



Analysis of trends in IT staffing skills

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2024.11.29

OUTLINE



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EXECUTIVE SUMMARY



- Importance of Open Source Systems.
- The Importance of Cloud Operations.
- Trends in popular industry skills change relatively quickly.
- What it means to have more skills than one knows how to use.
- Graduate degrees are not the most important thing, skills are the most important thing.

INTRODUCTION



- About
 - Trends in the skills required for employment in the IT industry and guidance on employment skills.
- Report for
 - Reporting to IT Employees and IT Freshman.
- Gain:
 - Industry trends
 - Skills trends
 - Direction of skill acquisition
 - Employment guidance

METHODOLOGY



- The data comes from '2019 Stack Overflow Survey Result', mainly 'data_demographics' and 'data_technologies_normalised'.
- Different data were visualized to facilitate comparison between the present and the future.
- Putting the visualization data in a dashboard to facilitate the analysis of the data in general.
- The main dimensions analyzed are the following:
 - Programming Language
 - Database
 - Platform
 - Web Frame

RESULTS

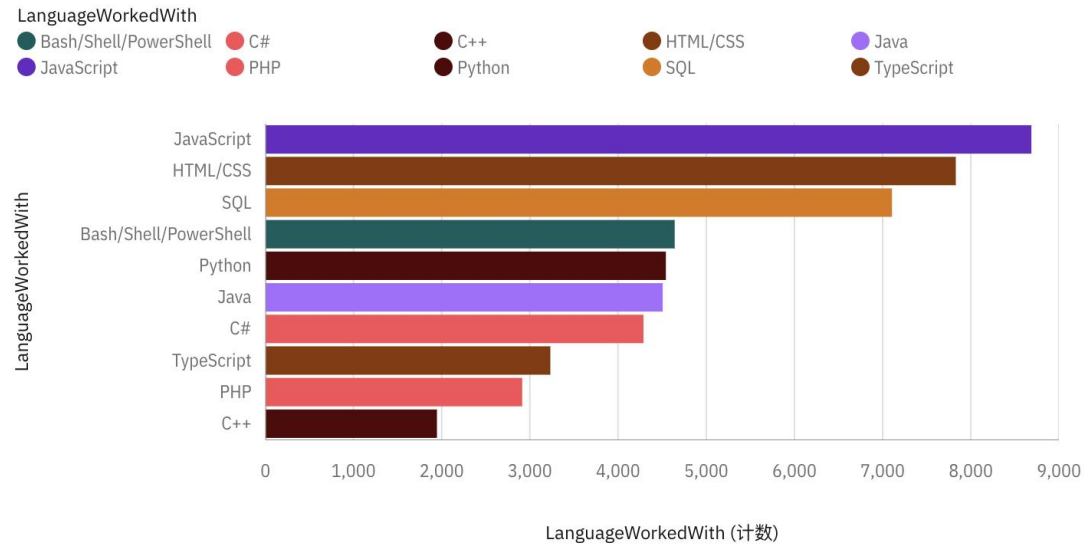


- Trends in skills needed for the times.
- What changes in the skills required by the industry tell us.
- What other interesting data tell us.
- There are four main areas to compare:
 - Programming Language
 - Database
 - Platform
 - Web Frame

