Analyzing the Current Technological Usage and the Future Technological Trends

Riddhi Kalaria

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OUTLINE

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EXECUTIVE SUMMARY

- Technology Usage based on the programming languages and databases
- Technological Trends based on demographics
- Technological gap between countries and demographics
- Gap created due to gender biases in jobs

INTRODUCTION

- About: Analyzing the trends in Technology
- Purpose:
  - To identify the skill requirements for future technologies
  - What are the top programming languages in demand today?
  - What are the top database skills in demand currently?
  - What are the popular IDEs?
- Audience: Human Resource and IT Head

METHODOLOGY

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

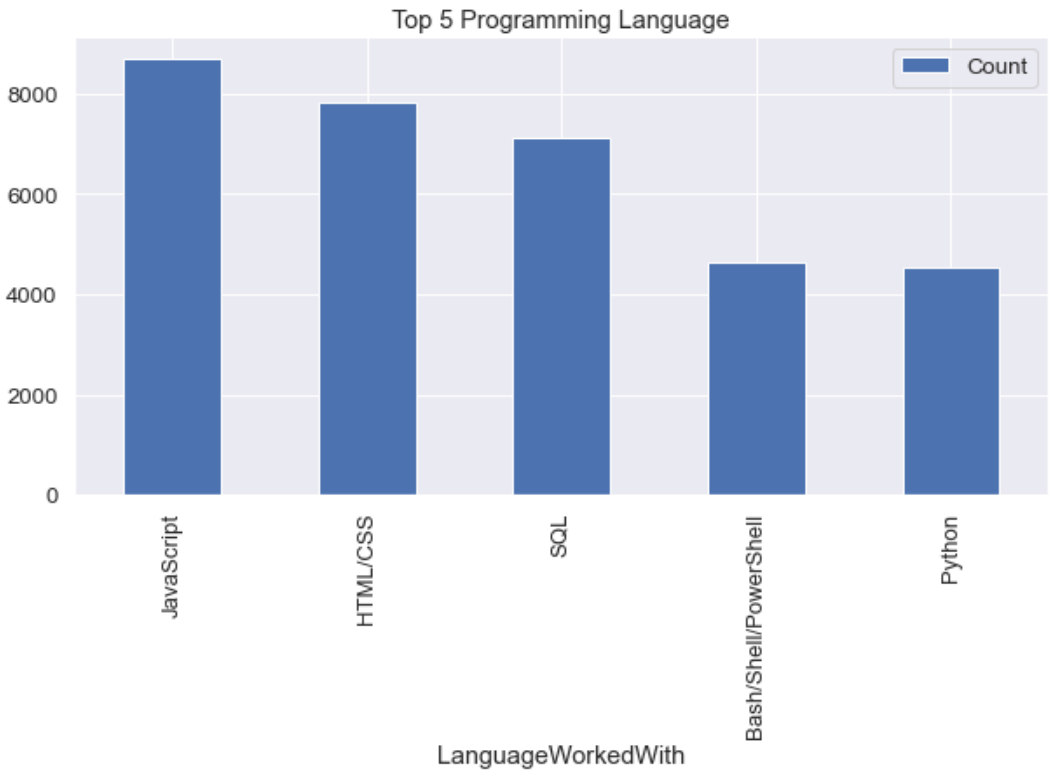
RESULTS

The Results are based on the following findings

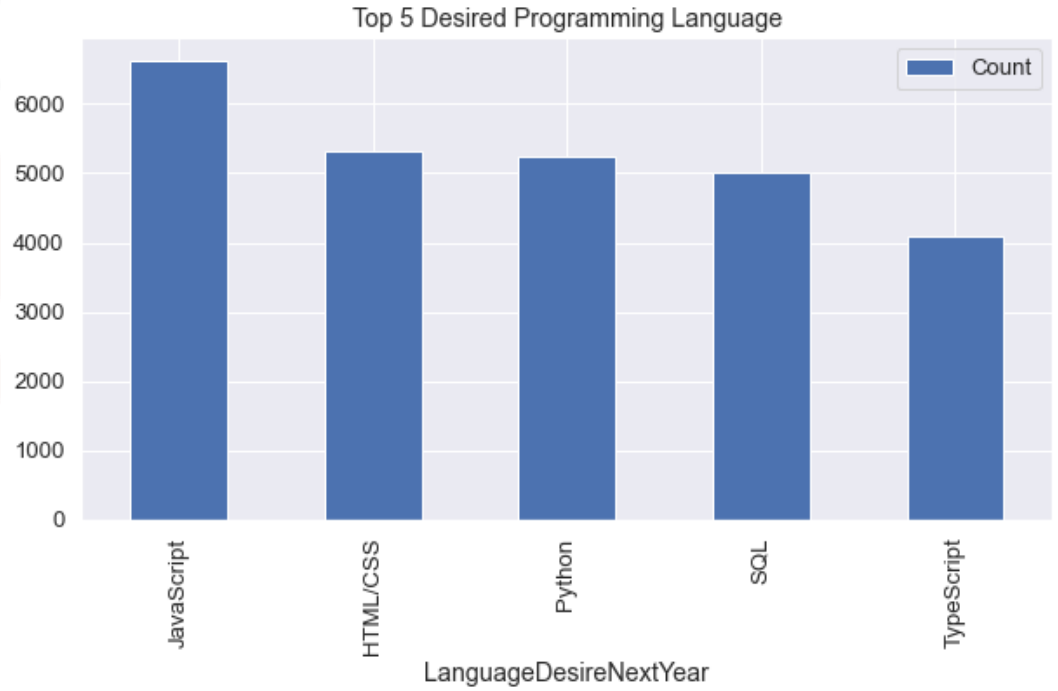
	Respondent	LanguageWorkedWith	LanguageDesireNextYear	DatabaseWorkedWith	DatabaseDesireNextYear	PlatformWorkedWith
0	4	C	C	MySQL	MySQL	Linux
1	4	C++	C#	SQLite	SQLite	Windows
2	4	C#	JavaScript	NaN	NaN	NaN
3	4	Python	SQL	NaN	NaN	NaN
4	4	SQL	NaN	NaN	NaN	NaN
...	...	...	...	...	...	...
74584	25142	Go	Python	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



