



# Analysis of Technological Trends

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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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- The current and future trends in programming languages and databases
- Demographic landscape of technological practitioners
  - Gender
  - Countries
  - Age
  - Educational Level
- Technological discrepancies among countries
- Gender discrepancies in job trend

# INTRODUCTION

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- About: Analysis of technological trends in the present and the future
- Purpose:
  - What are the top programming languages currently worked and desired with by the practitioners?
  - What are the top databases currently used and want to worked with by the developers?
  - Identify the popular Integrated Development Environments (IDE)
- Audience: Human Resource Management and IT Managers

# METHODOLOGY

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- Data Sources
  - Stack Overflow Developer 2019 Survey
  - GitHub Job Postings
  - Programming Languages Annual Salary
- Exploratory Data Analysis
- Data Wrangling
- Visualization
- Presentation

# RESULTS

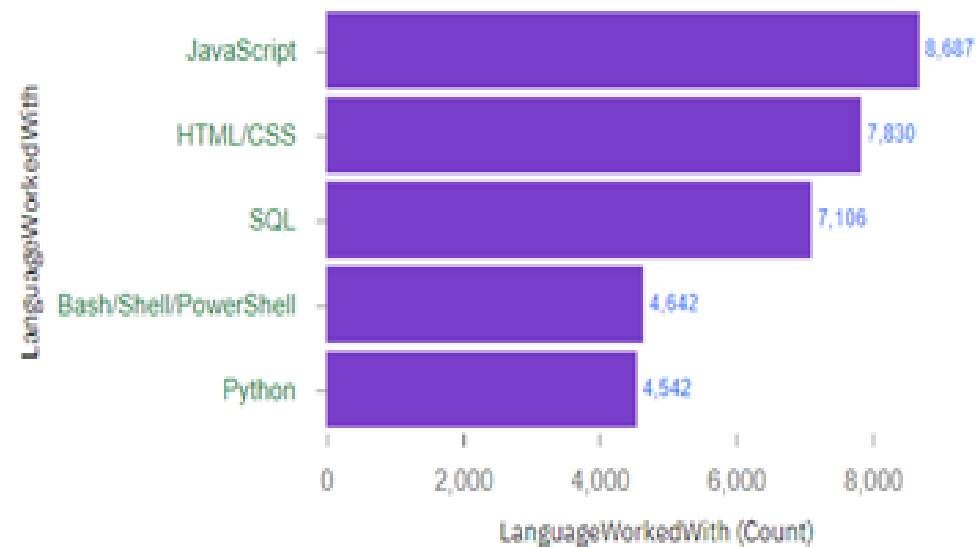
	Respondent	LanguageWorkedWith	LanguageDesireNextYear	DatabaseWorkedWith	DatabaseDesireNextYear	PlatformWorkedWith	PlatformDesireNextYear
	0	NaN	NaN	NaN	NaN	NaN	NaN
	1	4.0	C	C	MySQL	MySQL	Linux
	2	4.0	C++	C#	SQLite	SQLite	Windows
	3	4.0	C#	JavaScript	NaN	NaN	NaN
	4	4.0	Python	SQL	NaN	NaN	NaN
...	...	...	...	...	...	...	...
74585	25142.0	Go	Python	NaN	NaN	NaN	NaN
74586	25142.0	HTML/CSS	R	NaN	NaN	NaN	NaN
74587	25142.0	PHP	NaN	NaN	NaN	NaN	NaN
74588	25142.0	Python	NaN	NaN	NaN	NaN	NaN
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# PROGRAMMING LANGUAGE TRENDS