PROGRAMMING LANGUAGE TRENDS

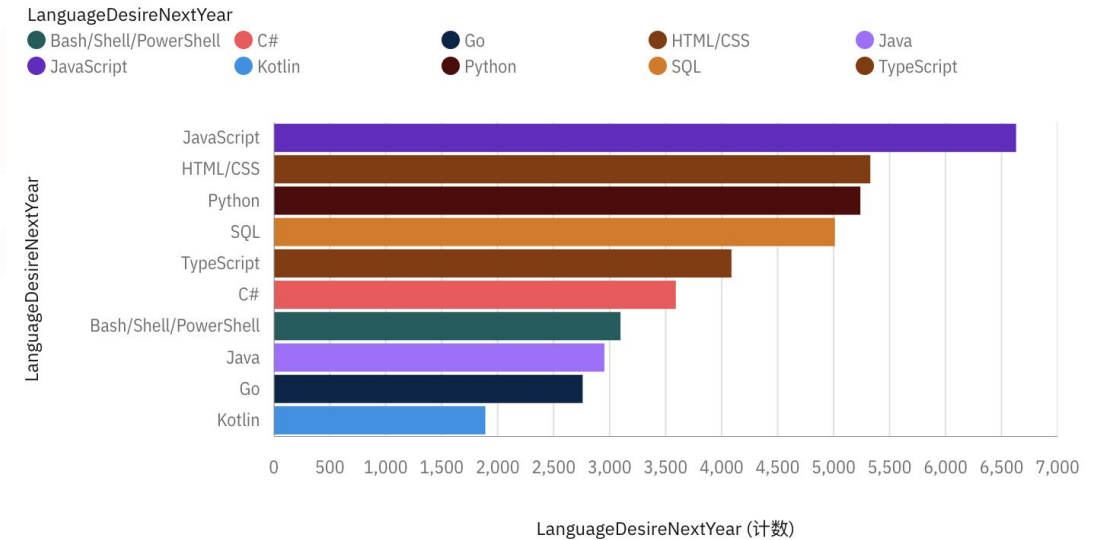
Current Year

Top 10 LanguageWorkedWith



Next Year

Top 10 LanguageDesireNextYear



PROGRAMMING LANGUAGE TRENDS – FINDINGS & IMPLICATIONS

Findings

- JavaScript & HTML/CSS have always been the top two, now and in the future.
- Python & TypeScript moves from 5th to 3rd place.
- The highest value on the X-axis dropped from 9000 to 7000.

Implications

- JavaScript & HTML/CSS will always be the basic programming languages that programmers must know.
- Python & TypeScript is a powerful programming language to compete for future jobs.
- It shows that new programming languages are gradually replacing the old ones and programmers need to learn new programming languages.

DATABASE TRENDS

Current Year

Top 10 DatabaseWorkedWith

DatabaseWorkedWith

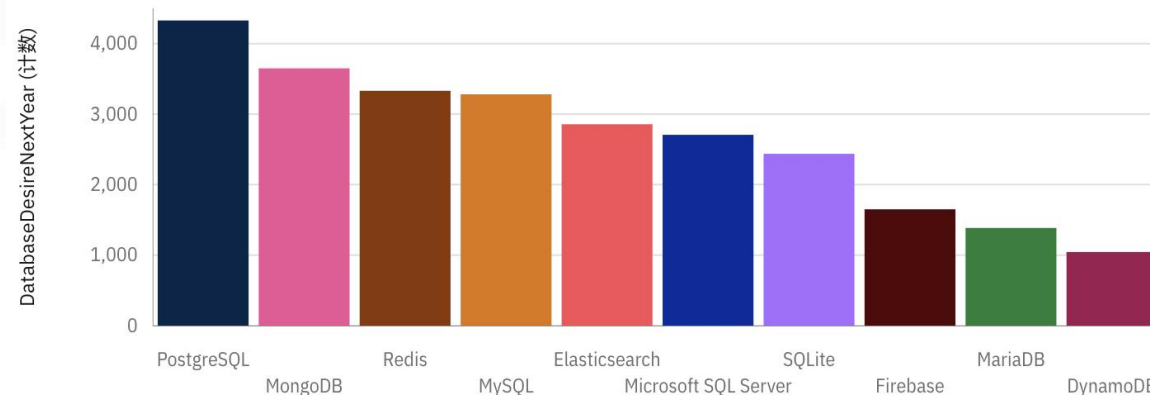


DatabaseWorkedWith

Next Year

Top 10 DatabaseDesireNextYear

DatabaseDesireNextYear



DatabaseDesireNextYear

DATABASE TRENDS – FINDINGS & IMPLICATIONS

Findings

- The top two databases have become PostgreSQL and MongoDB.
- MongoDB and Redis have moved up the rankings significantly and have squeezed into the top 3.
- MySQL drops from Monopoly to Fourth.

