Developers Survey – Emerging skills & Techs

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IBM Developer

SKILLS NETWORK

OUTLINE

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

EXECUTIVE SUMMARY

- Presentation to convey the analysis report that investigates emerging skills and technologies in IT industry.
- Aim of the analysis is to identify the emerging trends in the IT industry pertaining to -
  - Languages
  - Databases
  - Software Platforms
  - Web Frames
- Presentation communicates results which may help industry professionals and enthusiasts in their careers.

INTRODUCTION

- Dynamic trend of different tools / software's available for the Professionals in IT industry.
- Outcomes to assist IT Professionals and Recruiters to get a glance on the future expectations.
- Professionals can upskill based on different emerging trends.
- The Study gives an insight on -
  - Top Programming Languages now and in coming year.
  - Top Databases now and in coming year.
  - Top Skills development and training in future.

METHODOLOGY

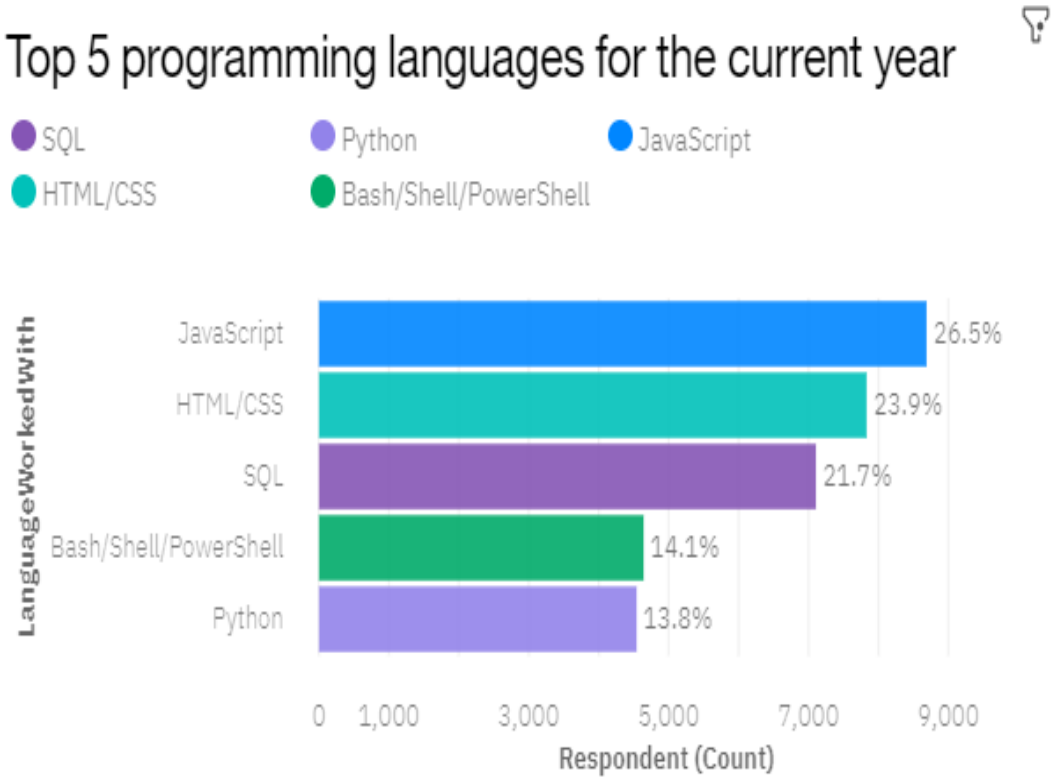
- Data Sources
  - GitHub job postings
  - Stack overflow Survey
  - IBM website
- Data Exploration and Wrangling
  - Find and remove duplicate values
  - Find and remove missing values
- Dara Normalizing
  - Handling Outliers
  - Correlation
- Data Visualization
  - Used Python libraries (Matplotlib and Seaborn)
  - Used Cognos Dashboard Embedded (CDE)

