FINAL CAPSTONE STORY

Winnie Chou

11/06/2024

OUTLINE

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

EXECUTIVE SUMMARY

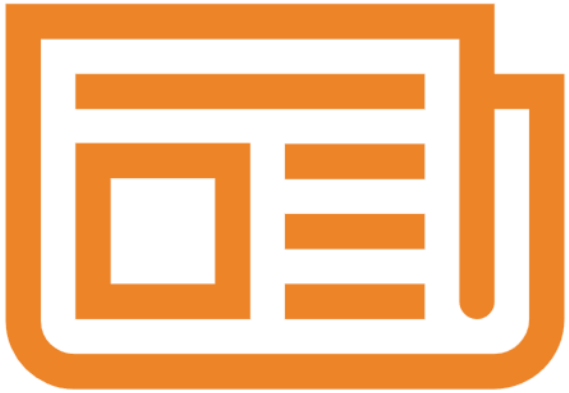
Overlook current and future technological trends considering

- Programming languages
- Databases
- Platforms
- Web Frames

INTRODUCTION

The report gives information about the dynamics of technological trends and how they evolve. This is relevant for audiences already in the industry or preparing to join. There is a clear indication of different popularity between technologies. The presentation demonstrates the current technology usage compared with the future technology desired to learn based on millions of respondents worldwide. The job postings (U.S) associated with a particular programming language and their salaries are provided at the end of the presentation.

METHODOLOGY



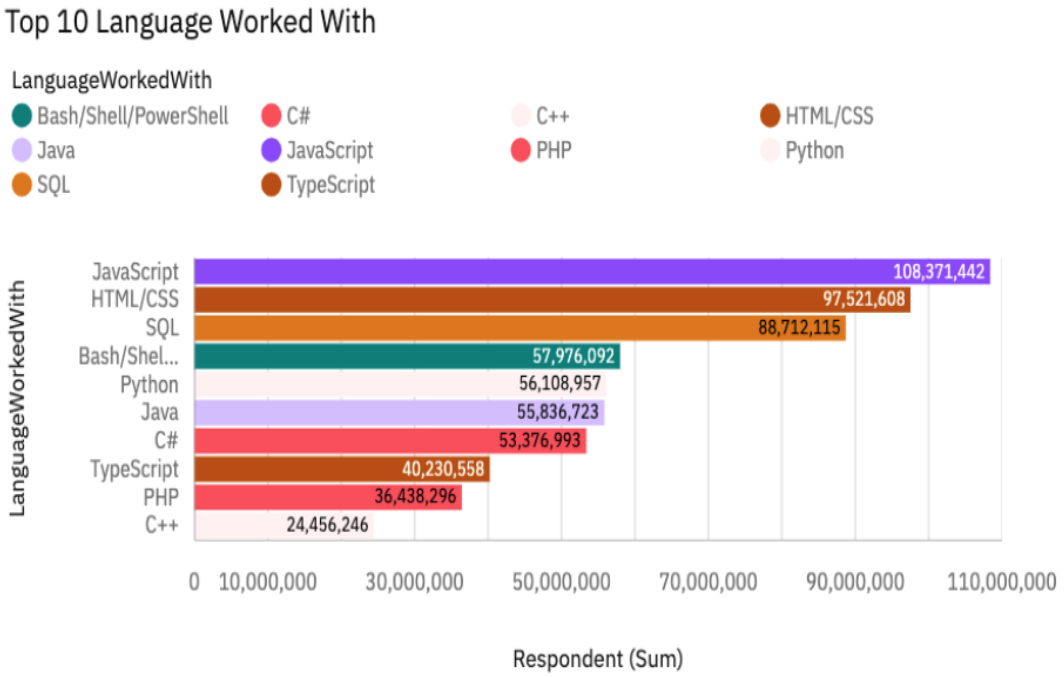
- Web Scraping
- Data Wrangling
- Exploratory Data Analysis
- Data Visualisation
  - Technological Trend
  - Demographics of Respondents