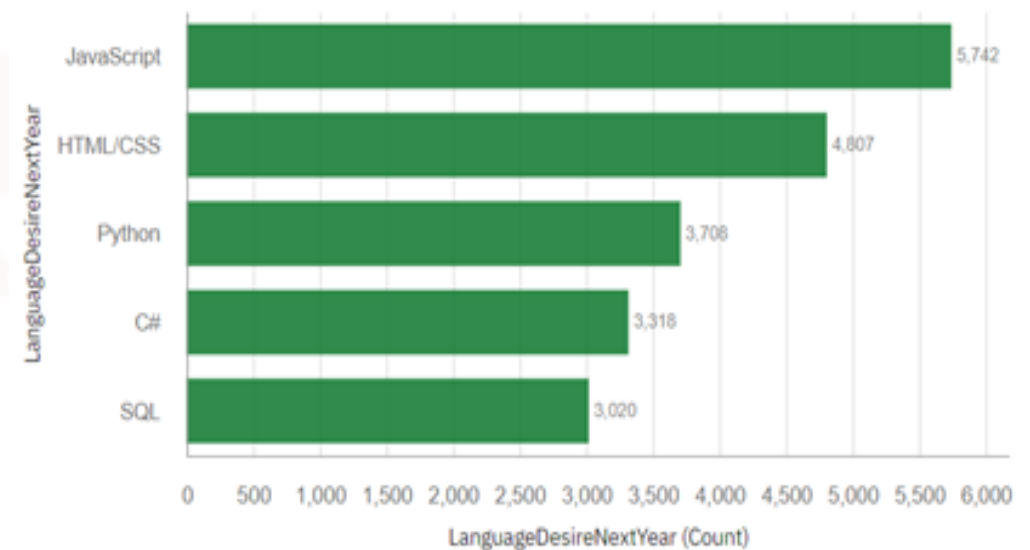
Current Year

Top 5 Programming Languages



Next Year

Top 5 Language Desire Next Year



# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- Top 3 for this year are JavaScript, HTML/CSS, SQL
- Python and C# are desired languages next year.
- Bash/PowerShell will be out next year

## Implications

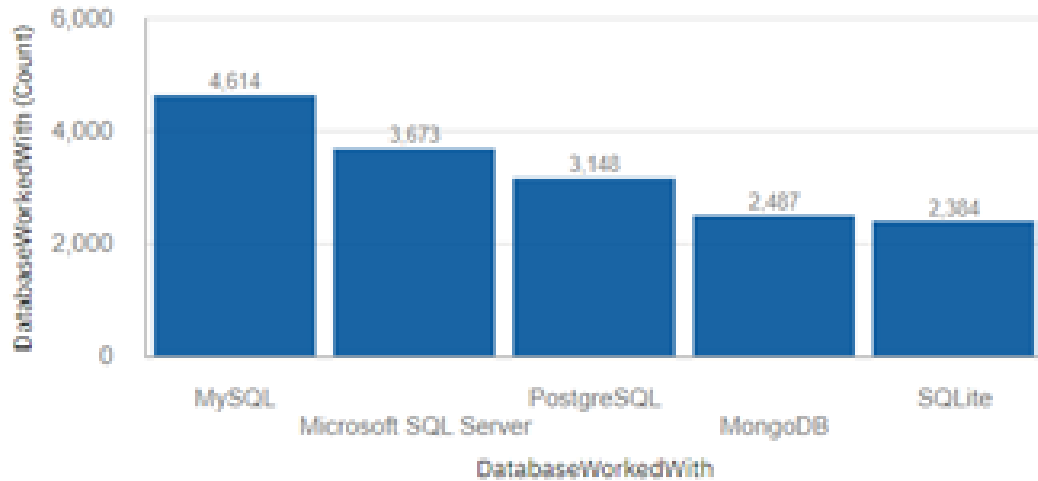
- There will still be a high demand on web development
- SQL will still be popular in Big Data
- For AI and ML, Python is the best fit.



