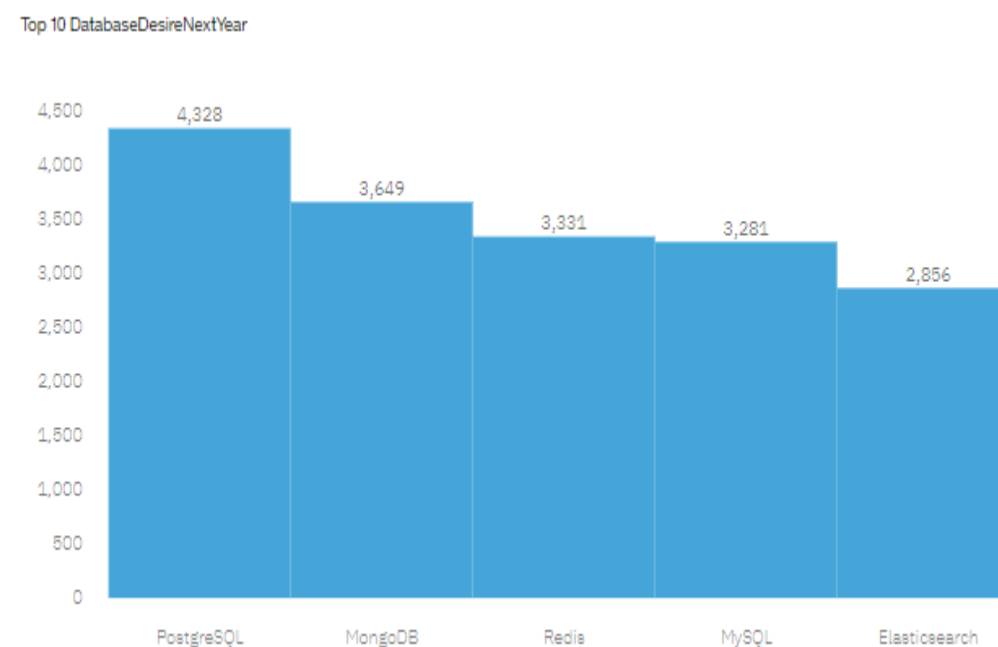


# DATABASE TRENDS

## 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
- Pre-tuned search to website, app, or ecommerce store