Implications

- Indicates that MySQL and Microsoft SQL Server are gradually being replaced.
- MongoDB and Redis are better for improving workplace skills.
- MySQL is gradually being replaced by newer databases, so if you only know MySQL, you need to hurry up and learn a new database.

PLATFORM TRENDS

Current
Year

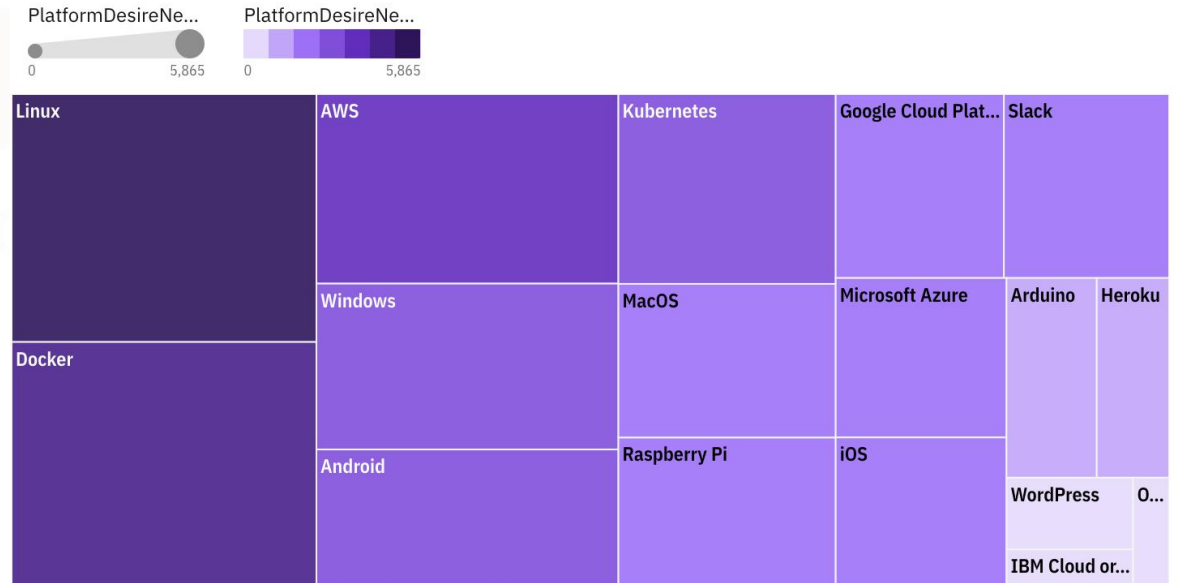
Platform Word Cloud



Next
Year



PlatformDesireNextYear



PLATFORM TRENDS – FINDINGS & IMPLICATIONS

Findings

- Windows has fallen from monopoly to fourth.
- AWS grows in importance.
- Android catches up with Windows in importance.

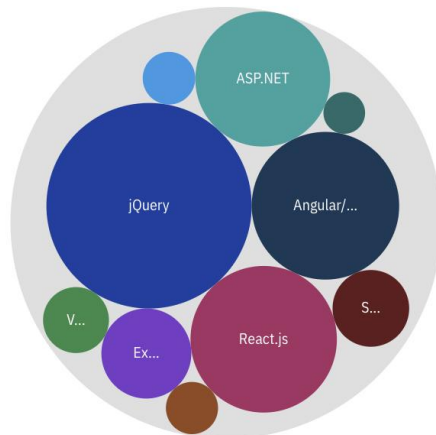
Implications

- Open source platforms have always been more popular.
- Cloud operating systems are becoming more and more important.
- Android is growing in importance due to the increase in cell phone production.