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

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

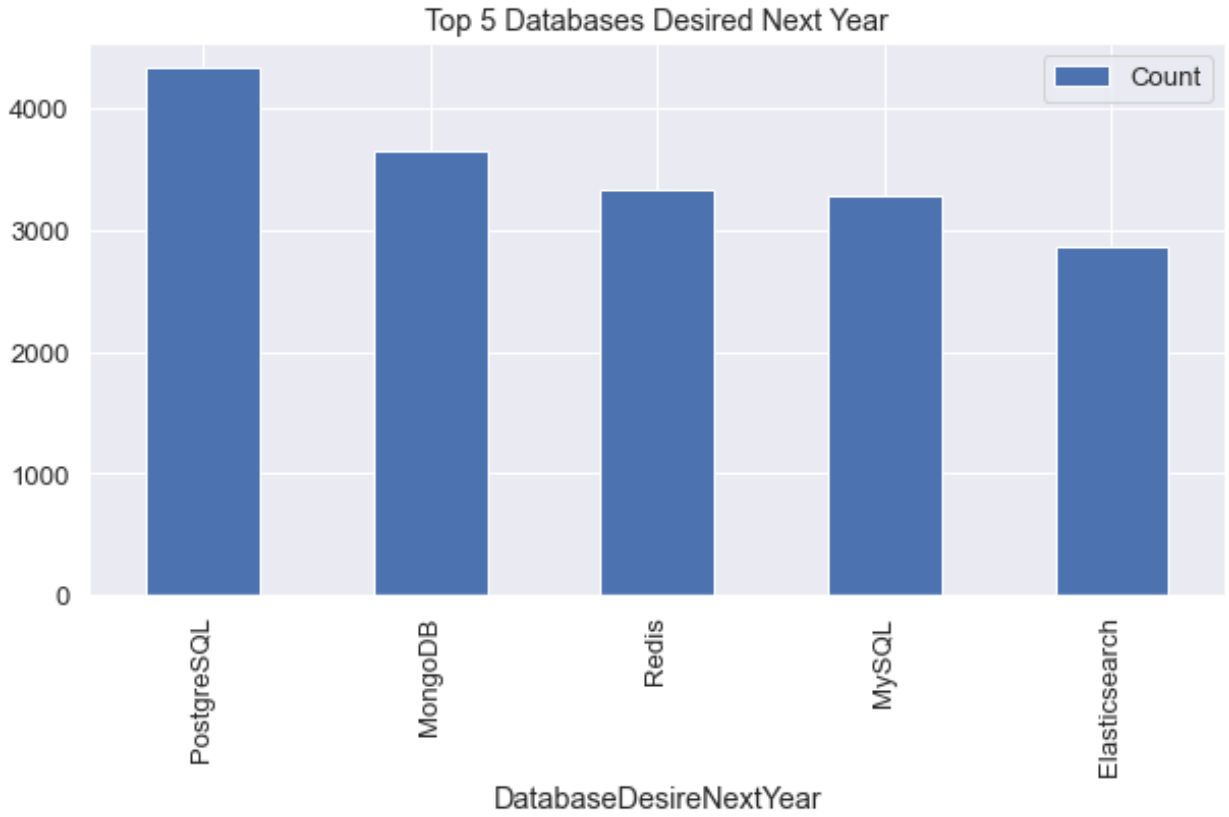
Implications

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

DATABASE TRENDS

Current Year

Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

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

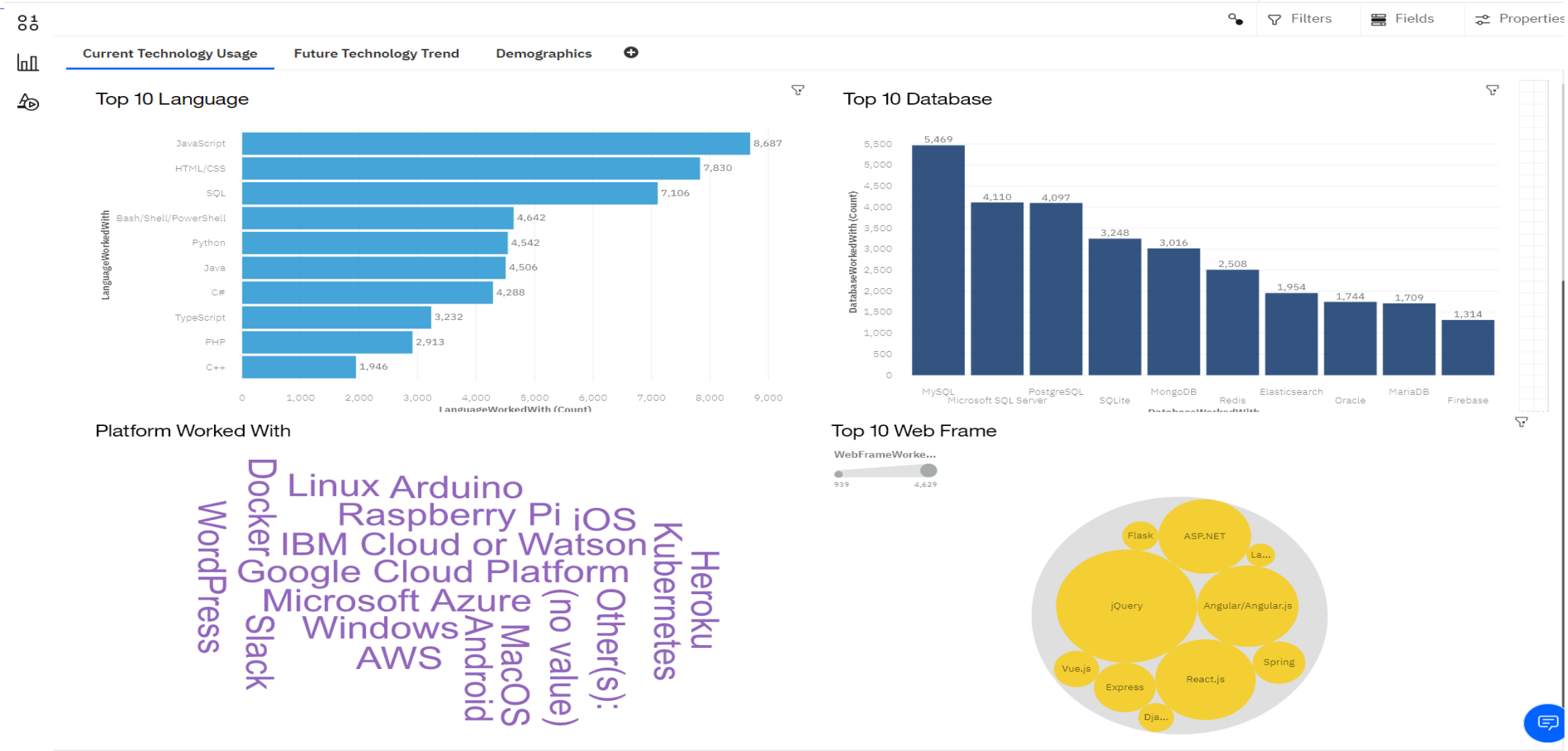
Implications

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

DASHBOARD

<https://eu-gb.dataplatform.cloud.ibm.com/dashboards/e6752039-742d-4c