

IBM Data Analyst Captone Project Presentation



Data

Analysis

Idea

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OUTLINE



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

EXECUTIVE SUMMARY



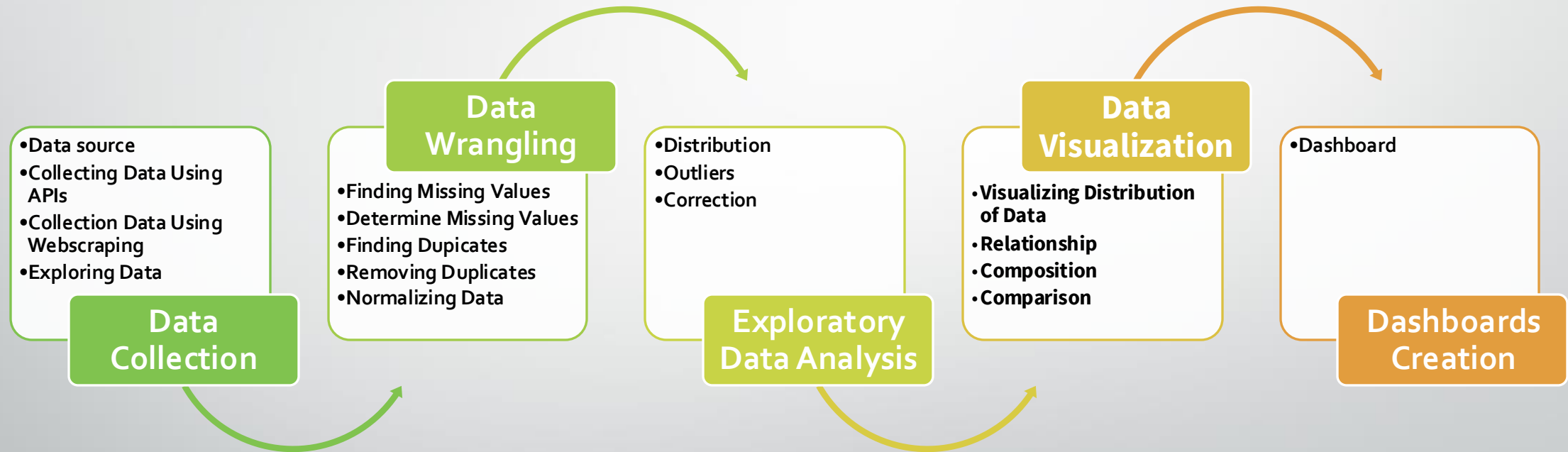
- Analyst Kaggle survey 2023 data to create a dashboard
- Dashboard Components
 - A. Current Technology Usage
 - B. Future Technology Trends
 - C. Demographics Research
- Comparison of the Technology Usage
- The Insight of future technology usage by reviewing both of Current Technology Usage & Demographics research

INTRODUCTION



- ❖ Forecast future skills requirement by technology trend
- ❖ To identify source of data & method to perform analysis
- ❖ How to perform ?
 - Where is the source of data? >>>Kaggle survey 2023
 - How to collect data? >>>Download Data via Python
 - What to do?>>>
 - 1.Analysis data via Python
 - 2.Visualize result via Dashboard
 - 3.Summary results &
 - 4.Provide insight of the results.