# DATABASE TRENDS

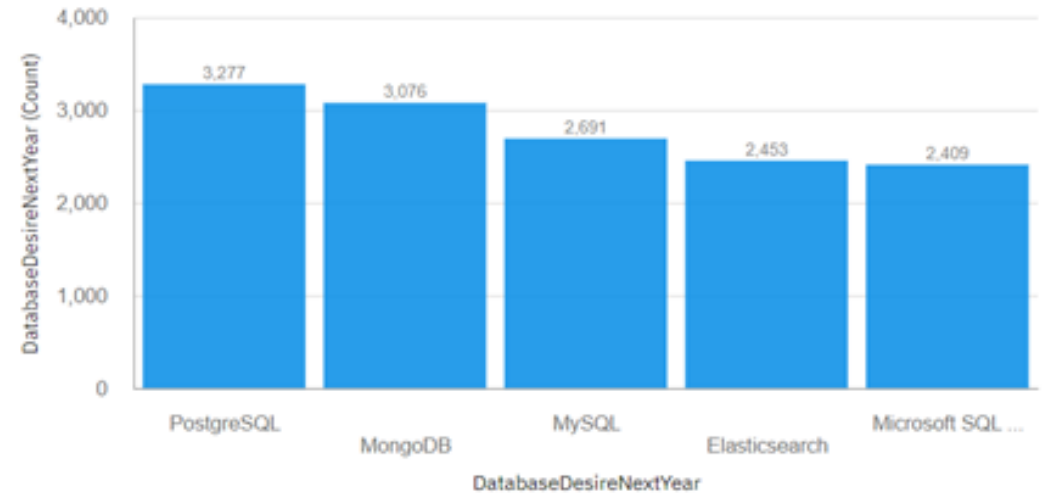
Current Year

Top 5 Database



Next Year

Top 5 Database Desire Next Year



# DATABASE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- MySQL got the top
- Microsoft SQL is tailing
- PostgreSQL and MongoDB are the rising star.
- Elasticsearch will join the party

## Implications

- Open-source databases will still be used by the companies
- NoSQL databases will definitely influence for non-relational data

# DASHBOARD

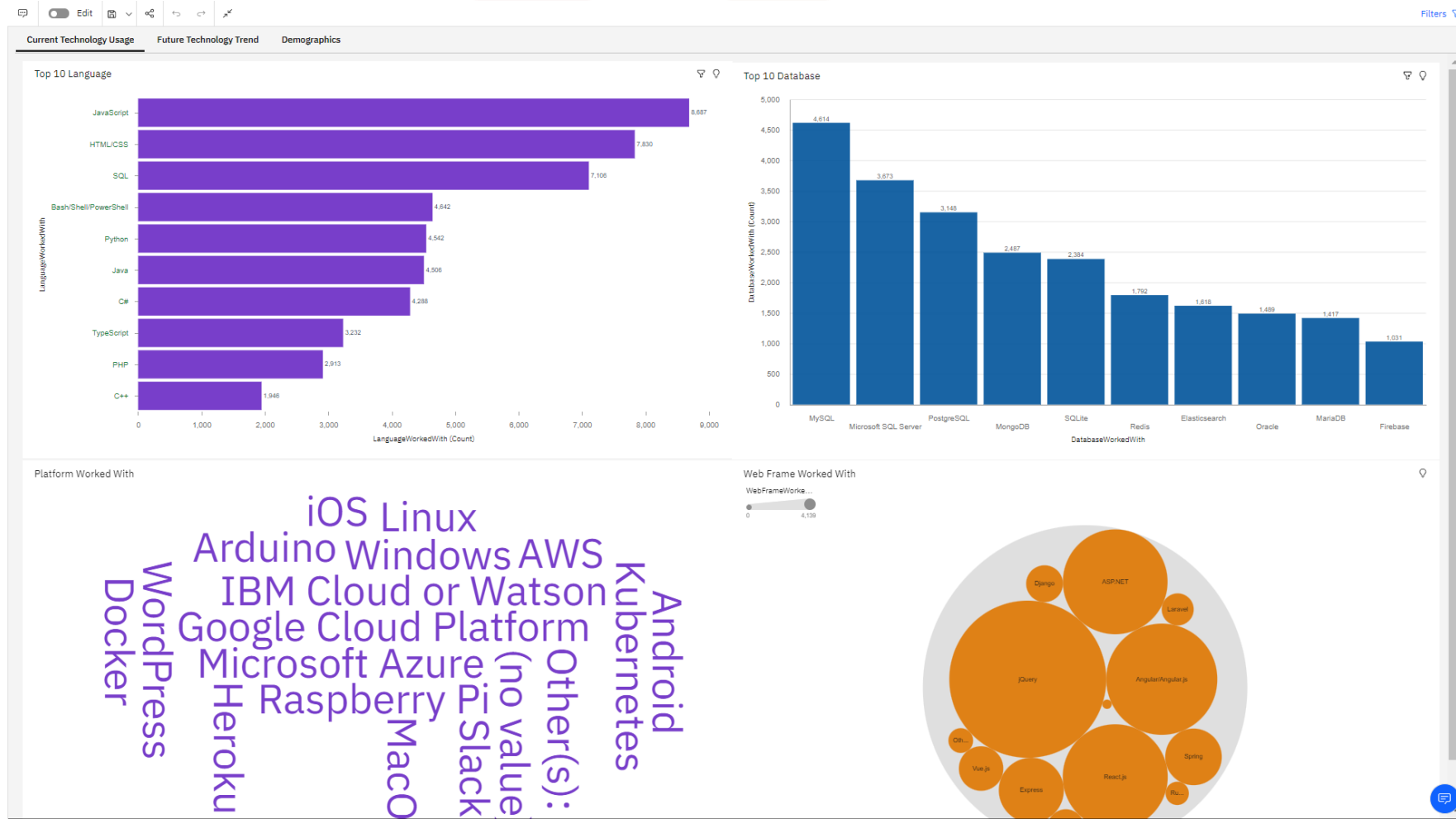
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## Cognos Link Dashboard