72-a480-7400dbc30cbe/view/0328a209268c15e465cdb5e4079e78037835275db3bbd25680d17b495e647097f06042c3c87e420f89470767f4ea1a0b9b>

CURRENT TECHNOLOGY USAGE DASHBOARD



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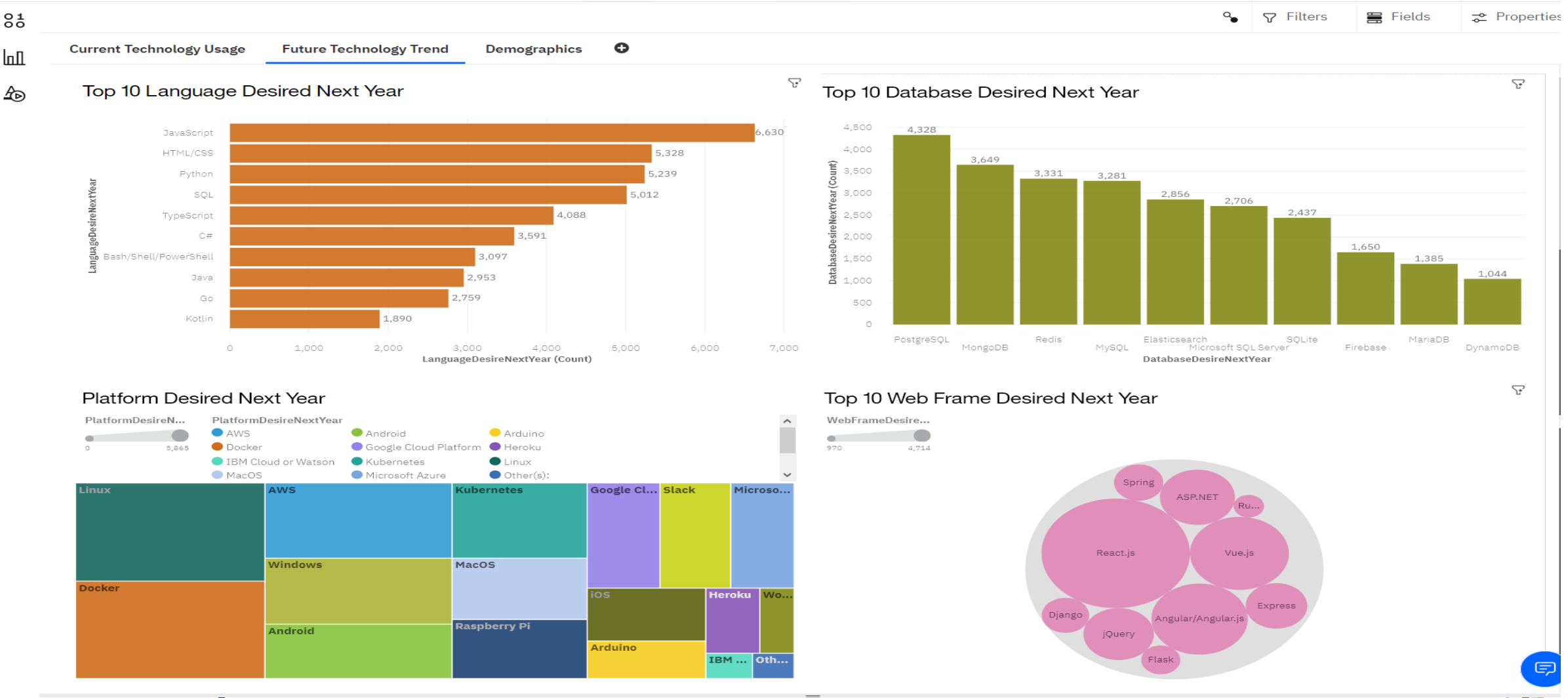
SKILLS NETWORK