# DASHBOARD

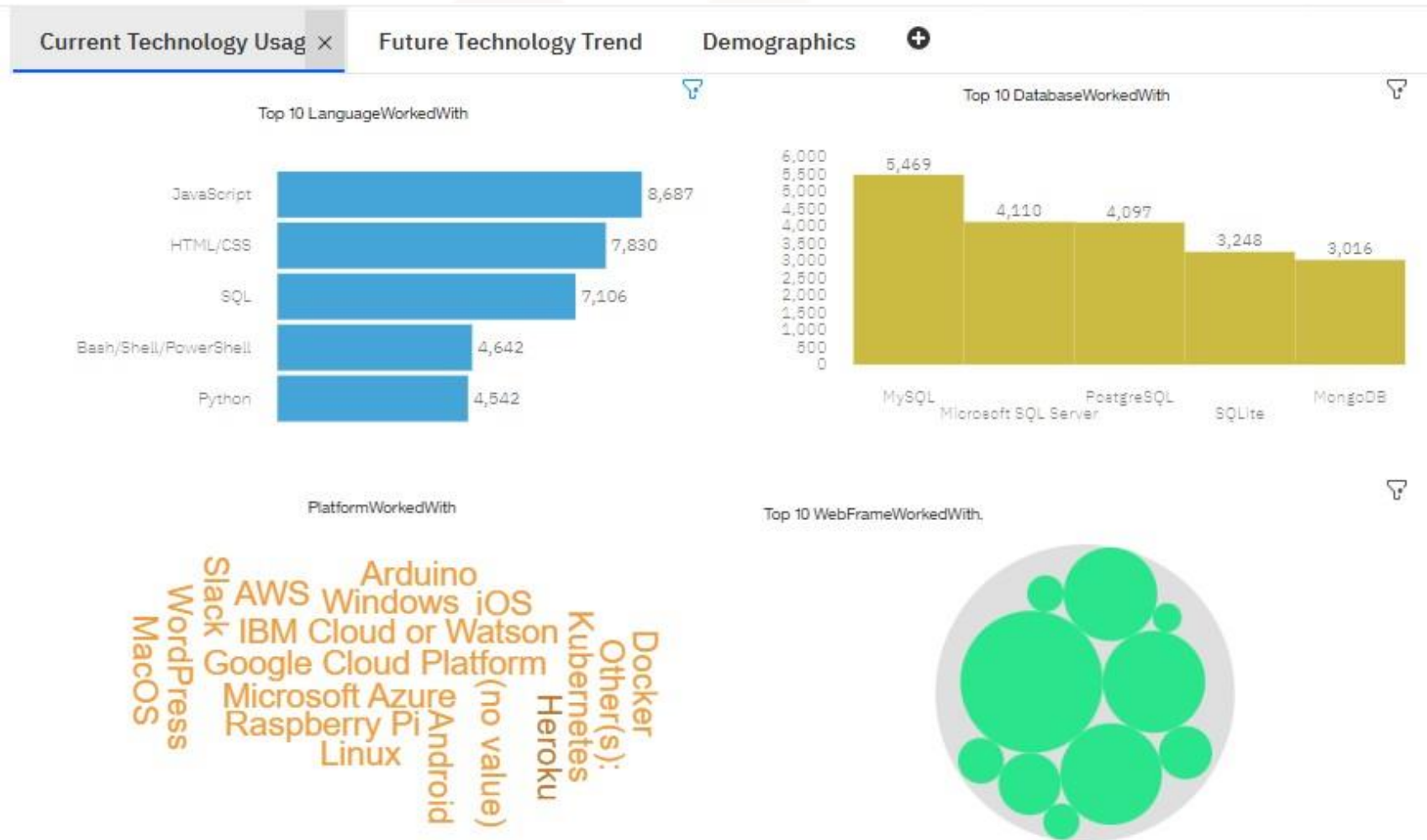
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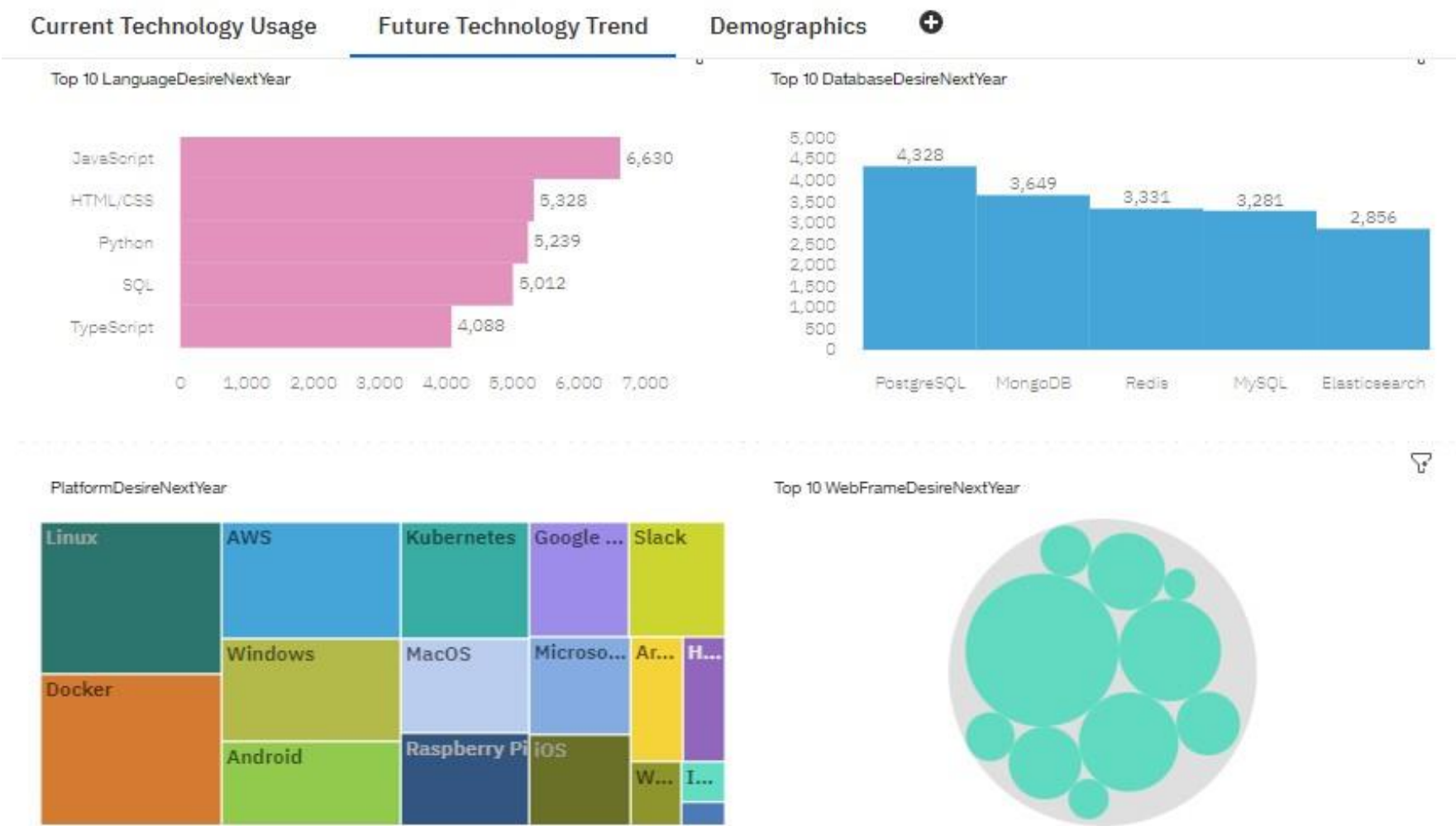
## IBM COGNOS DASHBOARD LINK