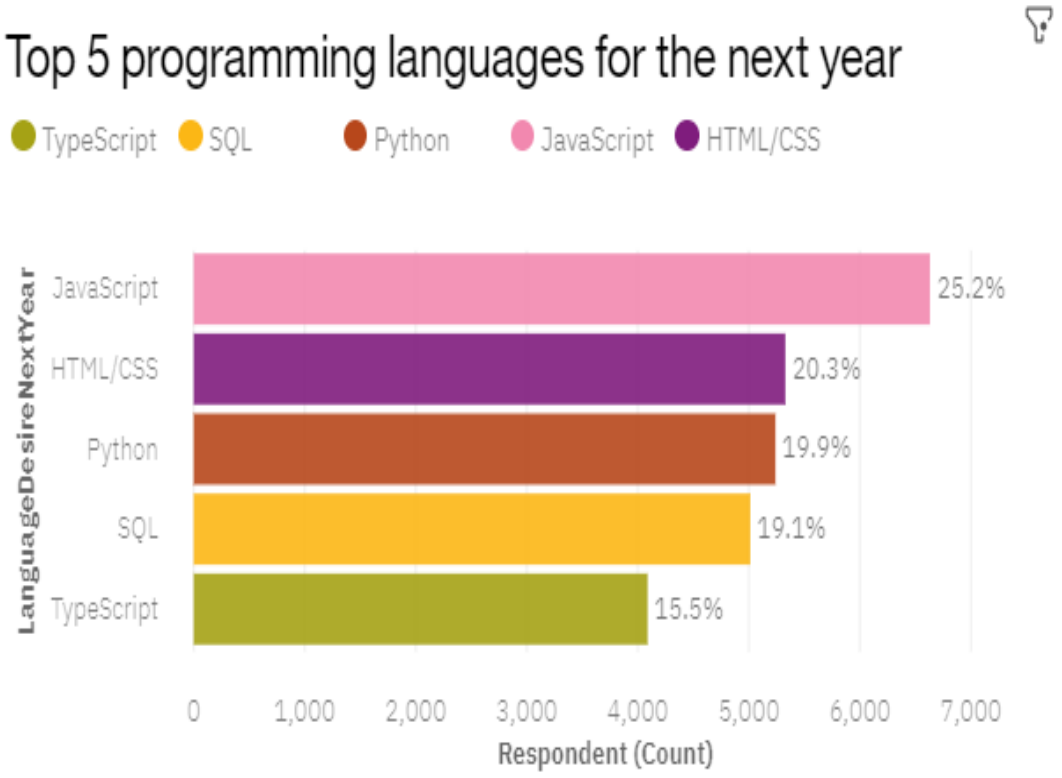
RESULTS

	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

- Results derived from the data set shown above will be presented in the coming slides.