RESULTS

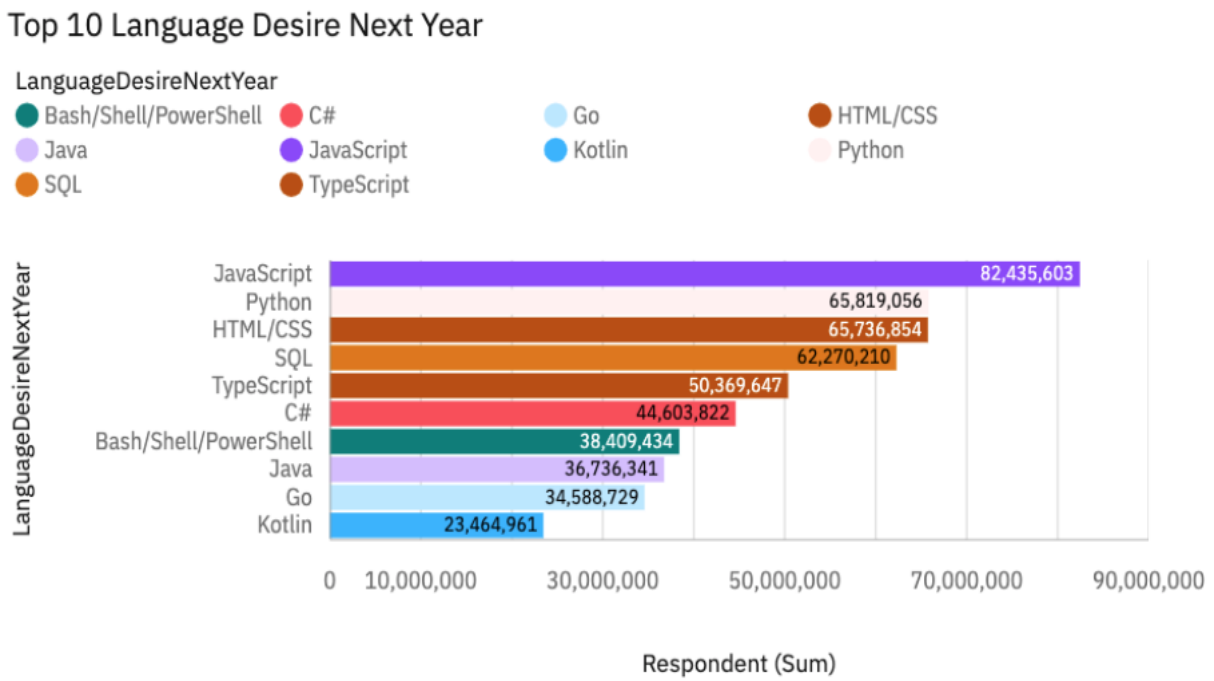
- Current Technological Trend
  - Top 5 Language Worked With
  - Top 10 Database Worked With
  - Platform Worked With
  - Top 10 Web Frame Worked With
- Future Technological Trend
  - Top 5 Language Desire Next Year
  - Top 10 Databases Desire Next Year
  - Platform Desire Next Year
  - Top 10 Web Frame Desire Next Year
- Respondents' Demographics Summary

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

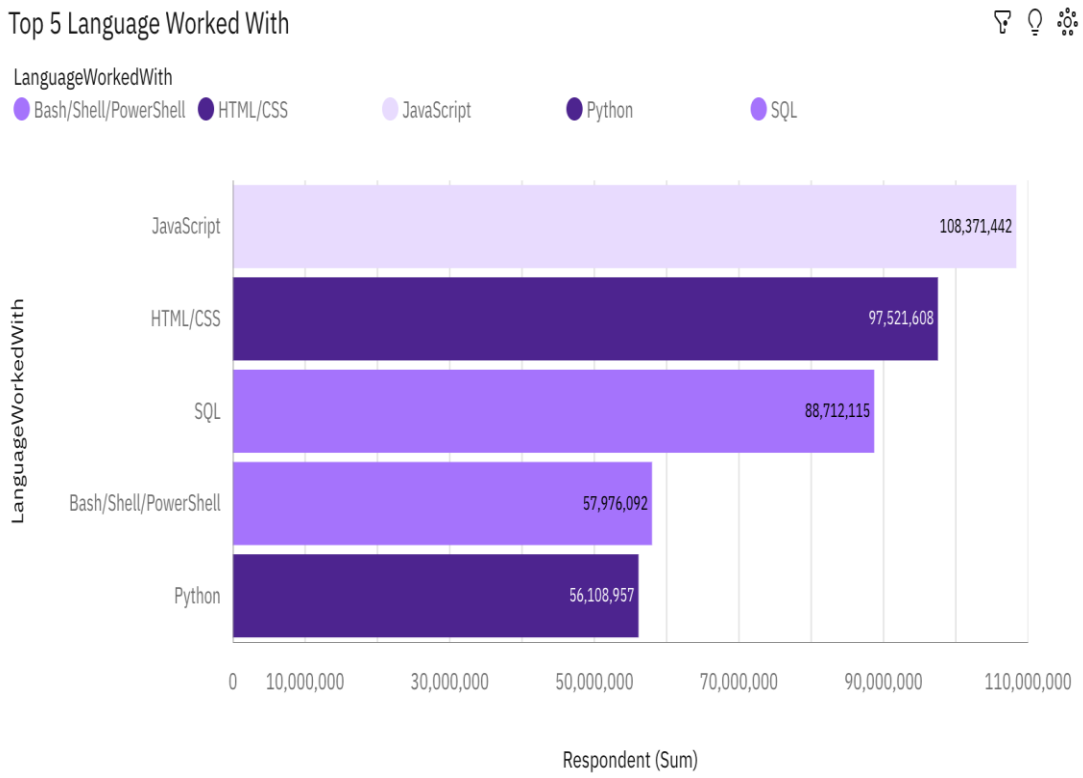
- Current JavaScript/ HTML/ SQL users add up to 47.6% of the total
- JavaScript stay top in desired language to learn
- Python in the top 3 languages desired to learn nest year