<https://eu-de.dataplatform.cloud.ibm.com/dashboards/868f98f2-82b6-4594-96de-3bc22cb2d6de/view/7b63d07d2e8830ff6db1e6e4079829547e30735ae0bbd607d5857b4906337997a86b4192c82f43098b135130f2ee410d9a>

# DASHBOARD TAB 1



# DASHBOARD TAB 2



# DASHBOARD TAB 3

Current Technology Usage

Future Technology Trend

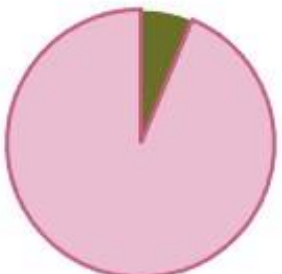
Demographics



Respondent classified by Gender

Gender

Woman Man

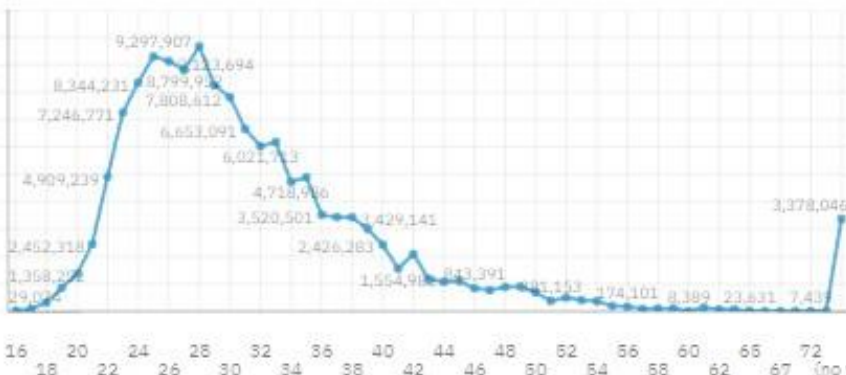


Respondent Count by Countries

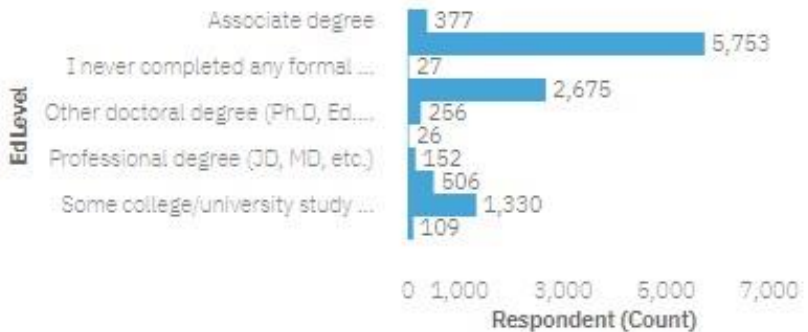
Country (Count)



Respondent Count by Age



Respondent Count by Gender, classified by Formal Education Level



# DISCUSSION

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- Technology Trends now and future
- Training and Reskilling workers
- Female 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 India
- Gender gap in technology jobs
- Platforms like Docker and AWS are growing

## Implications

- Companies need to be flexible and adjust to rapid changes
- Need to spread technology out to lagging countries
- Impact of job hiring's
- Shift to faster app deployments and cloud services in future