METHODOLOGY



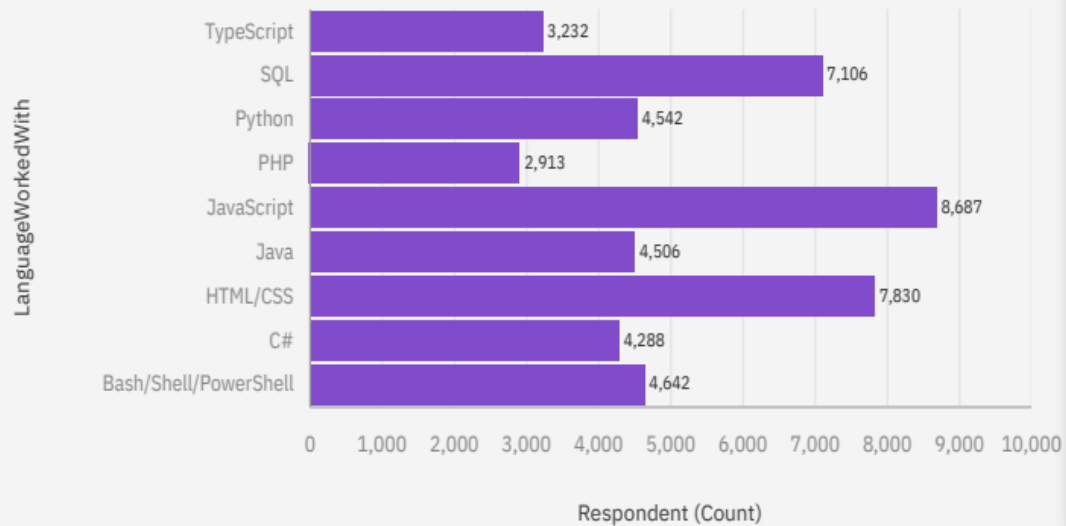
RESULTS



PROGRAMMING LANGUAGE TRENDS

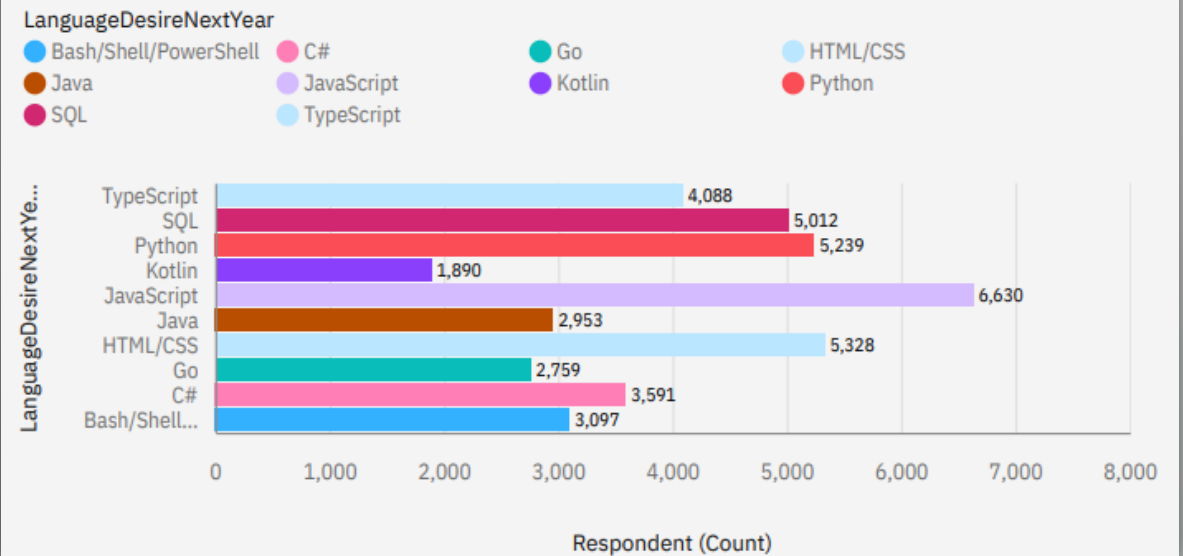
Current Year

Top 10 Language Worked With



Next Year

Top 10 Language Desire Next Year



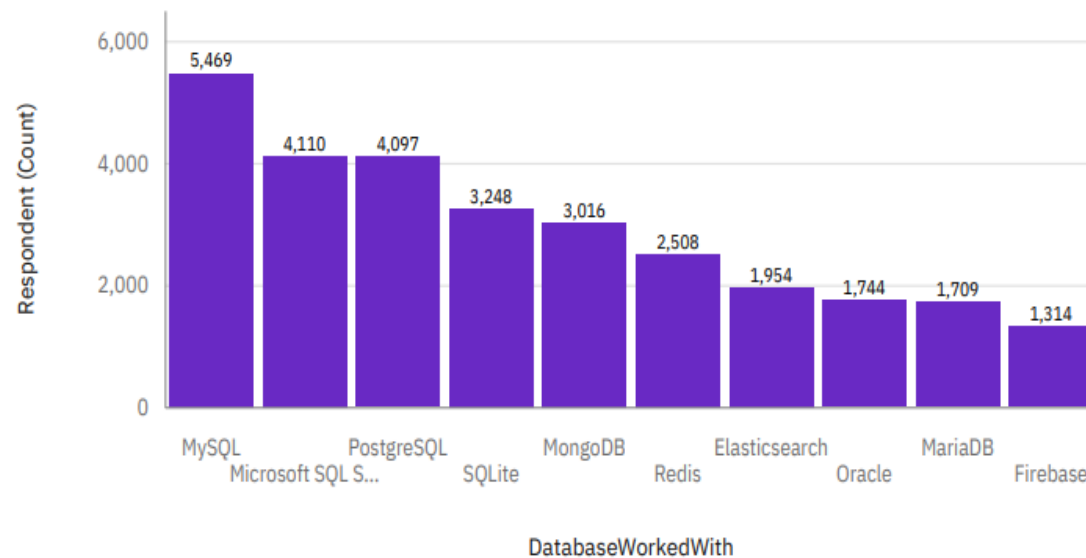
PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings	Implications
JavaScript is top 1 demanding program languages usage in current and also for future.	JavaScript& HTML/CSS are an essential skill requirements in future.
HTML/CSS maintain as top 2 demanding program languages usage in current and also for future.	Getting more influent on usage of Go & Kotlin which will be new Top 9 & 10 programs languages
Python languages increase demand replaced SQL as 3rd Top demand program languages	Should focus to develop training program on JavaScript, Python, HTML/CSS, SQL & TypeScript to fulfill the future program demand.
PHP program languages will be getting less demand in future trend.	Python program languages is high potential will the dramatic increasing demand trend.