WEB FRAME TRENDS

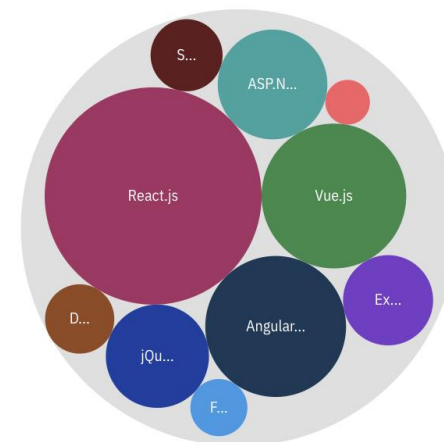
Current Year

Top 10 WebFrameWorkedWith



Next Year

Top 10 WebFrameDesireNextYear



WEB FRAME TRENDS – FINDINGS & IMPLICATIONS

Findings

- React.js has seen a significant increase in demand, moving from second place to a monopoly ranking.
- jQuery falls from 1st to 5th.
- Vue.js has moved up from 7th to 3rd place.

Implications

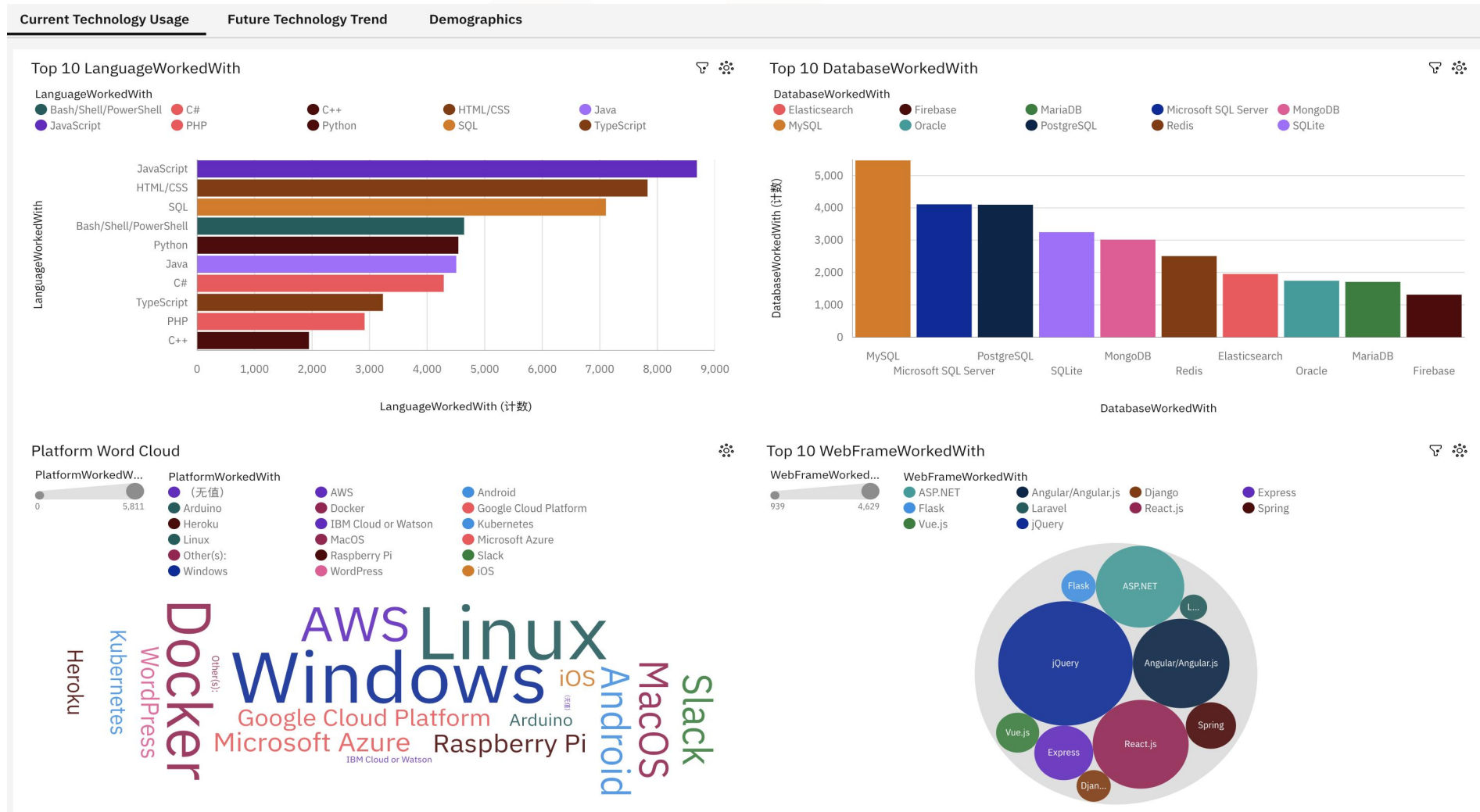
- React.js is a must-have skill for the future.
- jQuery is slowly being phased out.
- Vue.js is also an important skill in the next year.