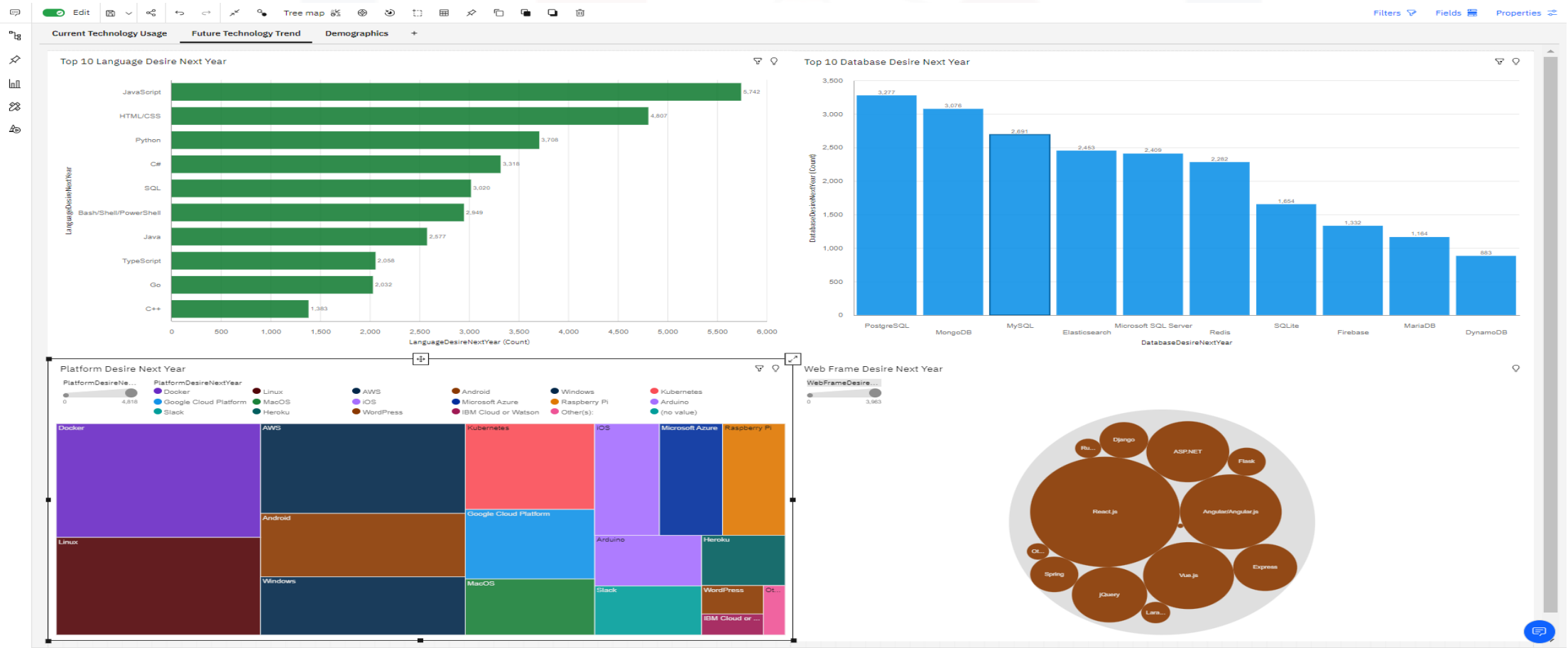


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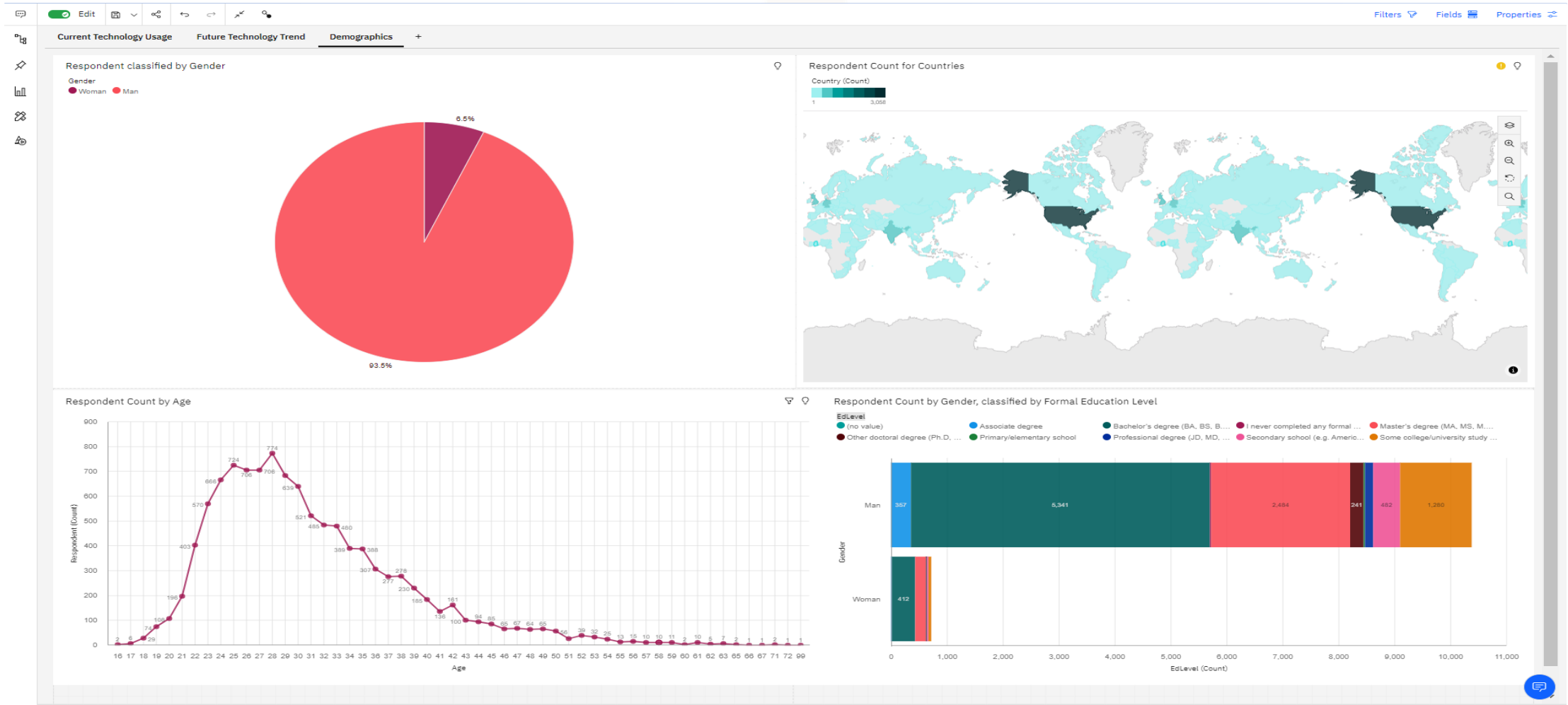
# DASHBOARD TAB 1



# DASHBOARD TAB 2



# DASHBOARD TAB 3



# DISCUSSION

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- Significant trend in technology now and in the future
- The need to train and upskilling workers
- Gender equality in technology
- Closing the technological gap among countries
- More inclusive employment regardless of age and education

# OVERALL FINDINGS & IMPLICATIONS

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## Findings

- Fast pace technology shift year by year
- US and India leads the technological advancement
- Gender equality in technology
- Docker and AWS are rising.