Implications

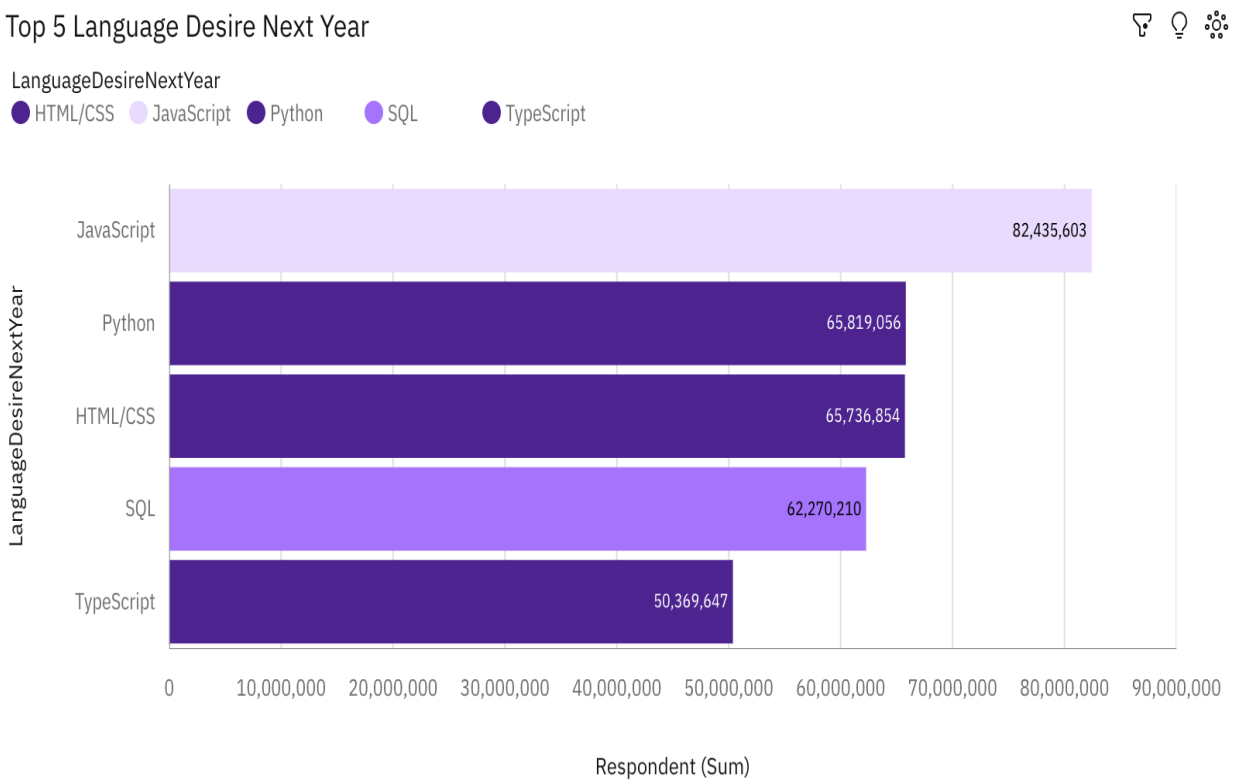
- The versatility of the tops three languages
- The prominence of JavaScript
- Increasing popularity of Python in future trend

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Difference in top 3 databases in use and desired to learn in the future
- Current HTML/CSS users contributed the most for MongoDB as the desired database to learn in the future

Implications

- The prominence of SQL-associated databases might decrease
- Strong correlation between HTML/CSS language and MongoDB database