DASHBOARD

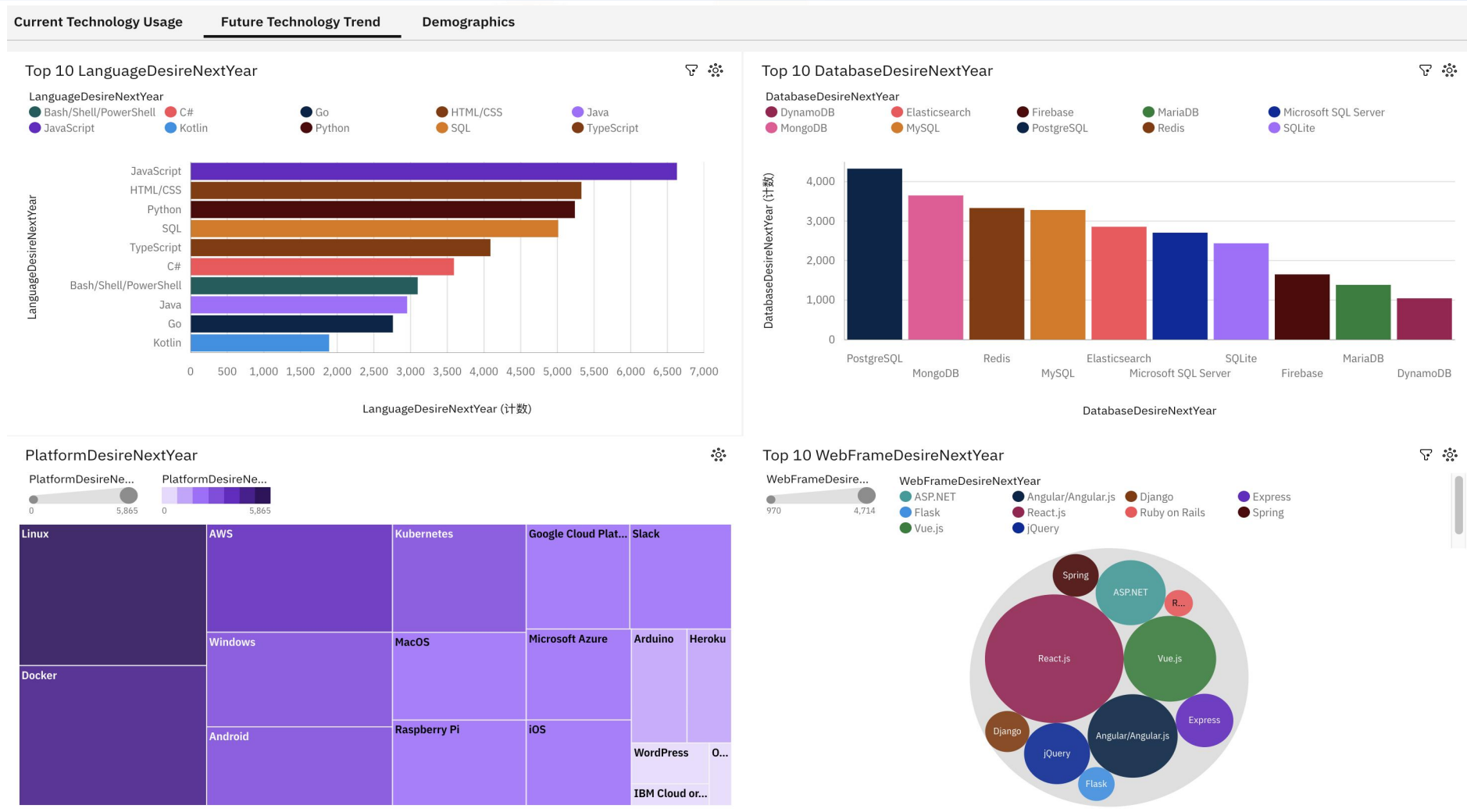


<https://github.com/Sean-techno/IBM-Data-Analyst-Capstone-Project/blob/main/Building%20A%20Dashboard%20With%20IBM%20Cognos%20Analytics.pdf>