DATABASE TRENDS

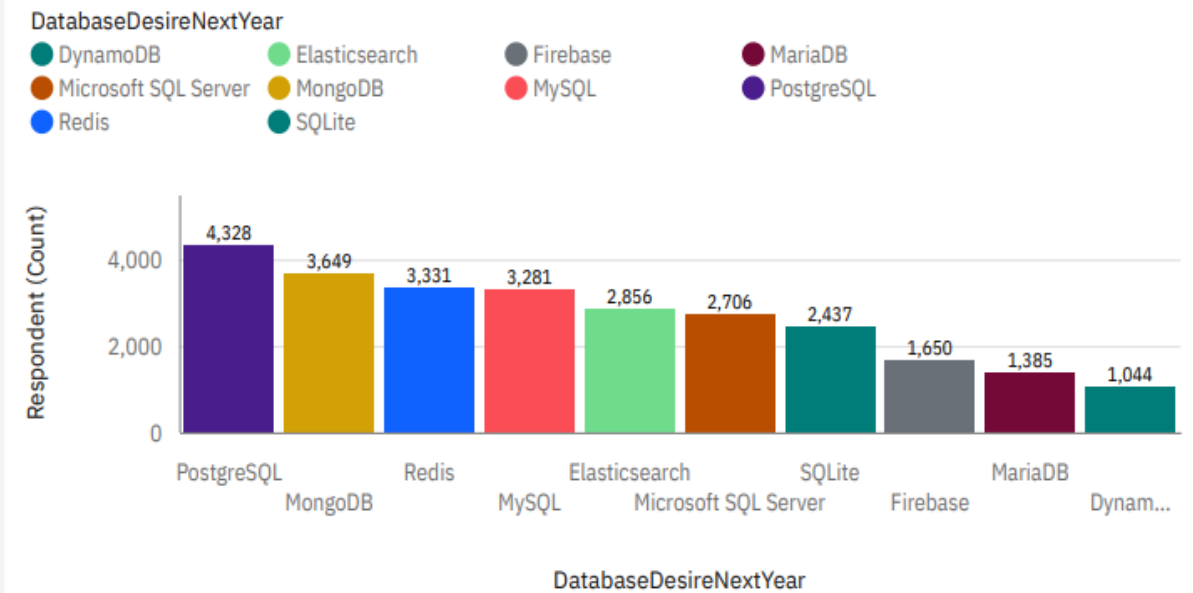
Current Year

Top 10 Database Worked With



Next Year

Top 10 Database Desire Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings	Implications
Current top Database is MySQL, MicrosoftSQL Server & PostgreSQL. Those will be replaced with Database like PostgreSQL, MongoDB & Redis.	The development of Database management system , the impact of the Artificial intelligent influent the desire of the database work with.
PostgreSQL maintain as the highest Database to work with as current or new future.	Getting less demand on Oracle database
Oracle no more at top 10 list of top database trend	Oracle database getting lost momentum. People prefer other database usage.

DASHBOARD

Refer GitHub link of the Cognos/Looker Studio dashboard link as below:-

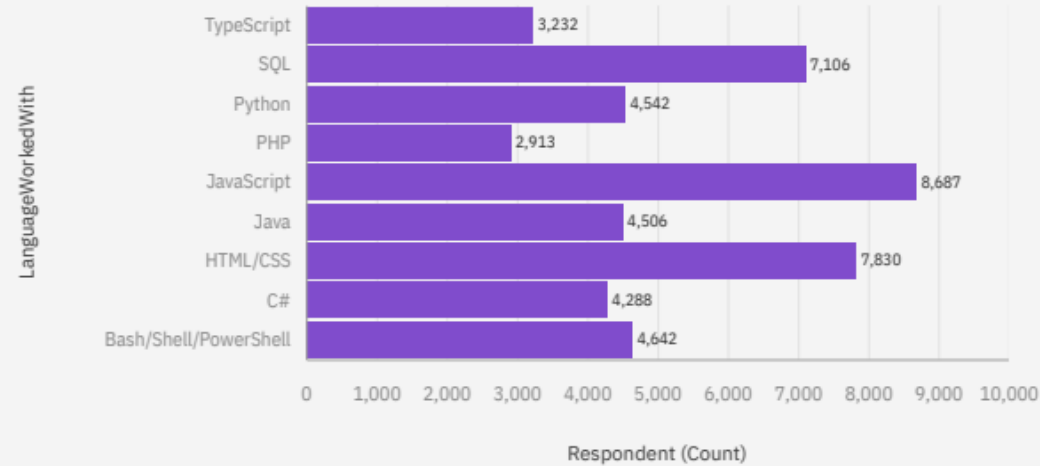
<[testpo1/FA Building a dashboard with IBM Cognos Analytics.pdf at skchowinnie-patch-1 · skchowinnie/testpo1](#)>or
<<https://github.com/skchowinnie/testpo1>>