DASHBOARD

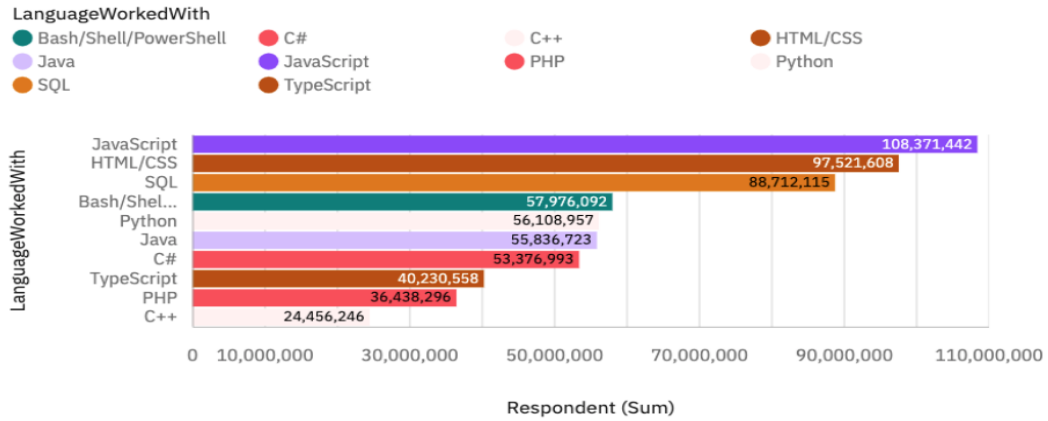
GitHub link:

Dashboard- All Visualisations

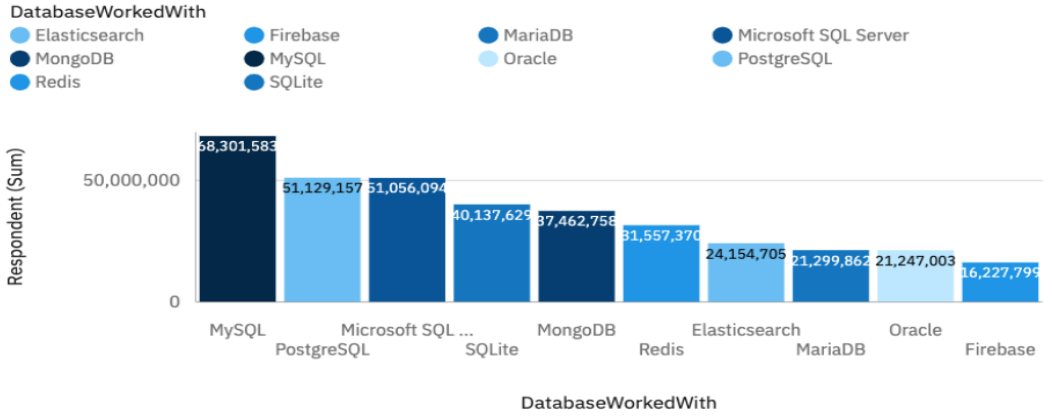
DASHBOARD TAB 1

Current Technology Usage

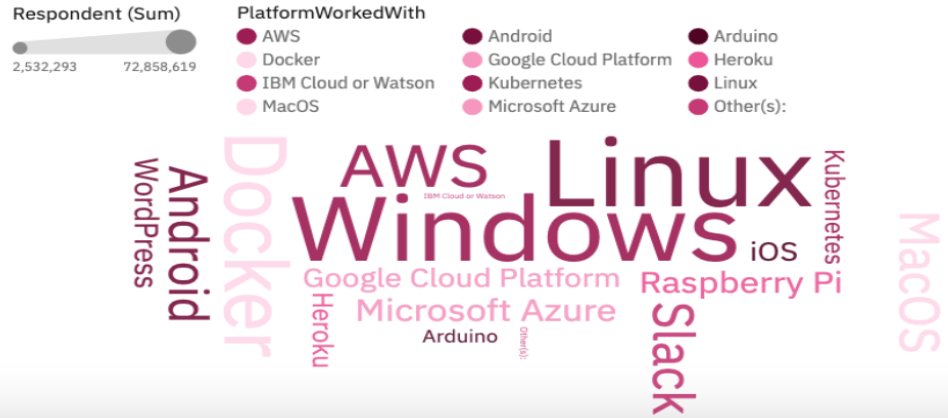
Top 10 Language Worked With



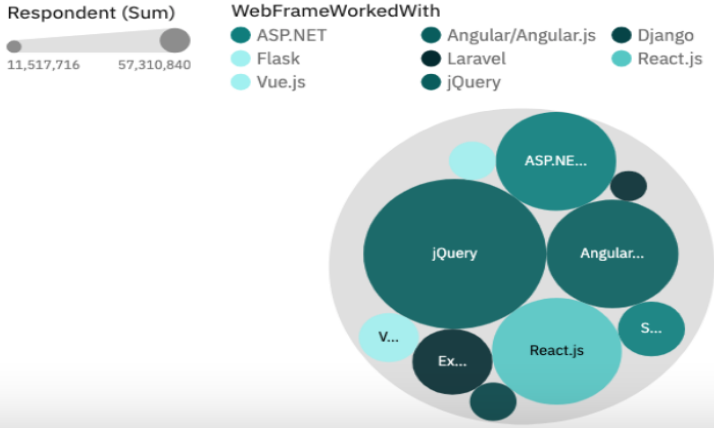
Top 10 Database Worked With



Platform Worked With



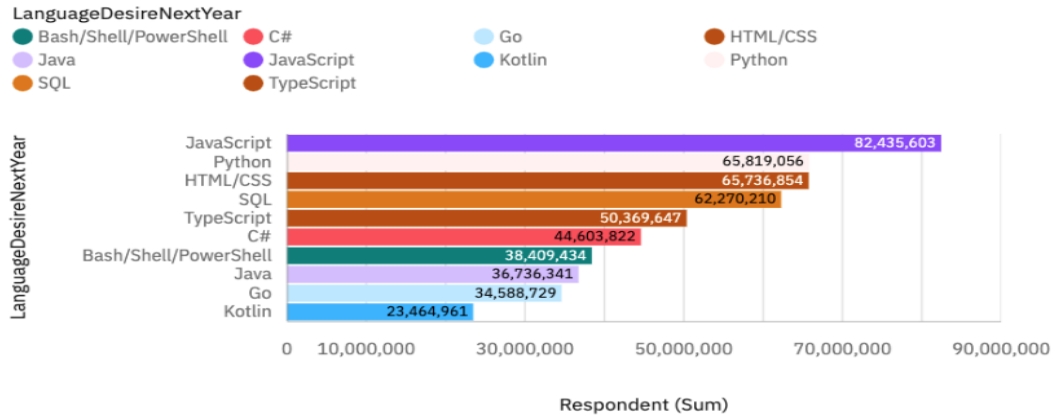
Top 10 WebFrame Worked With



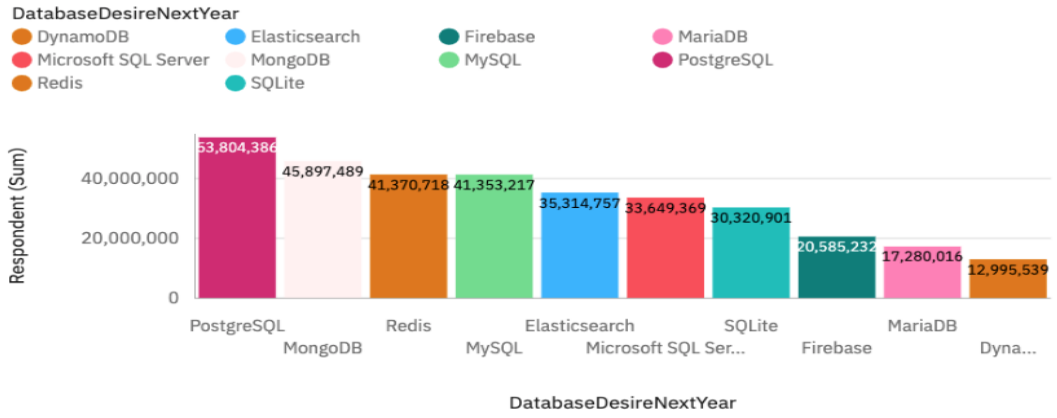
DASHBOARD TAB 2

Future Technology Trend

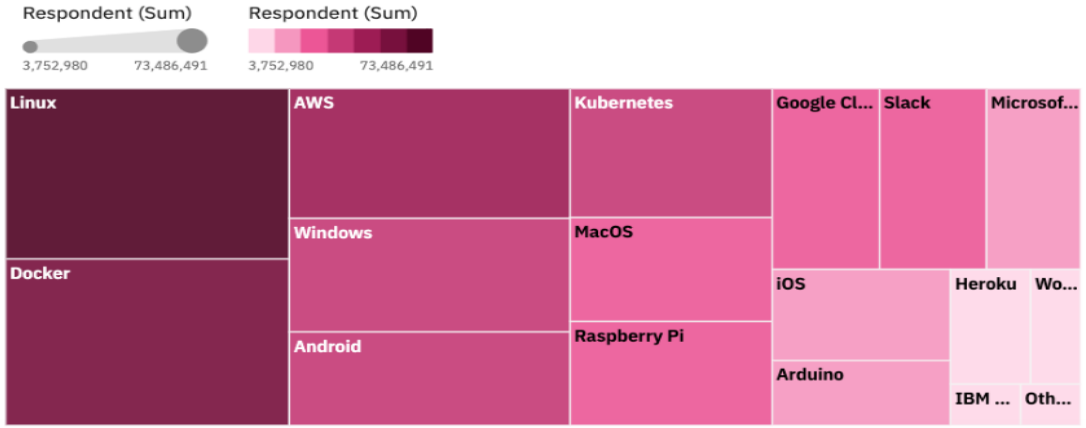