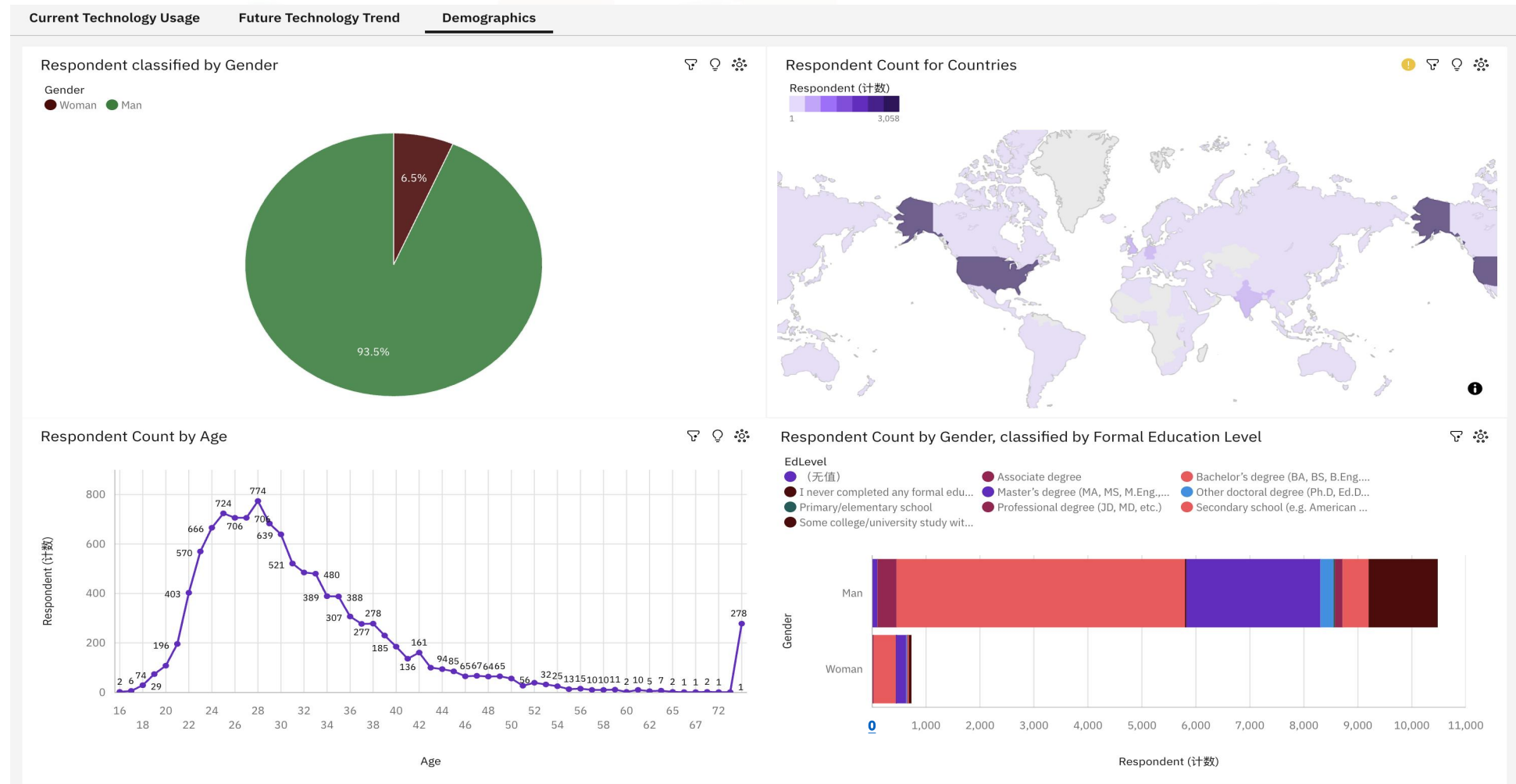
DASHBOARD TAB 1



DASHBOARD TAB 2



DASHBOARD TAB 3



DISCUSSION



- Are open source systems becoming more popular?
- Is a Graduate Degree Necessary for Employment?
- Wouldn't it be better for employed people to have more than one popular skill?

OVERALL FINDINGS & IMPLICATIONS

Findings

- Open source systems are becoming more popular.
- Some skills that seem like monopolies now may be gradually replaced within a few years.
- A graduate degree is not necessary, but more skills are necessary.

Implications

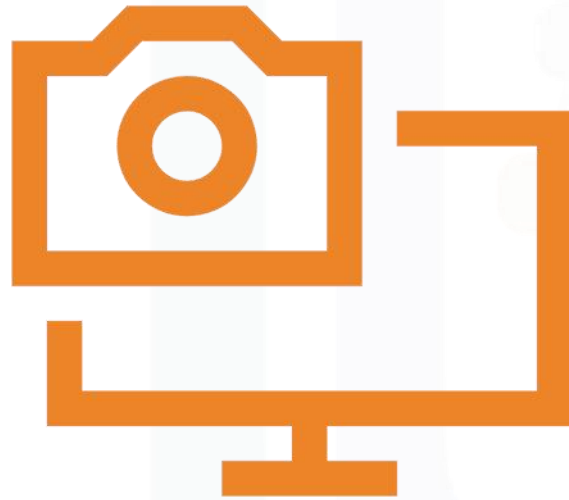
- Companies like to use open source systems for their own unique ideas.
- People need to pay attention to industry skill trends even if they have a job to make themselves more competitive.