PROGRAMMING LANGUAGE TRENDS





PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

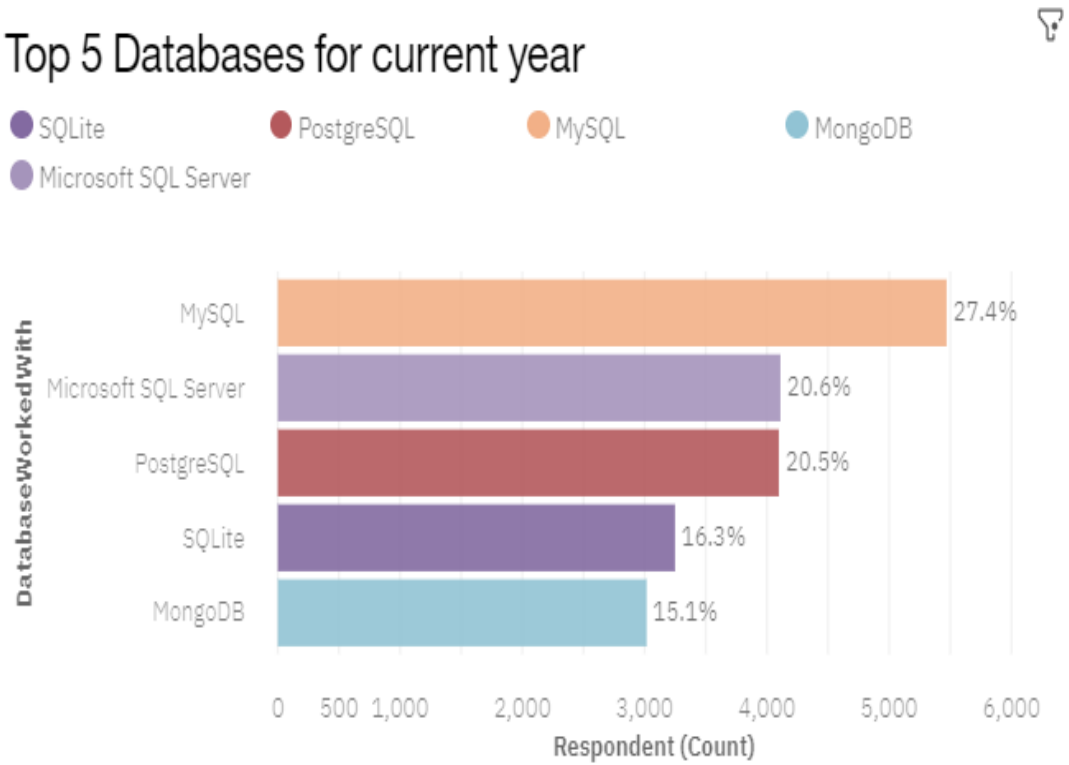
Findings

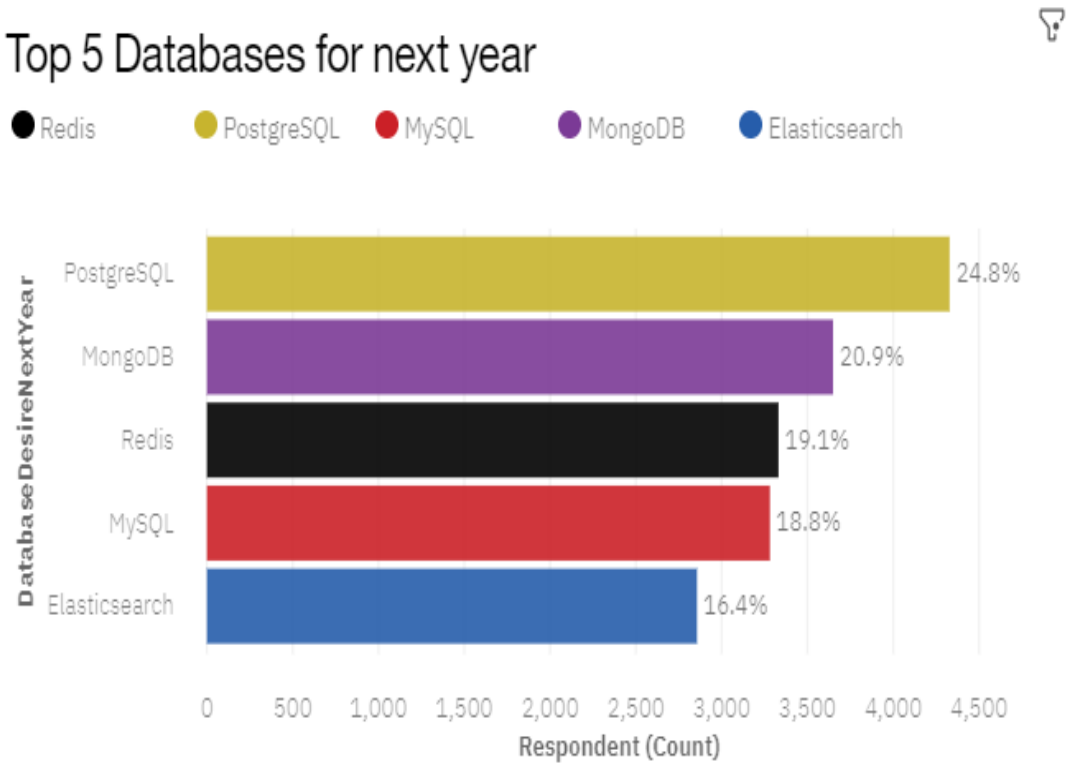
- JavaScript and HTML/CSS are the most in demand programming languages.
- Increase in interest to learn Python amongst Developers.
- PowerShell/Bash are not priorities in coming year.
- Emerging language TypeScript.

Implications

- Java and HTML skill should be given priority to the professionals.
- Training and skill development in Python can help organizations to keep up with market trends.
- Knowledge on TypeScript will be added advantage on JavaScript.

DATABASE TRENDS





DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL and Microsoft SQL Server are the most in demand Databases.
- PostgreSQL is most desired Database amongst others for Developers.
- MongoDB is most emerging Database for the coming year.
- NoSQL Databases on the rise for coming year.

Implications

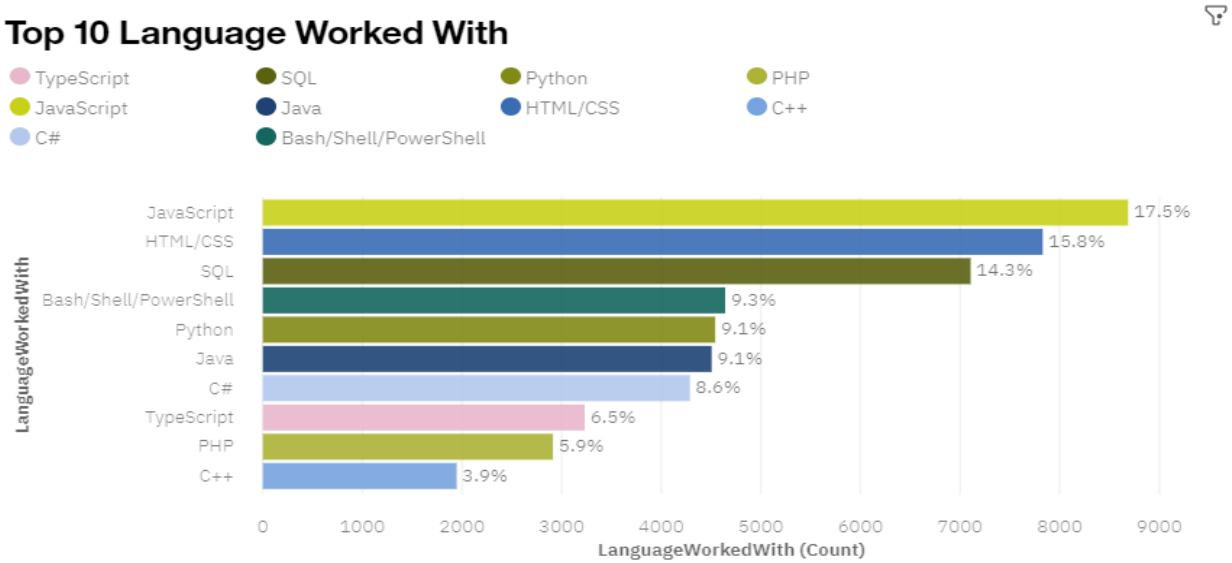
- Open source Databases are more preferred by the companies.
- Training and skill development for professionals in PostgreSQL and MongoDB can help companies to keep up with market trends.
- Emerging Cloud based Database environments.