<<https://lookerstudio.google.com/s/gK1dPzjY6o4>>

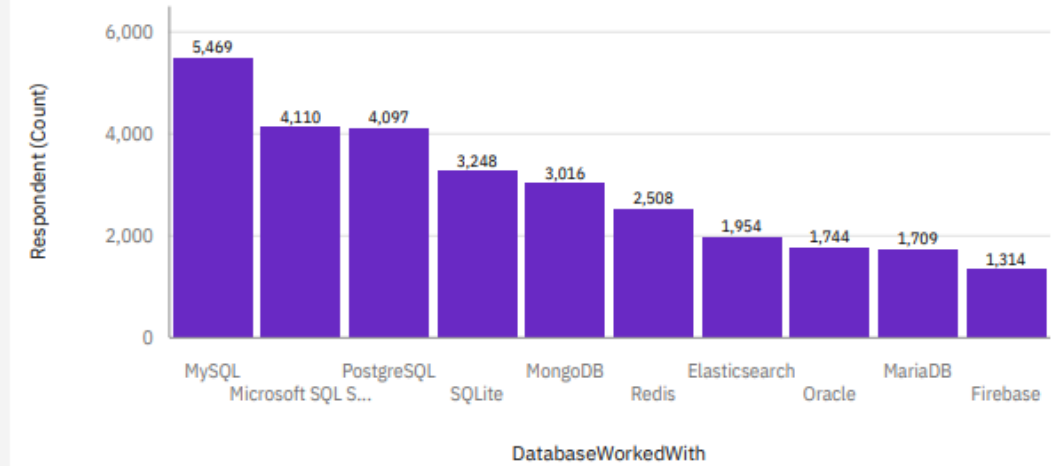
DASHBOARD TAB 1

Current Technology Usage

Top 10 Language Worked With



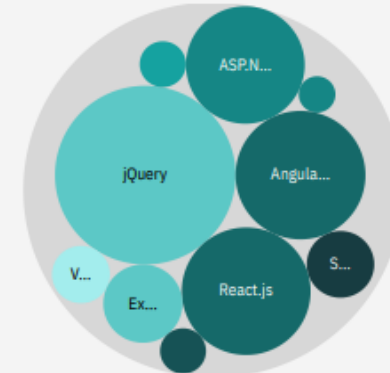
Top 10 Database Worked With



Top 10 Platform Worked With sized by Respondents



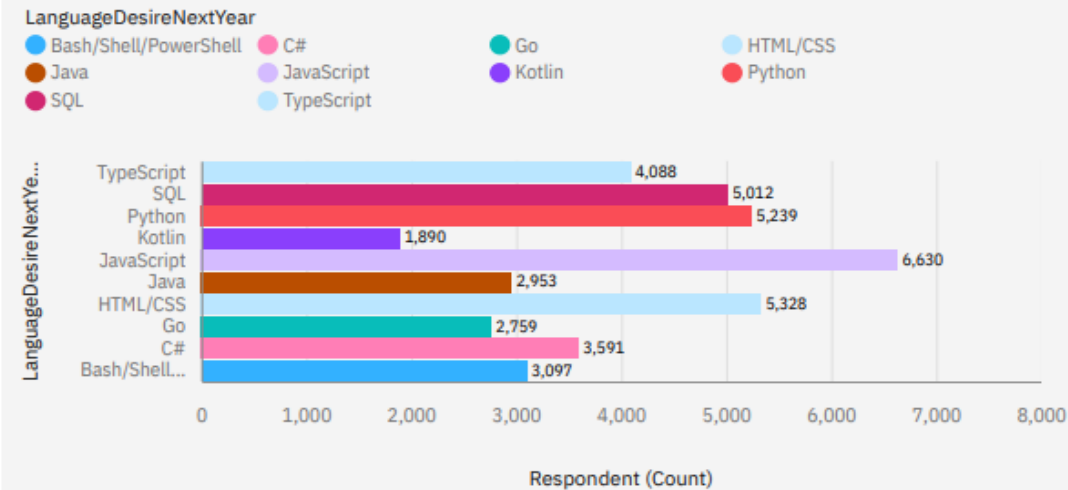
Top 10 Web Frame Worked With and sized by Respondent