FUTURE TECHNOLOGY TREND DASHBOARD



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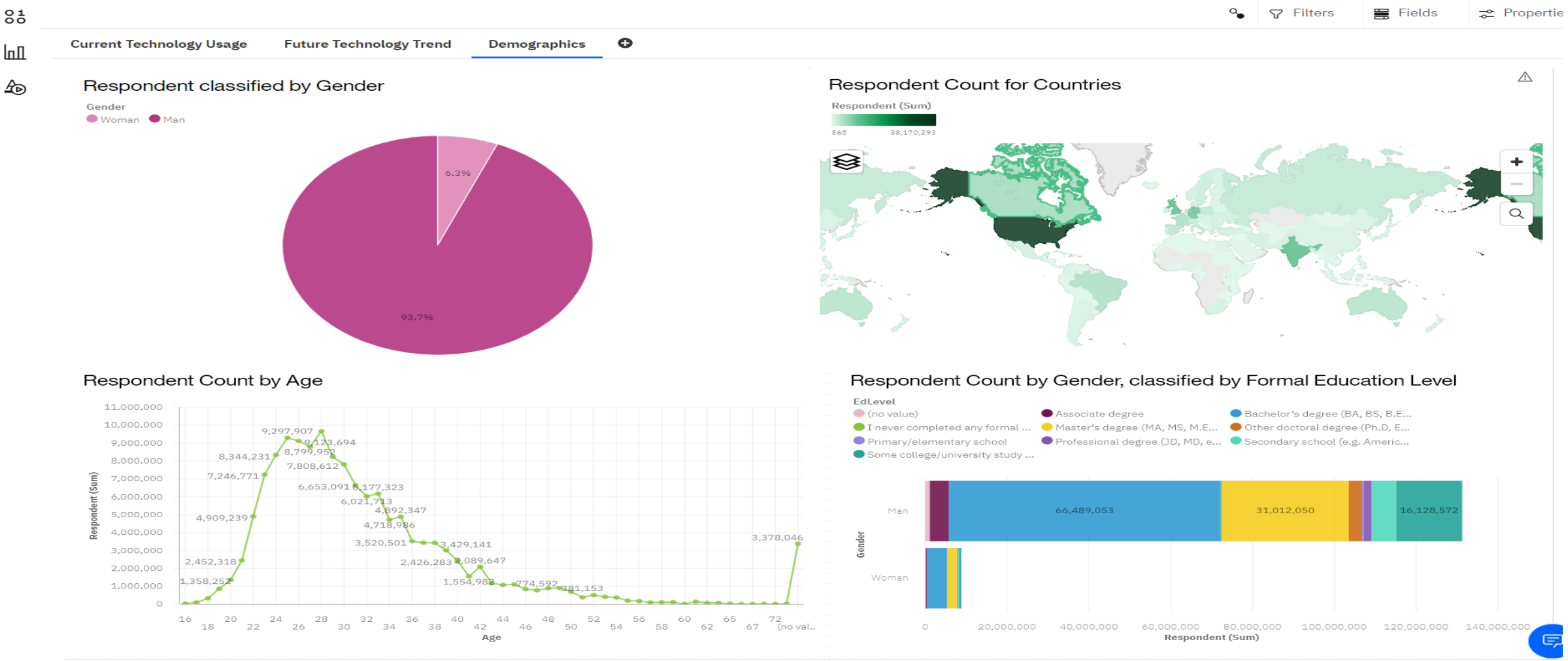
SKILLS NETWORK