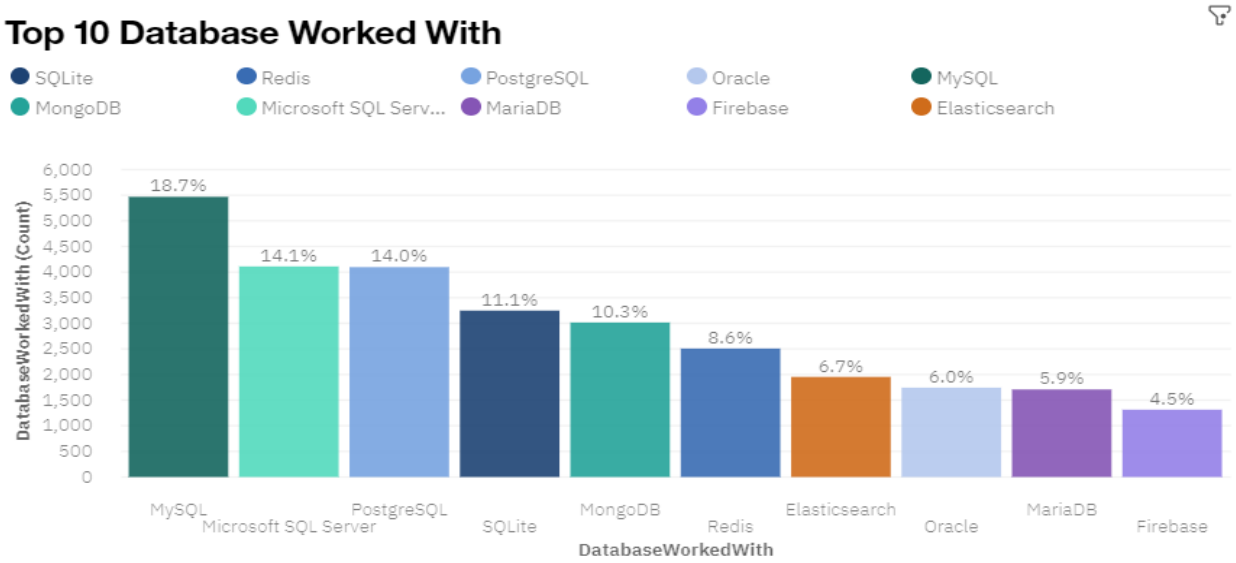
DASHBOARD

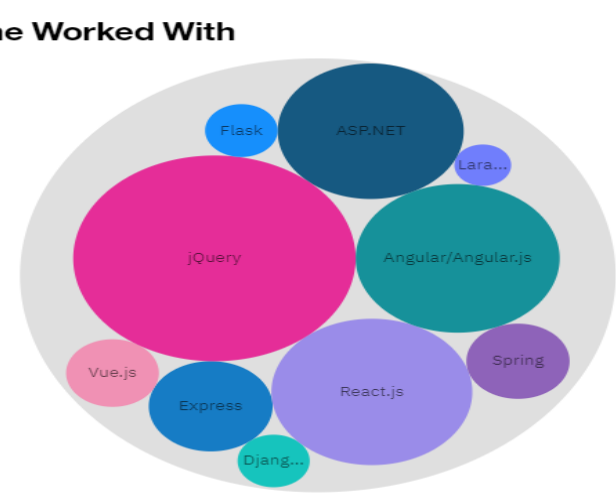
The link to access Dashboard created on Cognos Analytica can be found below:

https://dataplatform.cloud.ibm.com/dashboards/d56bb9b3-e5cb-418c-b080-0f9d2f29ed08/view/6c06d11e3ff171e073e3eee407cb25577b622259e7bbd50087827b495a622297f33a12c4c82c185e8e150263a5ef170cce