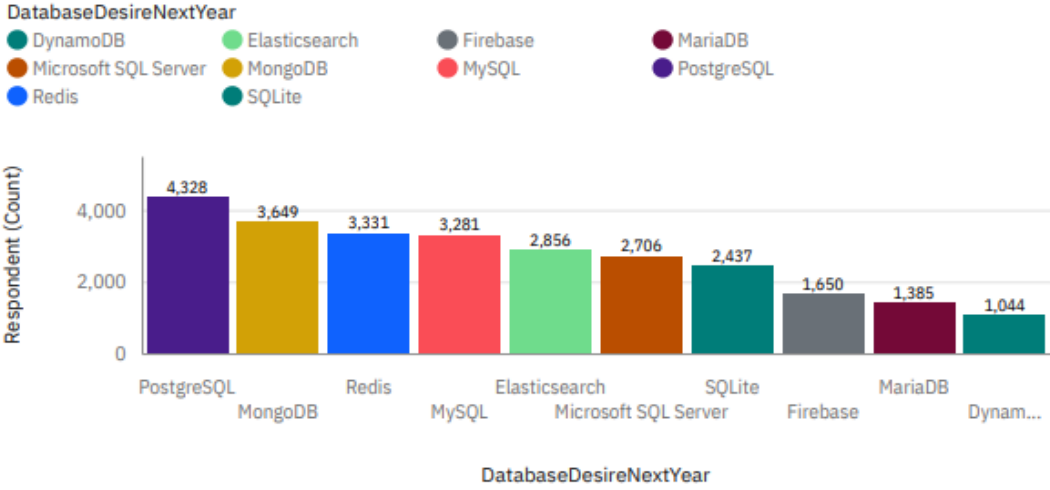
DASHBOARD TAB 2

Future Technology Trend

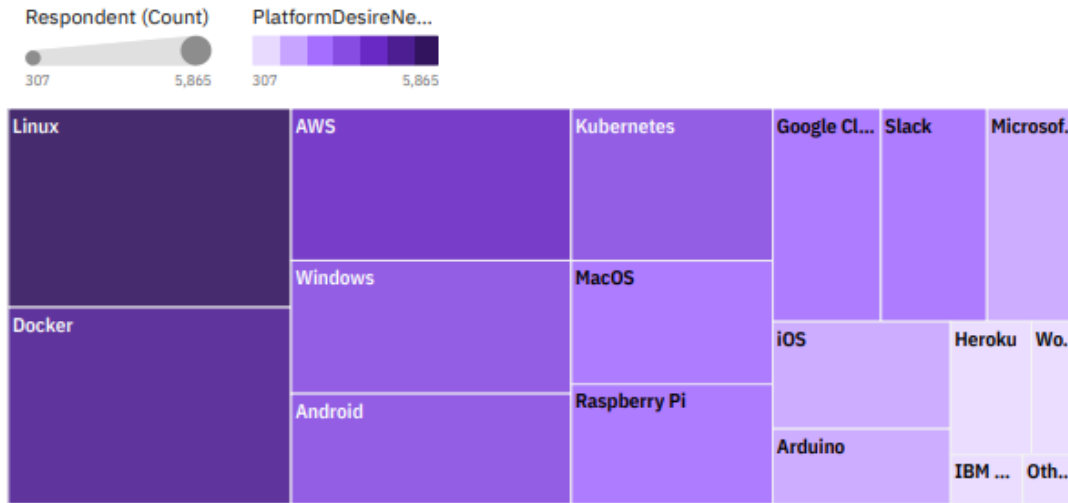
Top 10 Language Desire Next Year



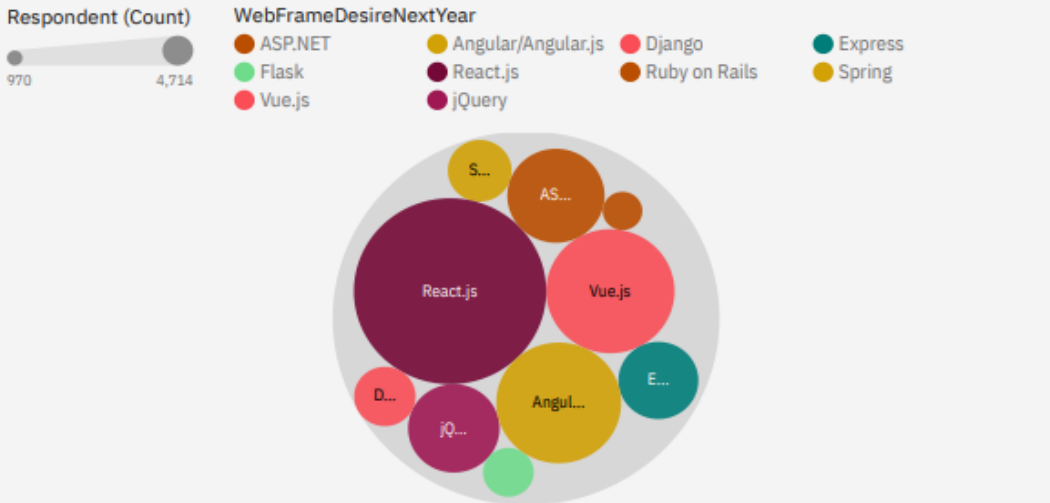
Top 10 Database Desire Next Year



Platform Desire Next Year by Respondent



Top 10 WebFrame Desire Next Year and sized by Respondent



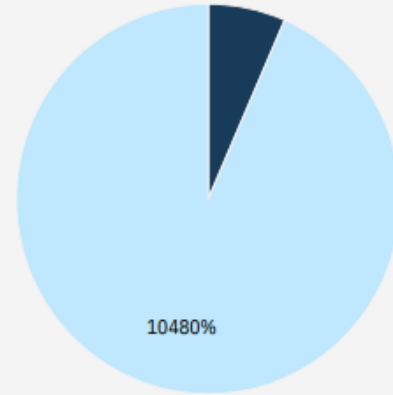
DASHBOARD TAB 3

Demographics

Respondent Classified by Gender

Gender

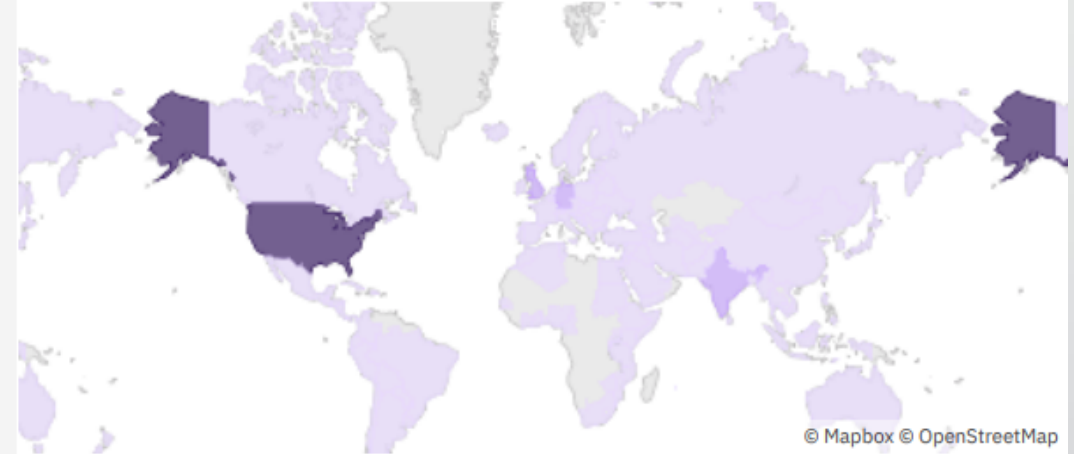
Woman Man



Respondent for Country regions

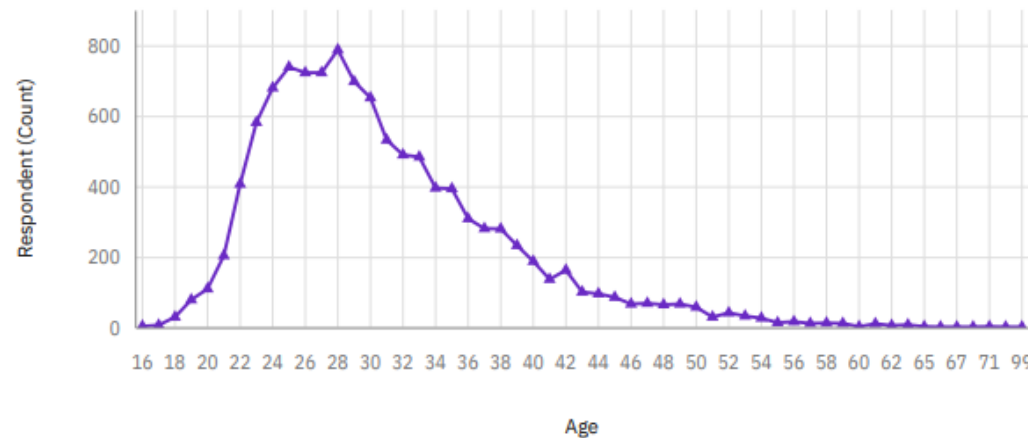
Respondent (Count)