## Implications

- Companies should open for changes
- Democratizing technology to let other countries catch up
- More opening for hiring women in technological job
- Faster move to exploit cloud services for applications



# CONCLUSION

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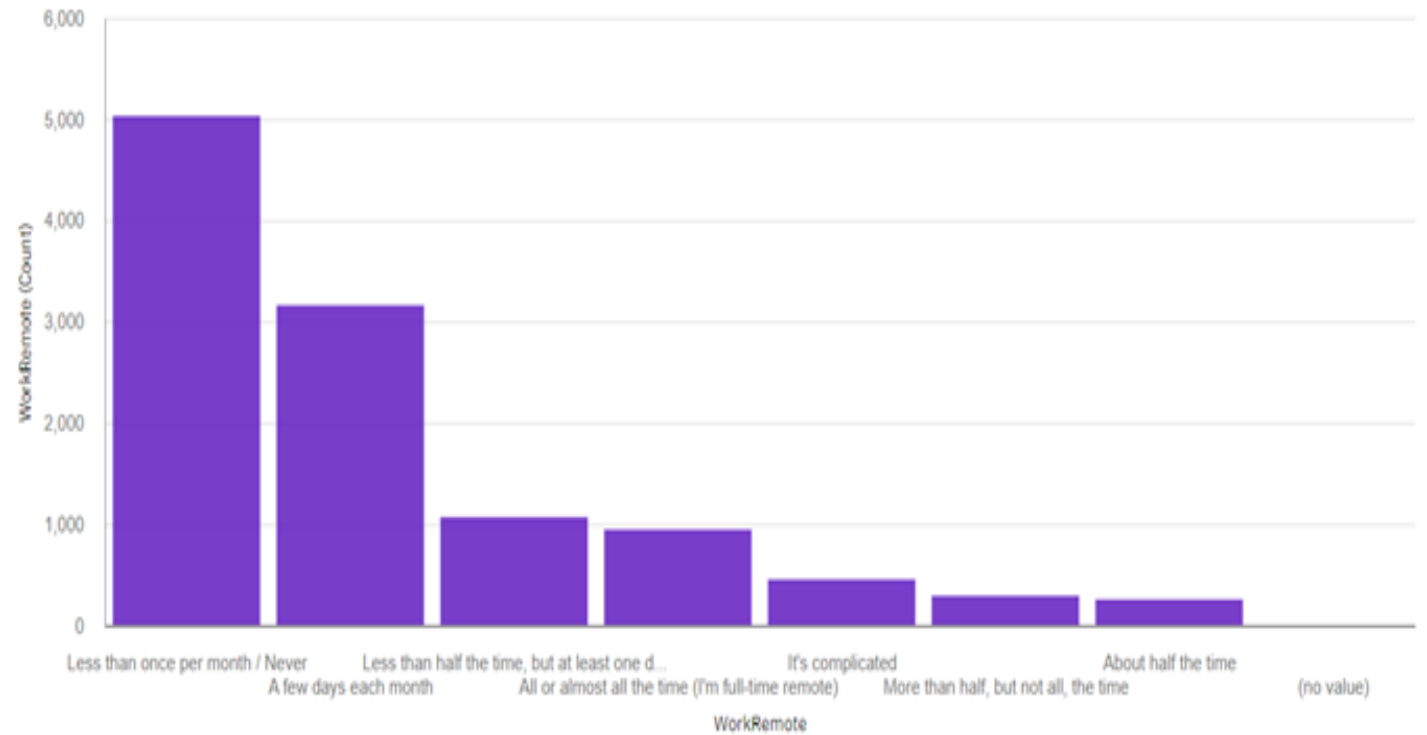


- Current and next year's technological trend
- The trend in Programming Languages, Database and Platforms
- Demographics landscape in technological job
- Course of action, tactical and strategic
- Incorporate Machine Learning for trends and salary prediction.