CURRENT TECHNOLOGY USAGE







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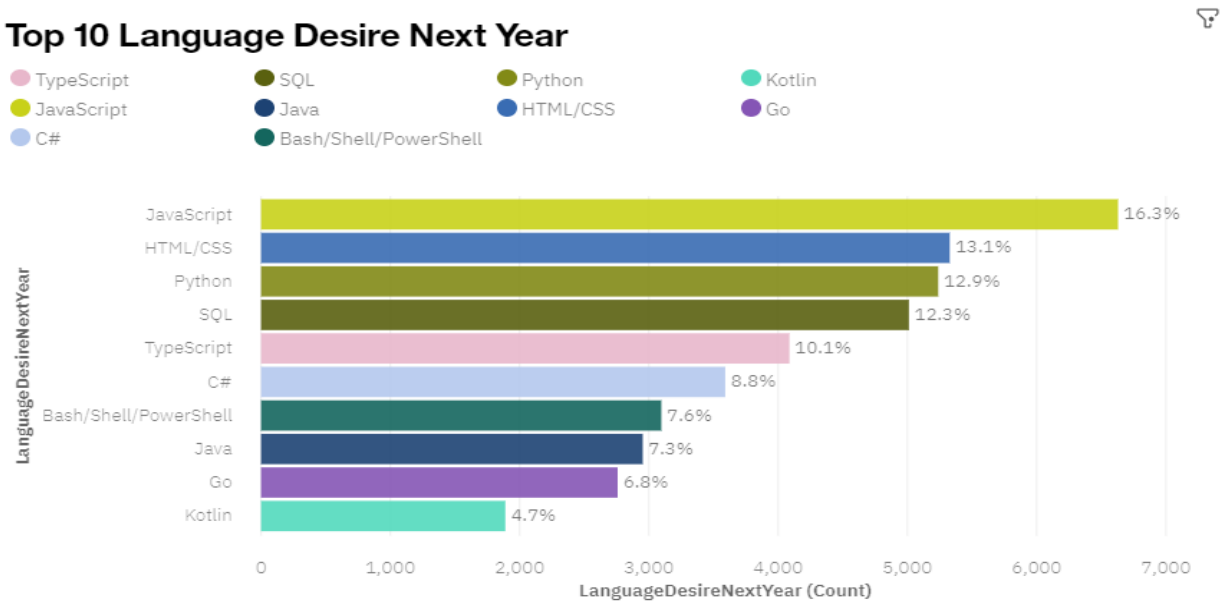
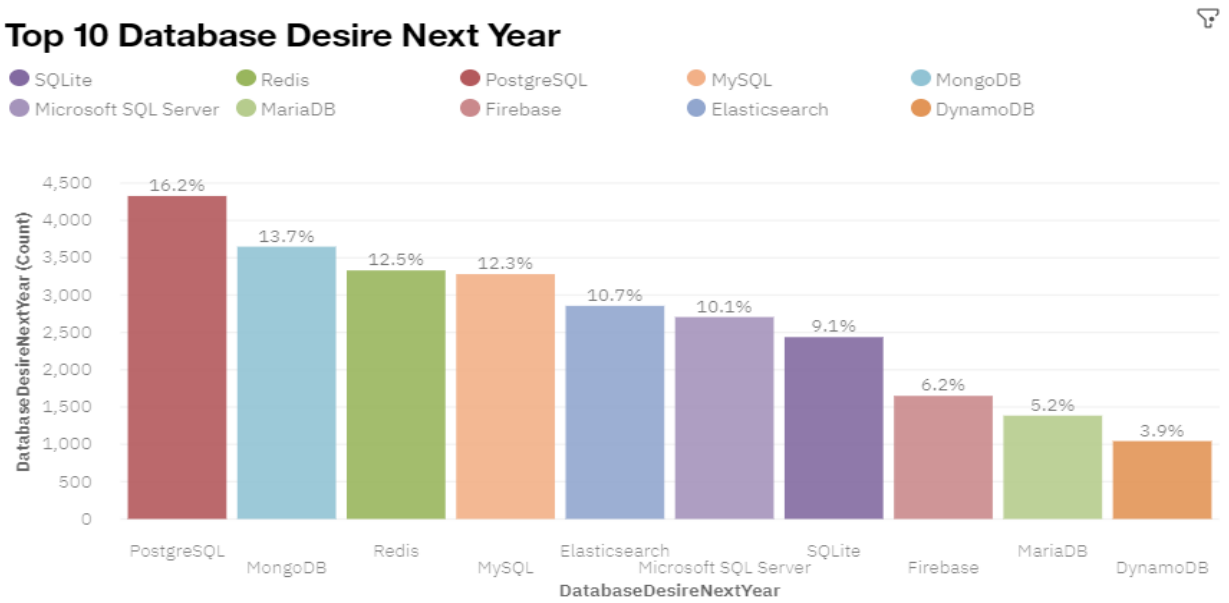
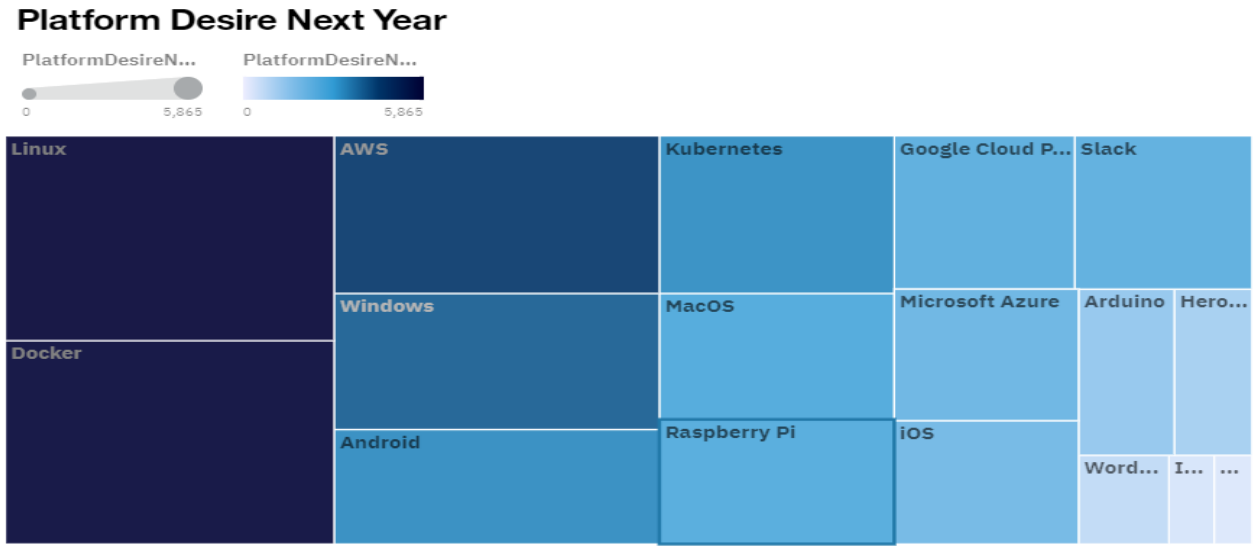
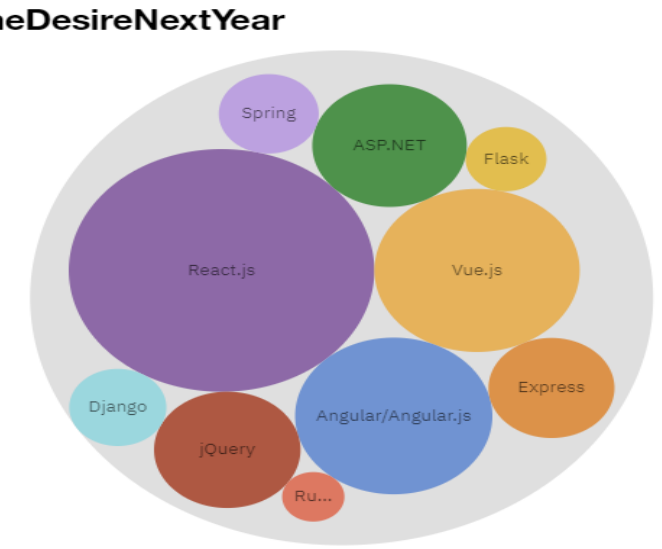
FUTURE TECHNOLOGY TREND