DEMOGRAPHIC DASHBOARD



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SKILLS NETWORK

DISCUSSION

- 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

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

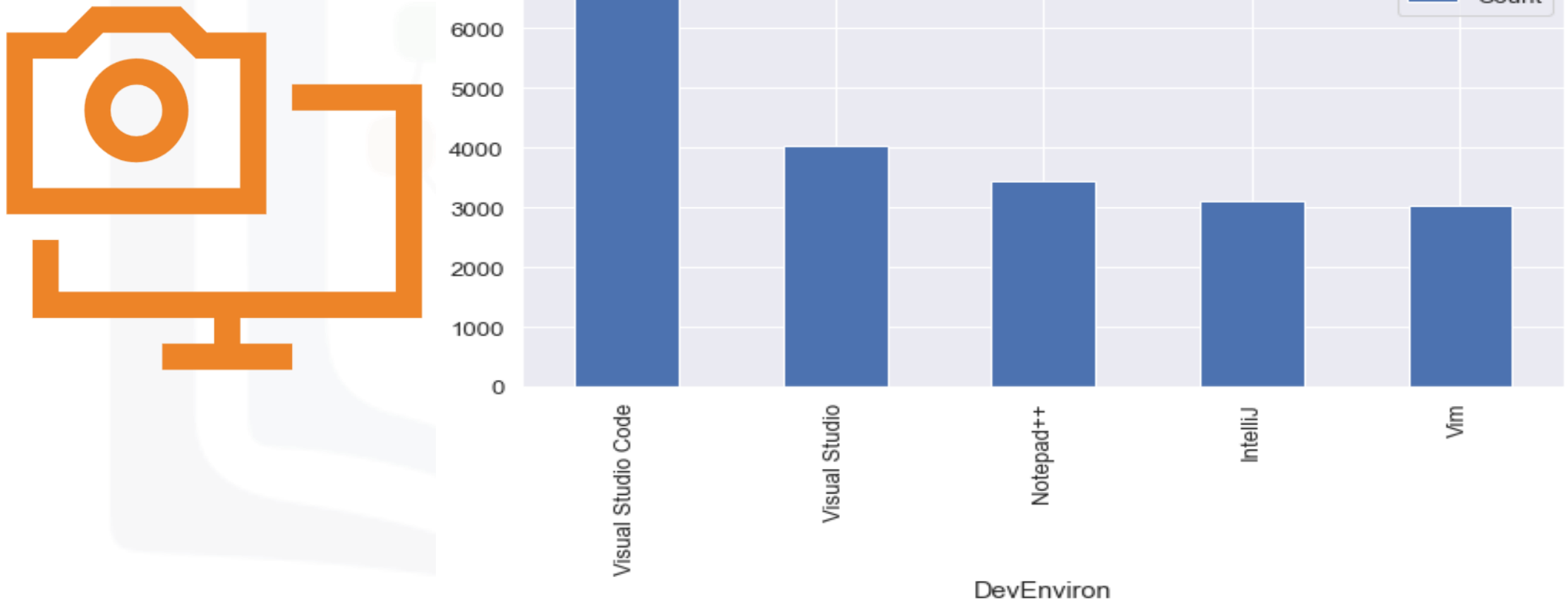
Implications

- 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

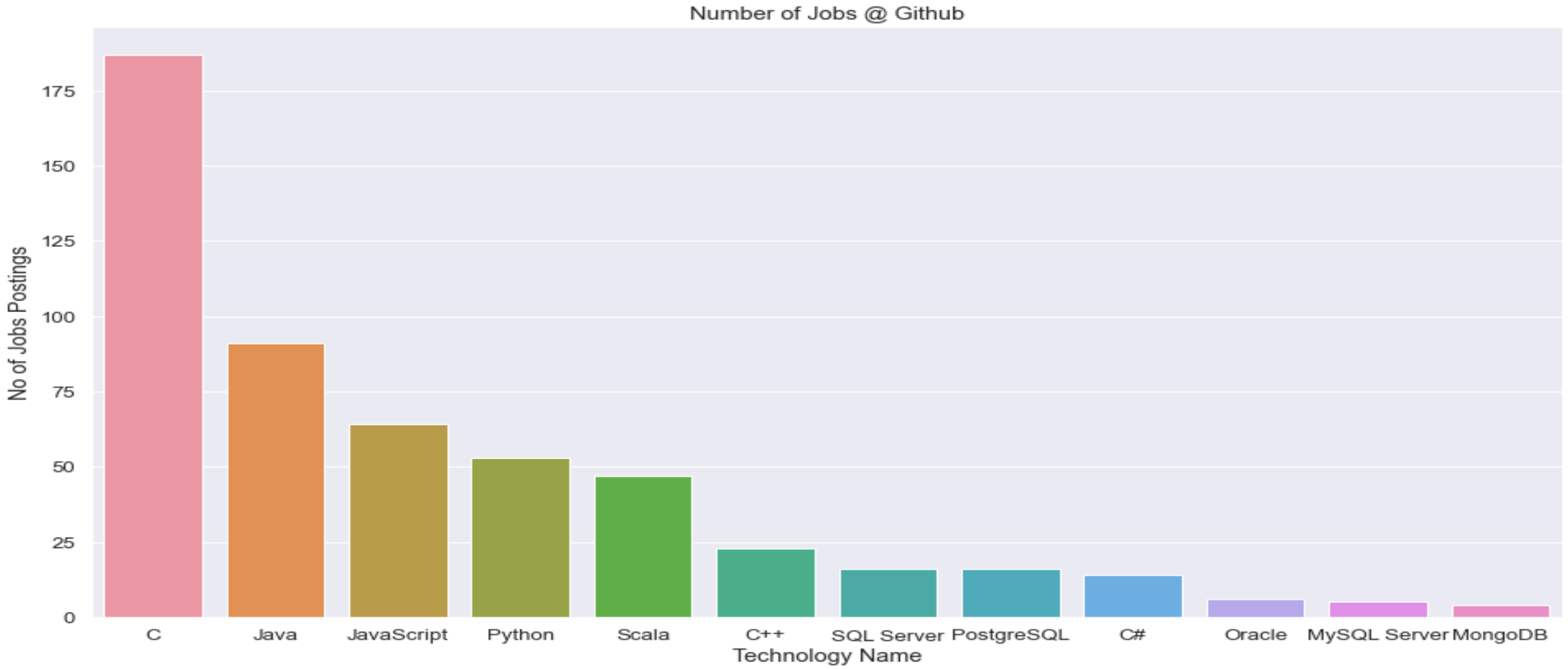
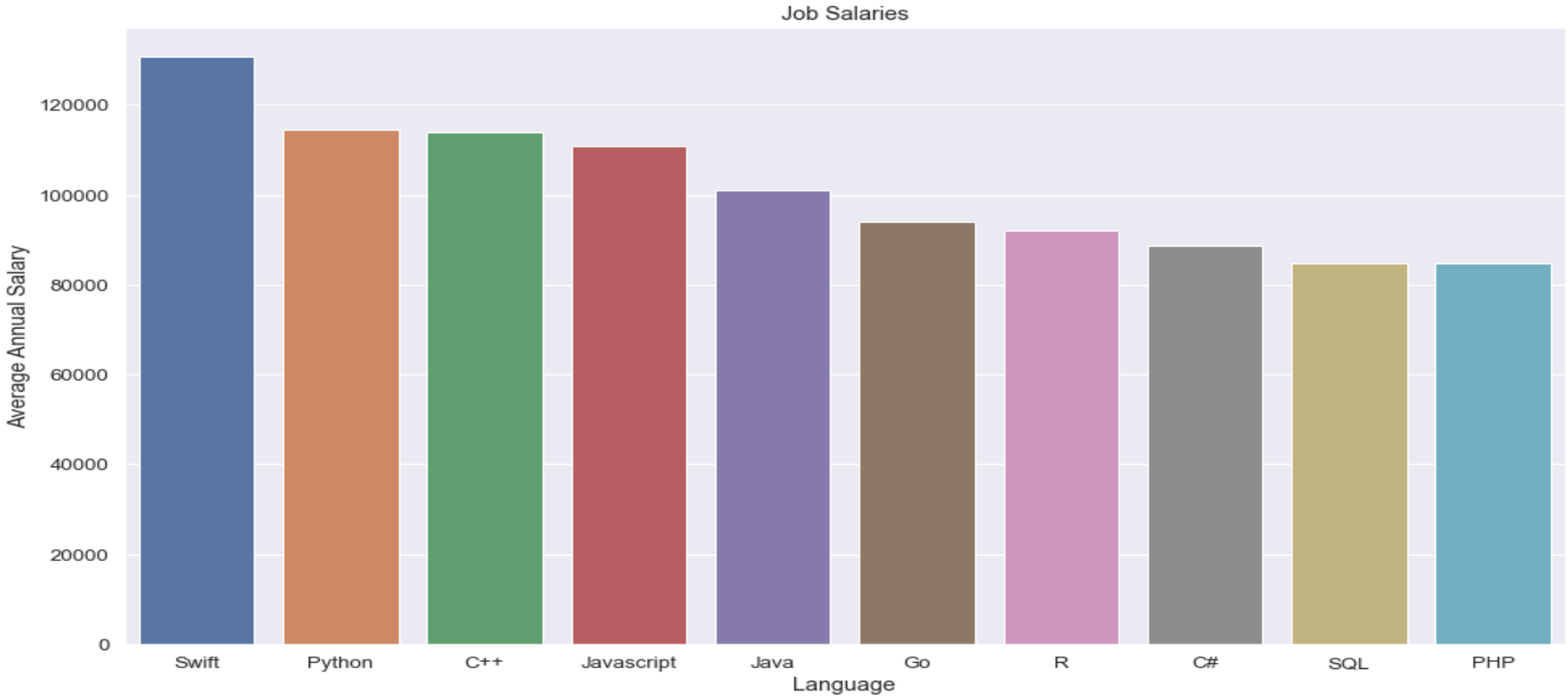
CONCLUSION

- 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 5 Development Environments
Count
6000
5000
4000
3000
2000
1000
0
Visual Studio Code
Visual Studio
Notepad++
IntelliJ
Vim
DevEnviron

GITHUB JOB POSTINGS



POPULAR LANGUAGES