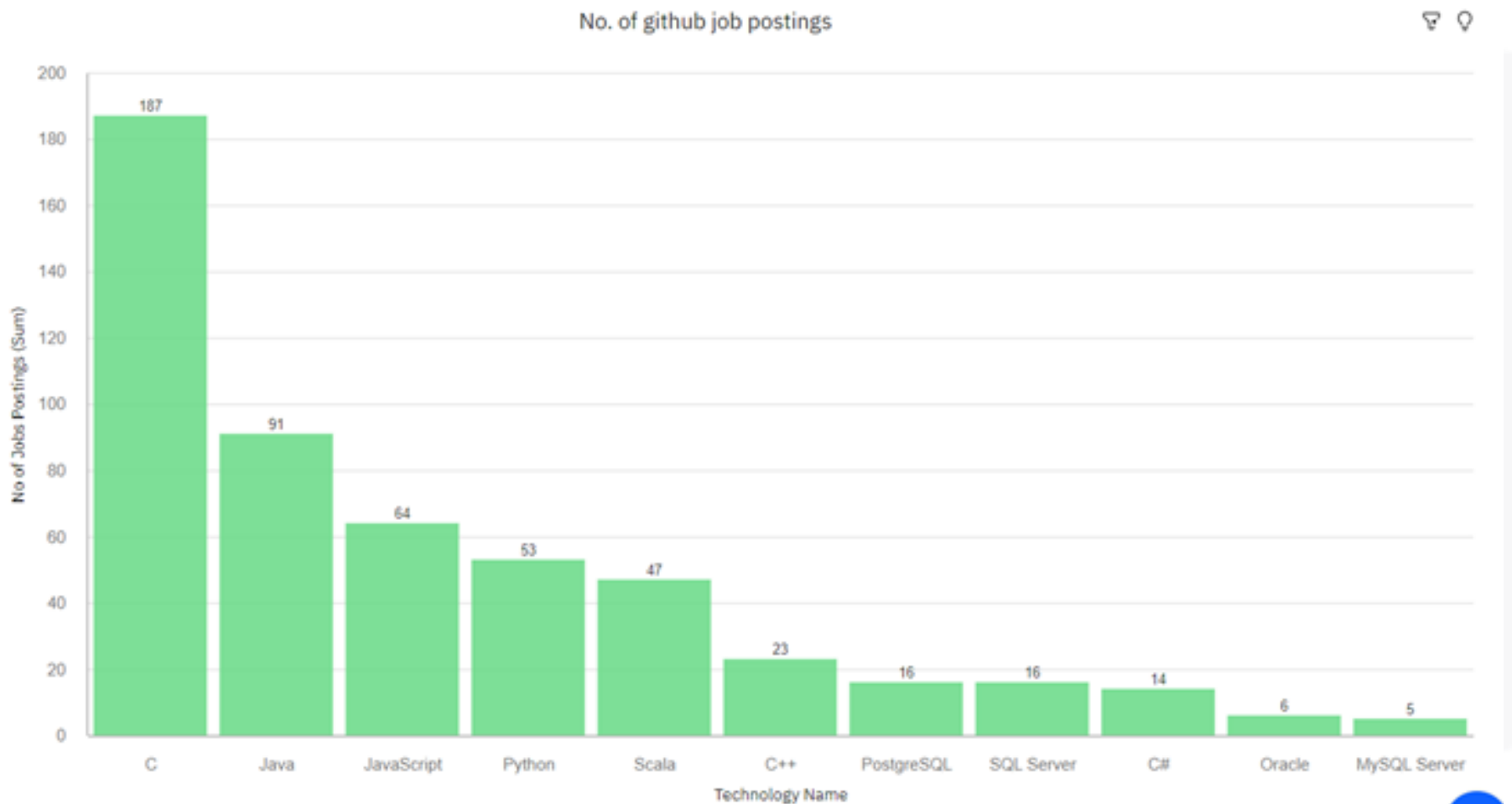
# APPENDIX



No. of Work Remotely



# GITHUB JOB POSTINGS



# POPULAR LANGUAGES

Average Annual Salary by Language