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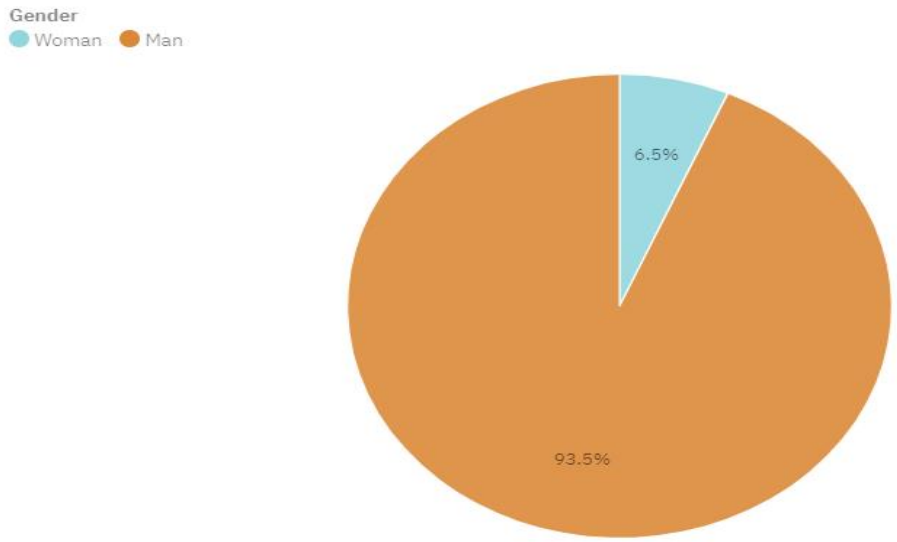
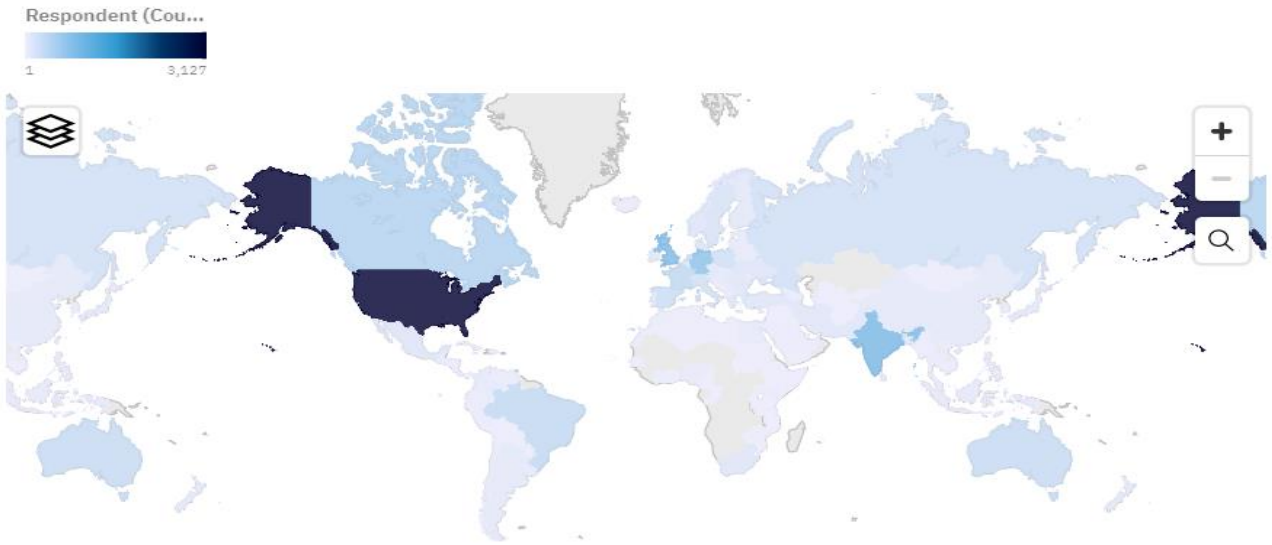
DEMOGRAPHICS