- What skills you know are more important than what degree you are, don't worry about the degree, focus on the skills.

CONCLUSION



- Customizability of open source systems is trending and companies are more interested in highlighting their uniqueness.
- Learning more skills to be ready for the future.
- Stay on top of industry changes.
- Cloud operations are becoming increasingly important.

APPENDIX



- Respondent Count by Gender, classified by Formal Education Level in Dashboard tab 3

Respondent Count by Gender, classified by Formal Education Level



EdLevel

● (无值)

● I never completed any formal edu...

● Primary/elementary school

● Some college/university study wit...

● Associate degree

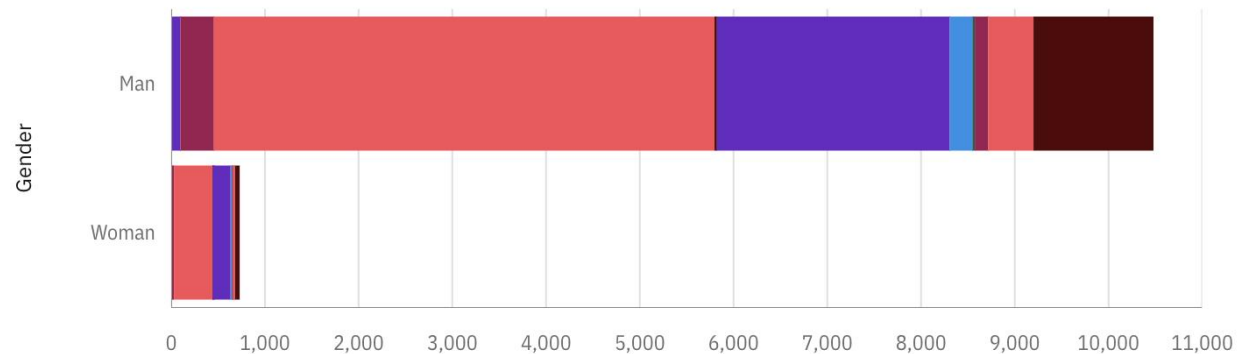
● Master's degree (MA, MS, M.Eng.,...