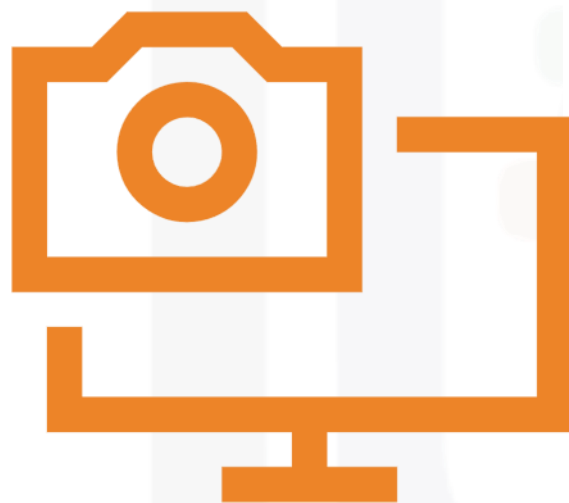
# CONCLUSION

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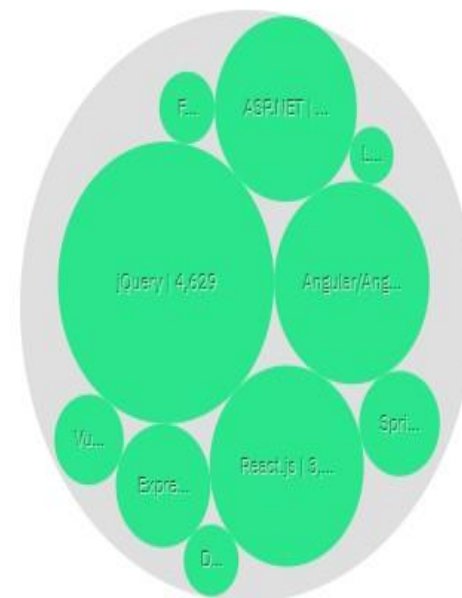


- Technology Trends for current and next year
- Programming Languages, Database and Platform overview
- Demographics overview
- Actions to be taken
- In future, incorporate Machine Learning to predict trends and salaries

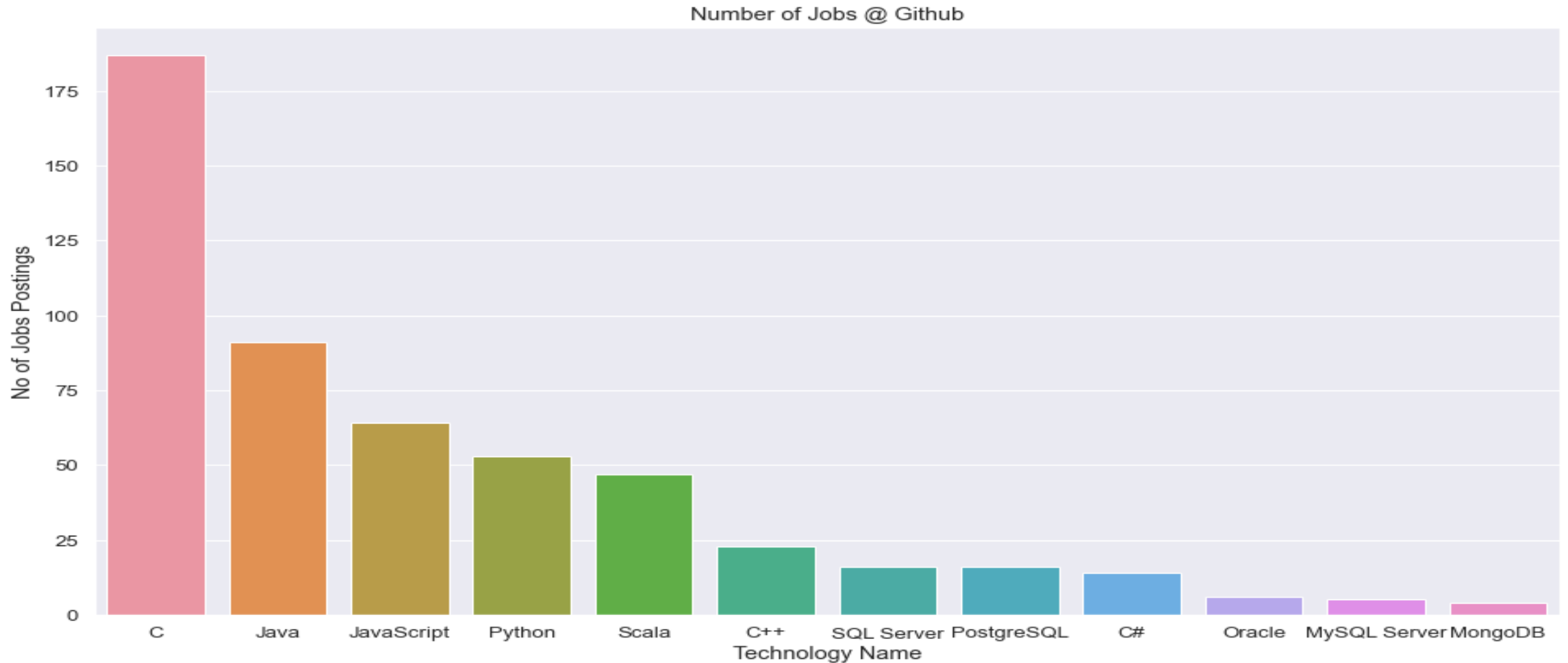
# APPENDIX



Top 10 WebFrameWorkedWith.



# JOB POSTINGS



# POPULAR LANGUAGES