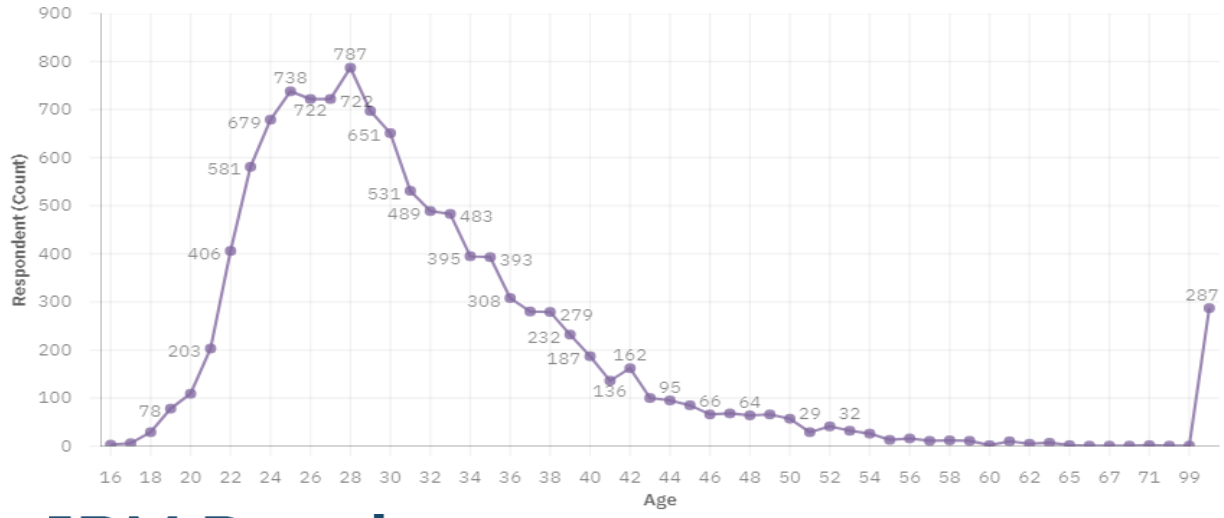
Respondent classified by Gender



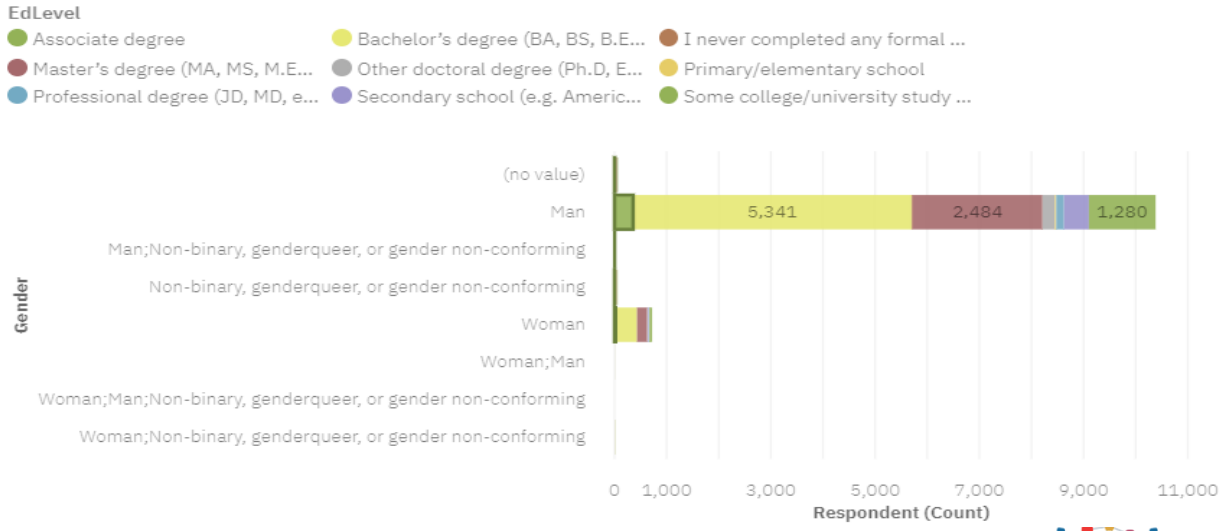
Respondent Count for Countries



Respondent Count by Age



Respondent Count by Gender, classified by Formal Education Level



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DISCUSSION

- Analysis shows Python as most sought after language in the future, same goes for PostgreSQL and MongoDB which are the emerging Databases.
- Trend shows growth in Cloud based applications Docker and Kubernetes.
- Demographics shows need of employing more Women in the IT industry,
- Most respondents are in 20’s or early 30’s and with full fledged degrees which calls for diversity and to inculcate inclusiveness.

OVERALL FINDINGS & IMPLICATIONS

Findings

- Emerging Technologies
- Increase in number of professional's interest to learn Python, PostgreSQL, MongoDB.
- Emerging Cloud Technologies.
- Demographic diversification

Implications

- Companies need to adapt to trend and upskill professionals and keep them motivation and boost. performance.
- Training professionals in Python, PostgreSQL, MongoDB and Cloud can help the company keep up with market trends.
- Gain knowledge on Cloud applications
- Need of spreading Technologies to other Countries of World.

CONCLUSION

- Need of upskill of professionals as per emerging trends and market needs.
- Gender balance in the Industry can generate considerable opportunities for Women.
- Inclusiveness of Professionals from all age group and different educational background.
- Technological wide-spread could generate more job opportunities around the globe.

APPENDIX

- Some interesting findings from the GitHub job posting and Popular languages data worth sharing in the coming slides.