1 3,127



© Mapbox © OpenStreetMap

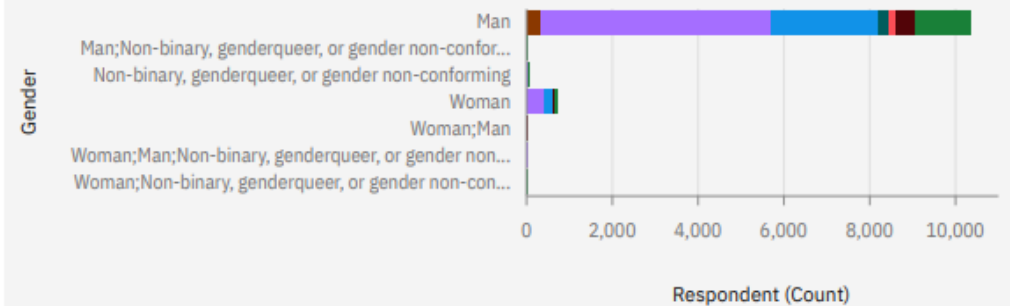
Respondent Count by Age



Respondent by Gender, Classified by Formal Education Level

EdLevel

Associate degree Bachelor's degree (BA, BS, B.Eng., etc.) I never completed any formal edu...
Master's degree (MA, MS, M.Eng., etc.) Other doctoral degree (Ph.D., Ed.D., etc.) Primary/elementary school
Professional degree (JD, MD, etc.) Secondary school (e.g. American high school) Some college/university study without degree





DISCUSSION

Information Technology(IT) change work culture dramatically. Technology has impact on end users across various domains, including programming languages, database management systems (DBMS), platforms and Webframe we work with. Therefore study this 4 areas could identify future skill requirements .

Overall the integration of each of these areas affects end users as below:

- Web frameworks (like Django for Python, or React for JavaScript) leverage the strengths of programming languages to build user-friendly web applications.
- Web frameworks often come with integrated support for various Databases. This integration ensures that data management is seamless, providing users with quick and accurate information.
- The platform on which a web framework runs (like cloud services or traditional servers) impacts the application's scalability and accessibility.

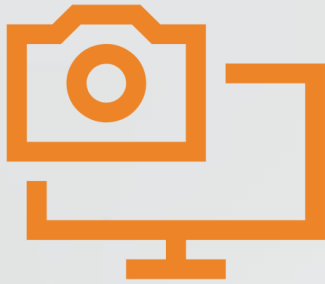
OVERALL FINDINGS & IMPLICATIONS

Findings	Implications
Refer Gender, majority response the survey by man at 93.7% . Their education level are bachelor's degree or above.	Those interest on technology changes are man with high education level.
Refer Age between 22 to 44 years old response, who are high interest on the technology usage.	Those involve on technology are adult between 20~40years olds.
Refer countries, most of the respondents from USA.	We can see there is the highest development & interest of technology usage in North America.
The program languageus, database management system, Webframe are having strong relationship.	The influent of technology trend might refer to Innovative technology system with friendly use on program languages & easy access of database.