Top 10 Language Desire Next Year



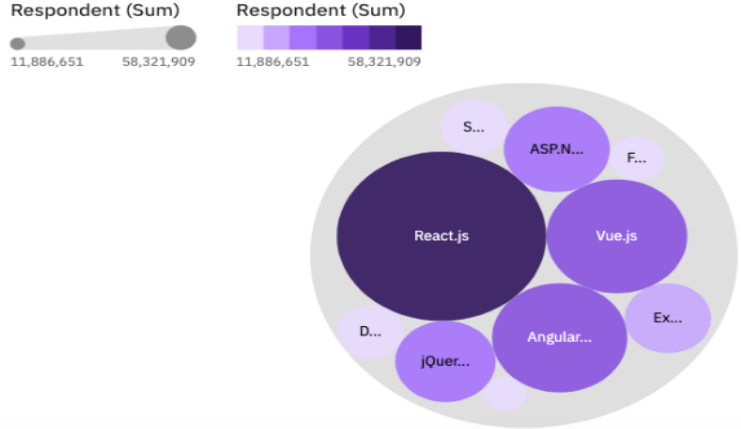
Top 10 Database Desire Next Year



PlatformDesireNextYear



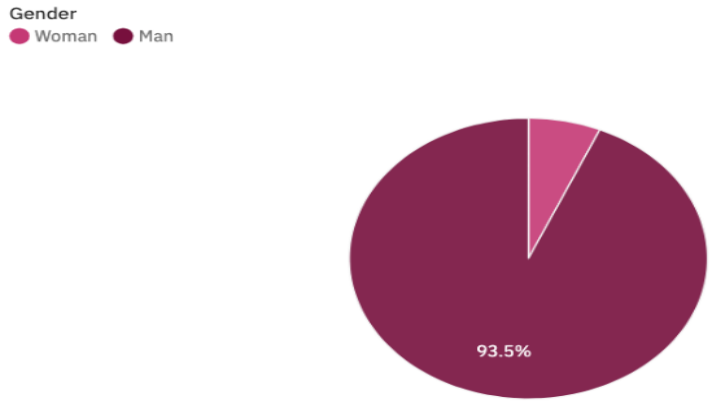
Top 10 Web Frame Desire Next Year



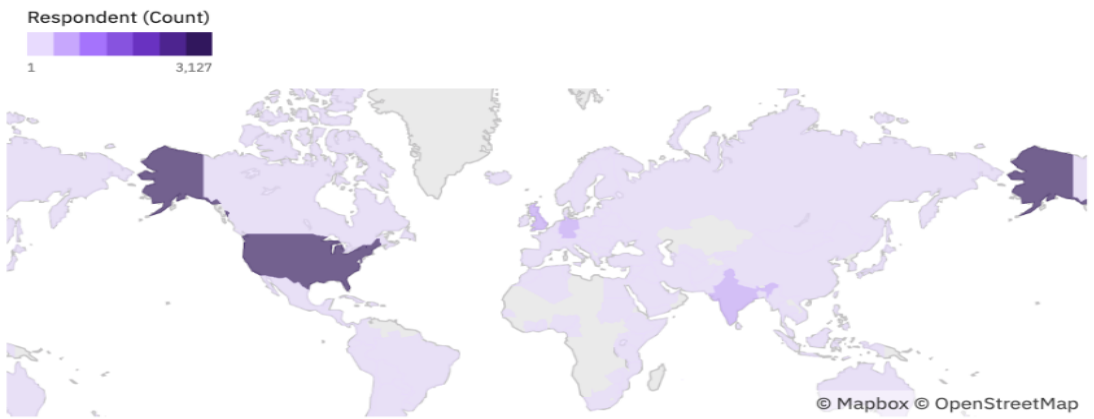
DASHBOARD TAB 3

Demographics

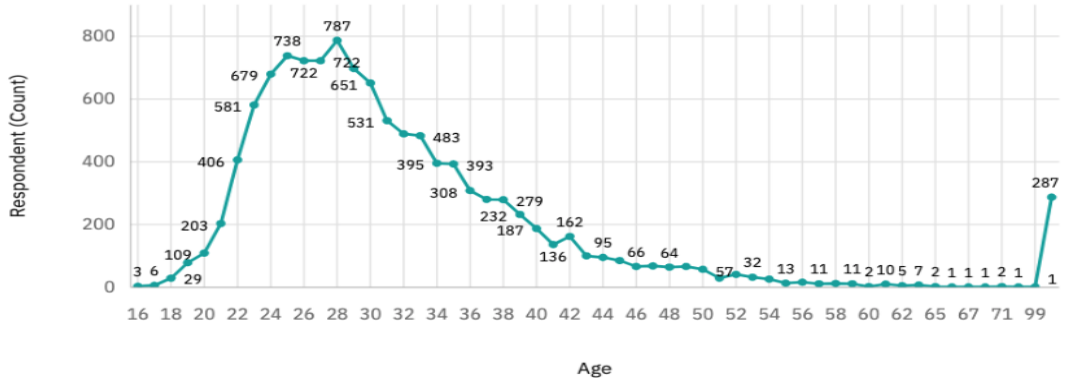
Respondent classified by Gender



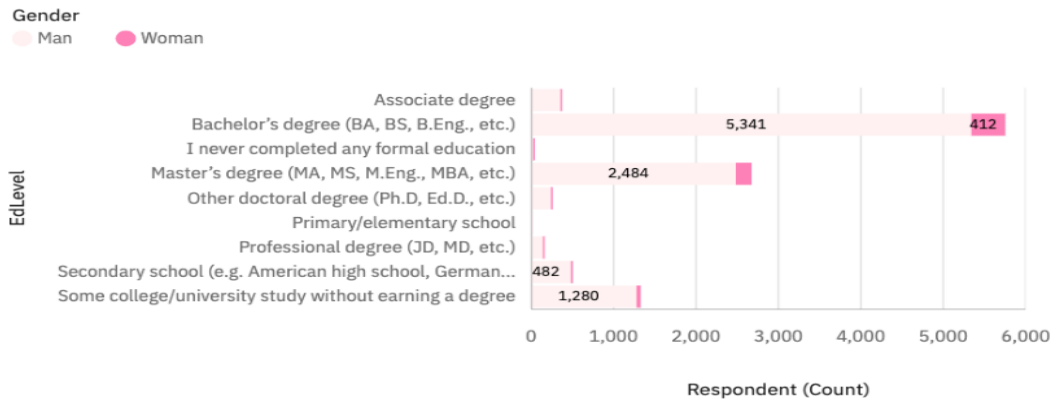
Respondent Count for Countries



Respondent Count by Age



Respondent Count by Gender, classified by Formal Education Level



DISCUSSION

- The correlations between programming languages and databases
- Release of new technology
- The gender gap in IT industry
- Whether the diversity in locations produce different result

OVERALL FINDINGS & IMPLICATIONS

Findings

- Current and future popularity in technologies shuffled
- Gender gap in respondents
- Higher density of respondents from particular countries