GITHUB JOB POSTINGS

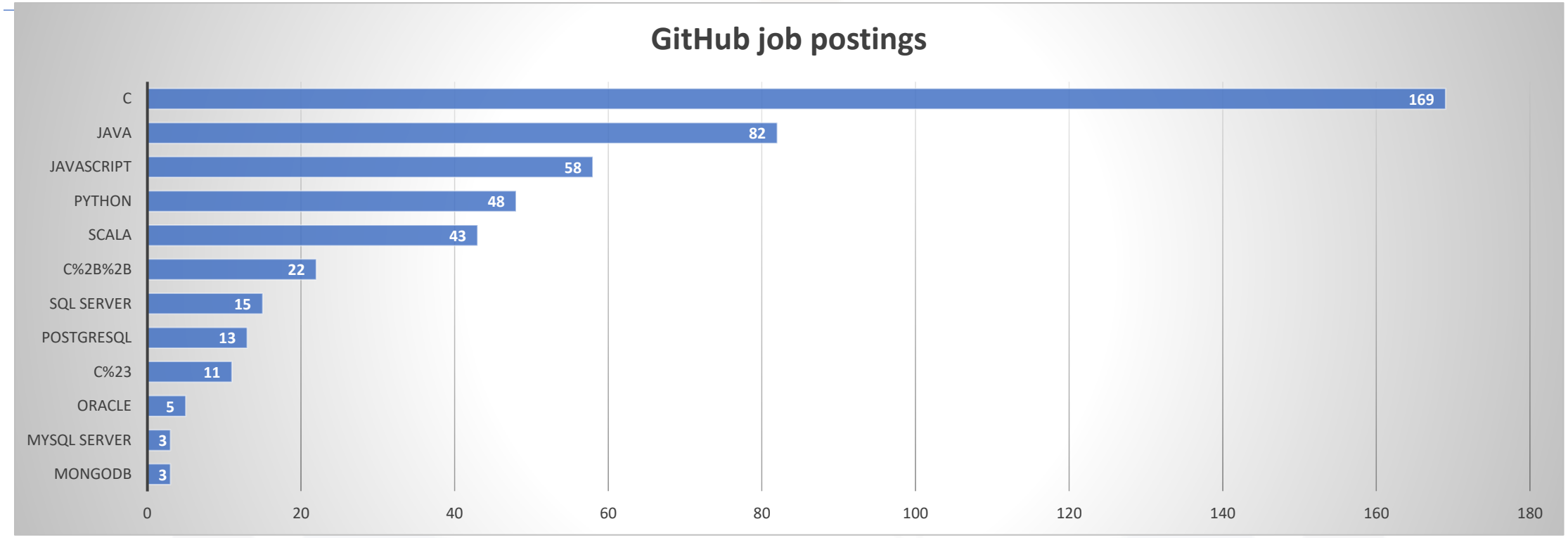
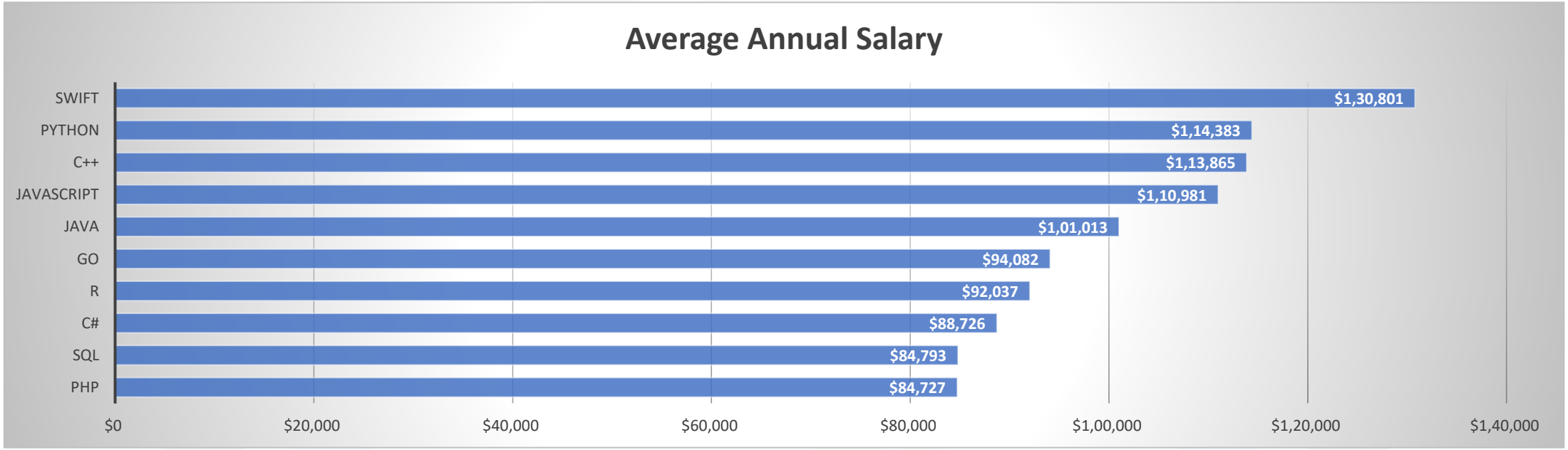


Chart shows that number of job postings on GitHub for C and JAVA languages are the highest but these languages are not even in top 5 of 10 languages worked or desired as per the conducted analysis.

POPULAR LANGUAGES



Popular Languages data shows that professionals who work with SWIFT language are amongst the highest paid in the Industry followed by professionals involved in Python and C++ programming and other languages.

Interesting finding that SWIFT language was not among the top 10 languages worked or desired as per the conducted analysis.