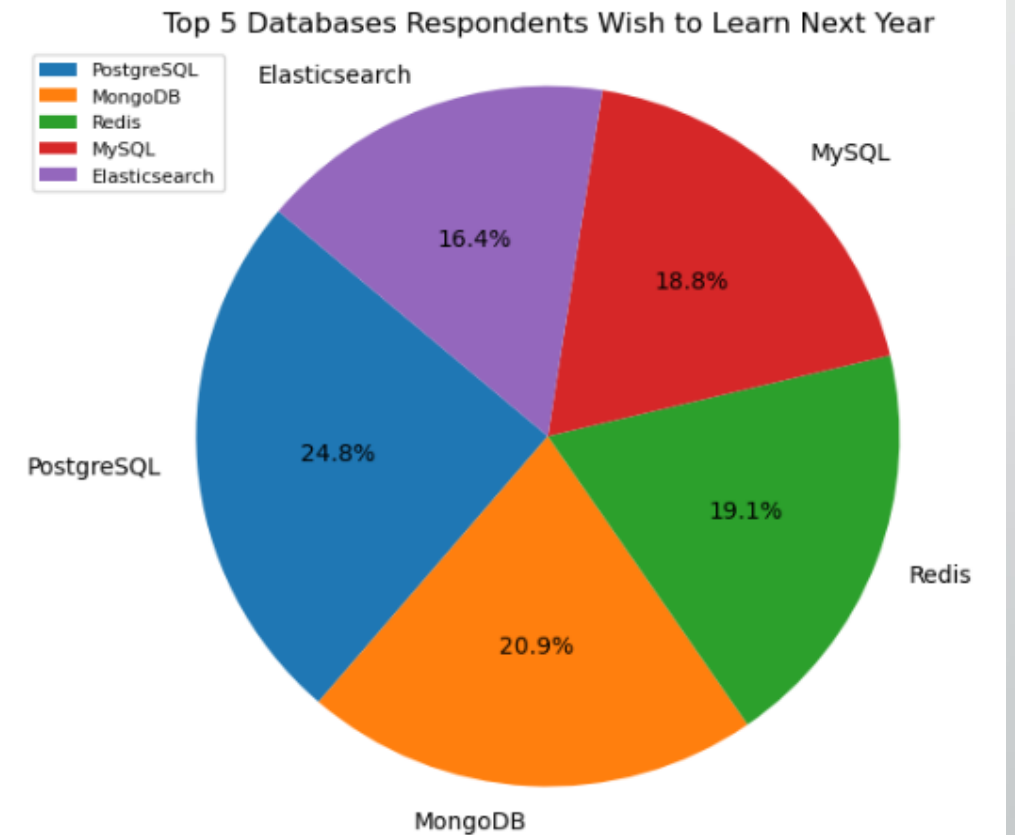
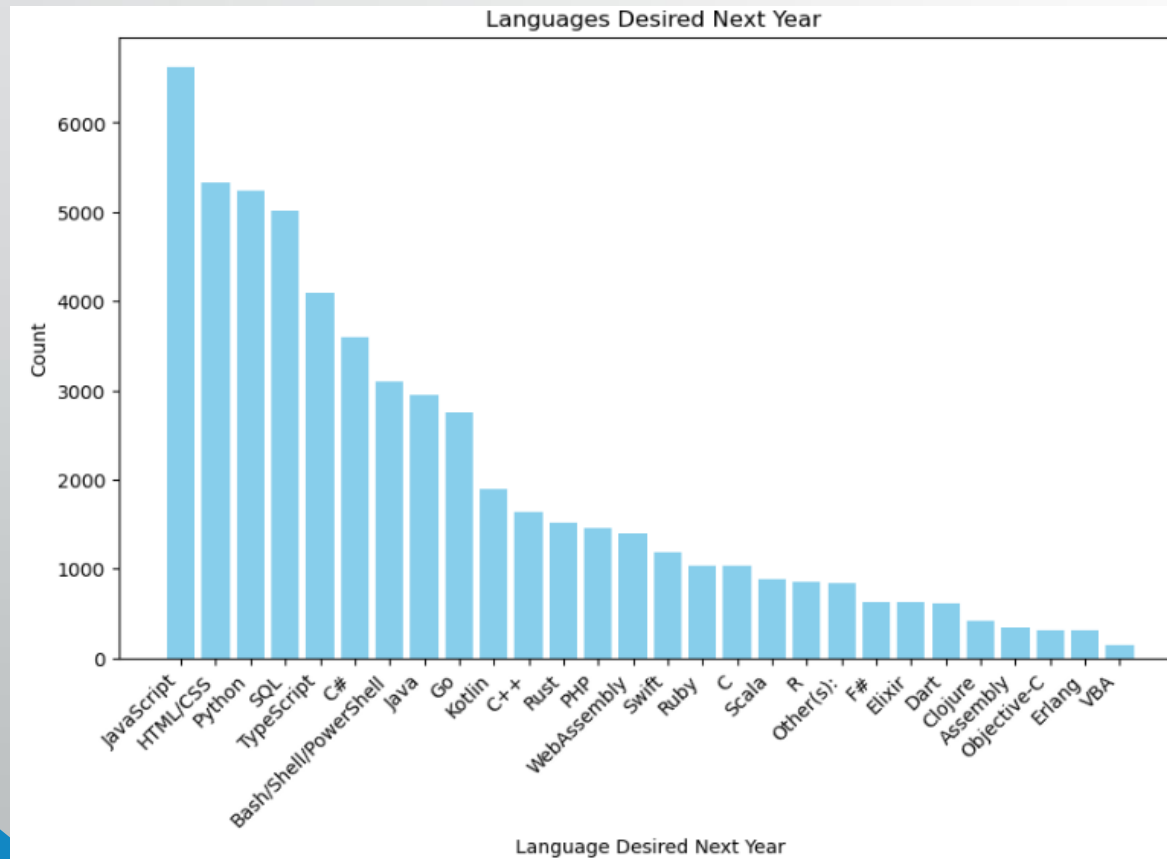


CONCLUSION

- This is comprehensive research to identify skill requirement refer technology trend & demographics.
- The top skills requirement that most demanding as below:-
 1. The top programming languages is JavaScript, Python & HTML/CSS.
 2. The top database skills is PostgreSQL, MongoDB & Redis.
 3. Linux & Window are famous Platform as current & near future.
 4. The Age ranges, population & education level are having correlation with the technology trend.