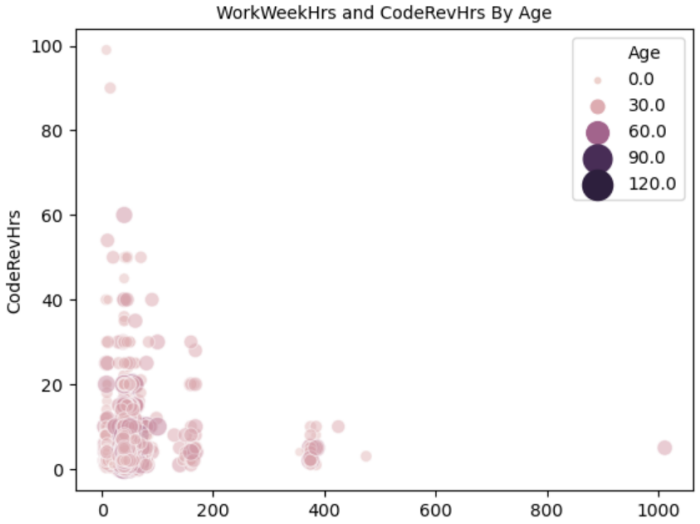
Implications

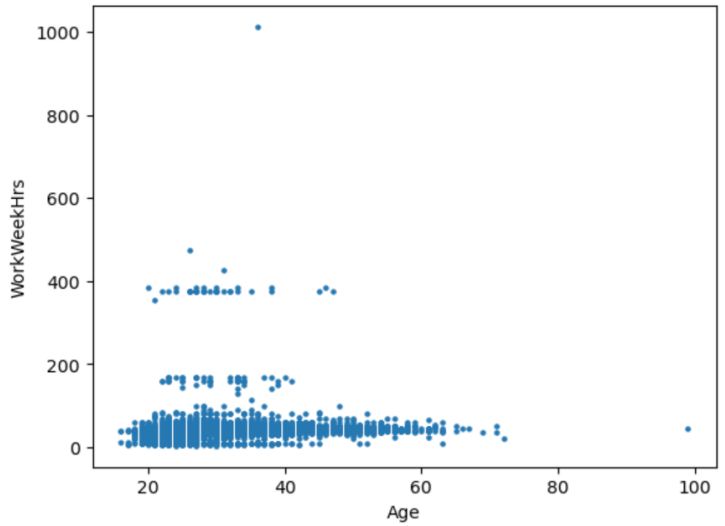
- Dynamics of technological trends
- Possibility of gender gap in the industry or sampling

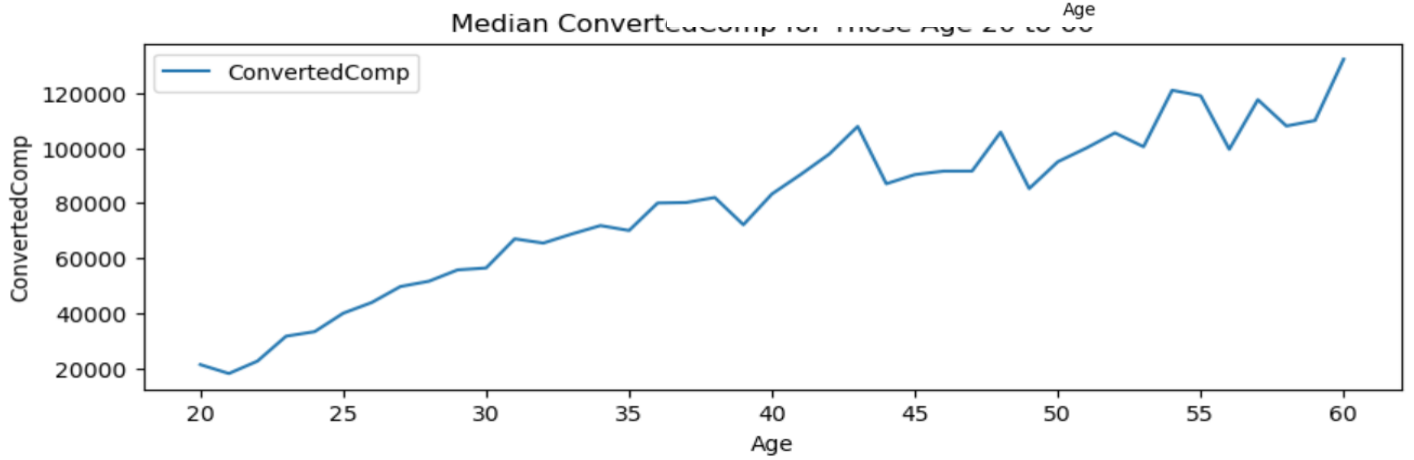
CONCLUSION

- Necessity to follow the technological trends and their evolvement
- The existence of the gender gap in IT industry
- JavaScript has strong prominence in current and future technological trends
- Linux maintain top popularity in Platform preference

APPENDIX- AGE







JOB POSTINGS

Technology	Los Angeles	New York	San Francisco	Washington DC	Seattle	Austin	Detroit
C	296	1622	214	2664	1668	224	1973
C#	5	41	3	68	49	5	60
C++	3	43	3	55	41	4	32
Java	43	326	38	516	354	32	353
JavaScript	7	51	7	61	52	5	41
Python	24	143	17	258	133	15	170
Scala	0	8	0	3	4	1	5
Oracle	17	95	19	143	110	11	115
SQL Server	3	36	2	53	31	5	34
MySQL Server	0	0	0	0	0	0	0
PostgreSQL	0	1	0	3	1	0	2
MongoDB	2	25	2	32	21	1	25

POPULAR LANGUAGES