● Professional degree (JD, MD, etc.)

● Bachelor's degree (BA, BS, B.Eng....

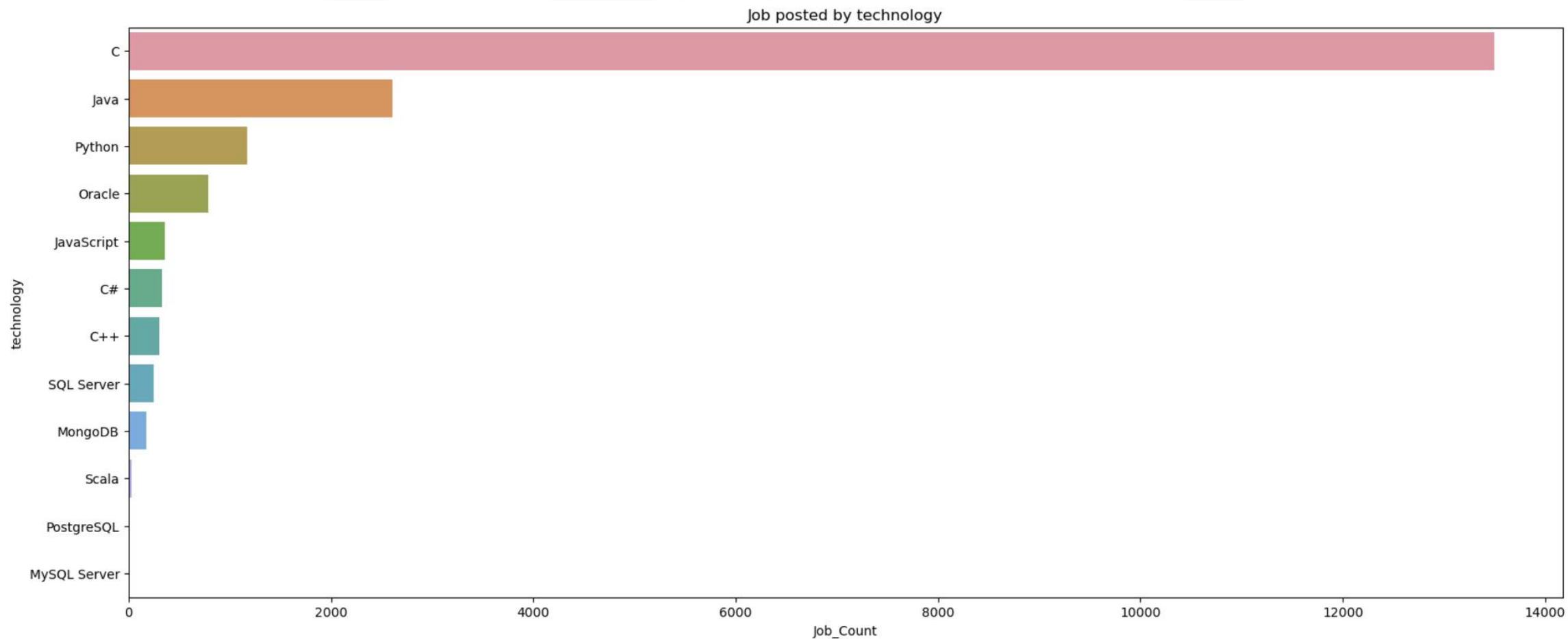
● Other doctoral degree (Ph.D, Ed.D...

● Secondary school (e.g. American ...



Respondent (计数)

JOB POSTINGS



POPULAR LANGUAGES