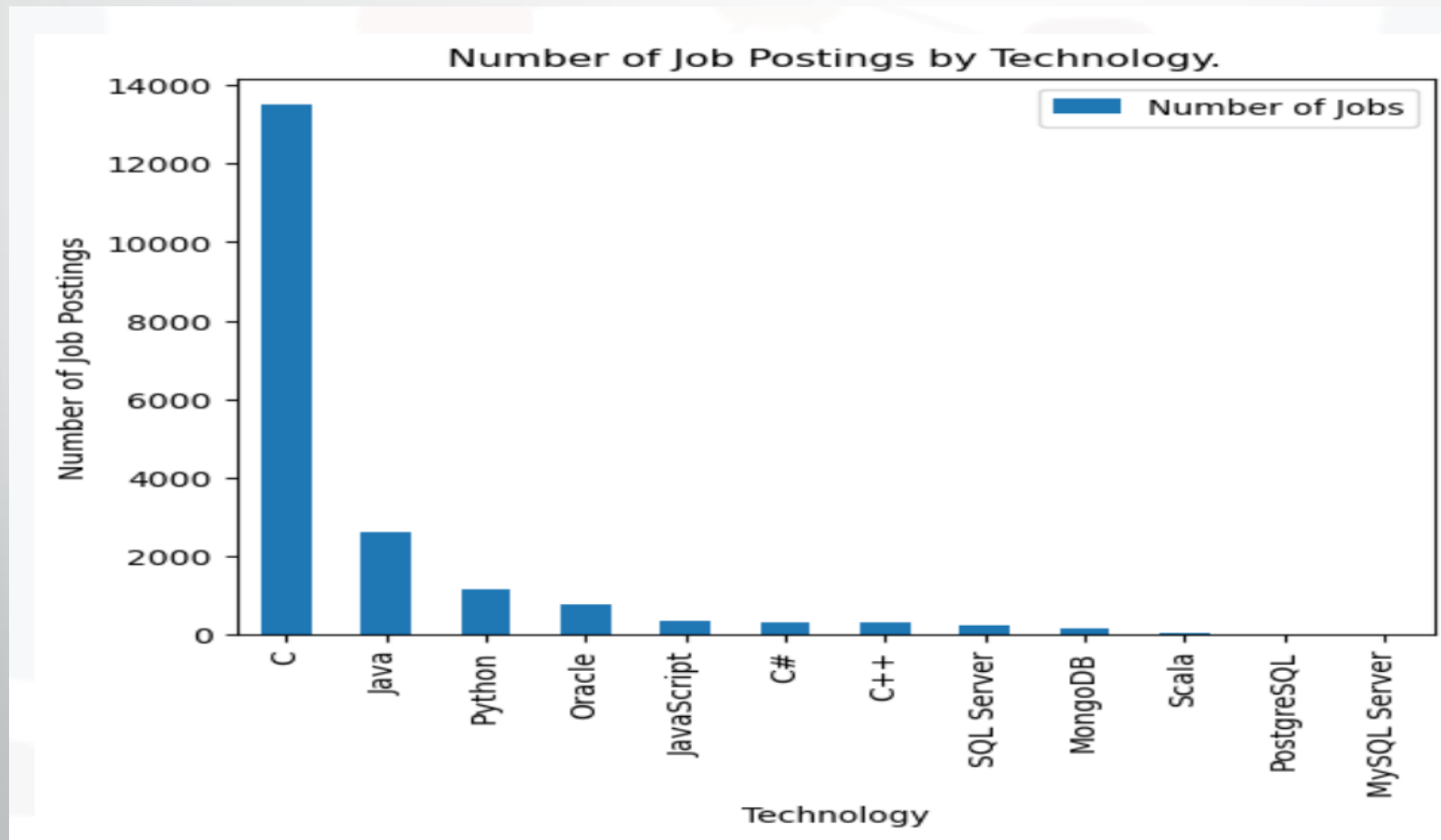
APPENDIX



Attached relevant bar & pie charts as reference.

POPULAR LANGUAGES

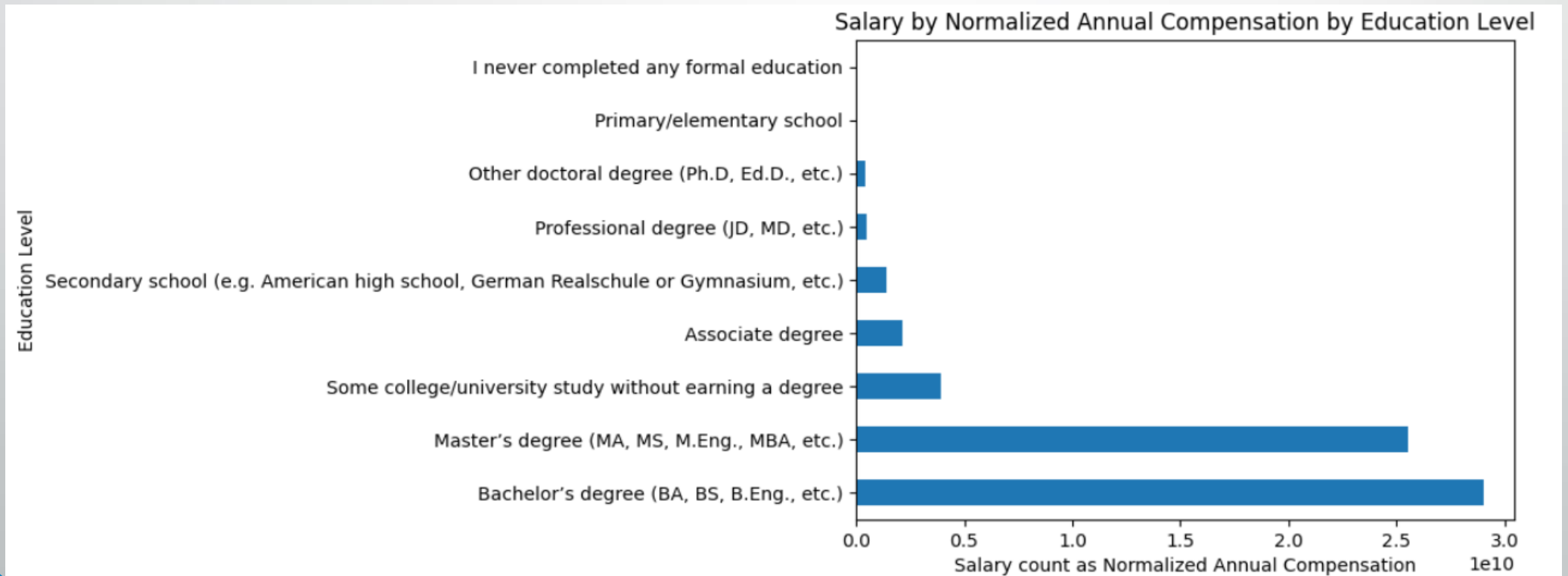
Bar chart : Job posting by Program languages



POPULAR LANGUAGES

Source: Job Posting

Bar chart : Salary by Normalized Annual Compensation



THANK YOU



[linkedin.com/in/siew-kean-chow-56760229a](https://www.linkedin.com/in/siew-kean-chow-56760229a)



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