



Analysis of Technology Trends

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1.2.2023

OUTLINE



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EXECUTIVE SUMMARY



- What trends we can observe in:
 1. Programming languages
 2. Databases
 3. Platforms
- Survey based on demographic data
- How big is gender gap in technology job
- Geographical spread of survey respondents

INTRODUCTION



I will focus on analyst current trends in
Software Development

Outputs I want to achieve:

1. Identify skill requirements for next year
2. What are top programming language, databases in demand
3. What IDE is important

Presentation for HR and IT Department

METHODOLOGY



- Data Collection Sources:
 1. GitHub job posting
 2. Programming Language Annual Salary
 3. 2019 Developer Survey
- Data Exploration
- Data Cleaning
- Data Visualization
- Presentation of conclusions

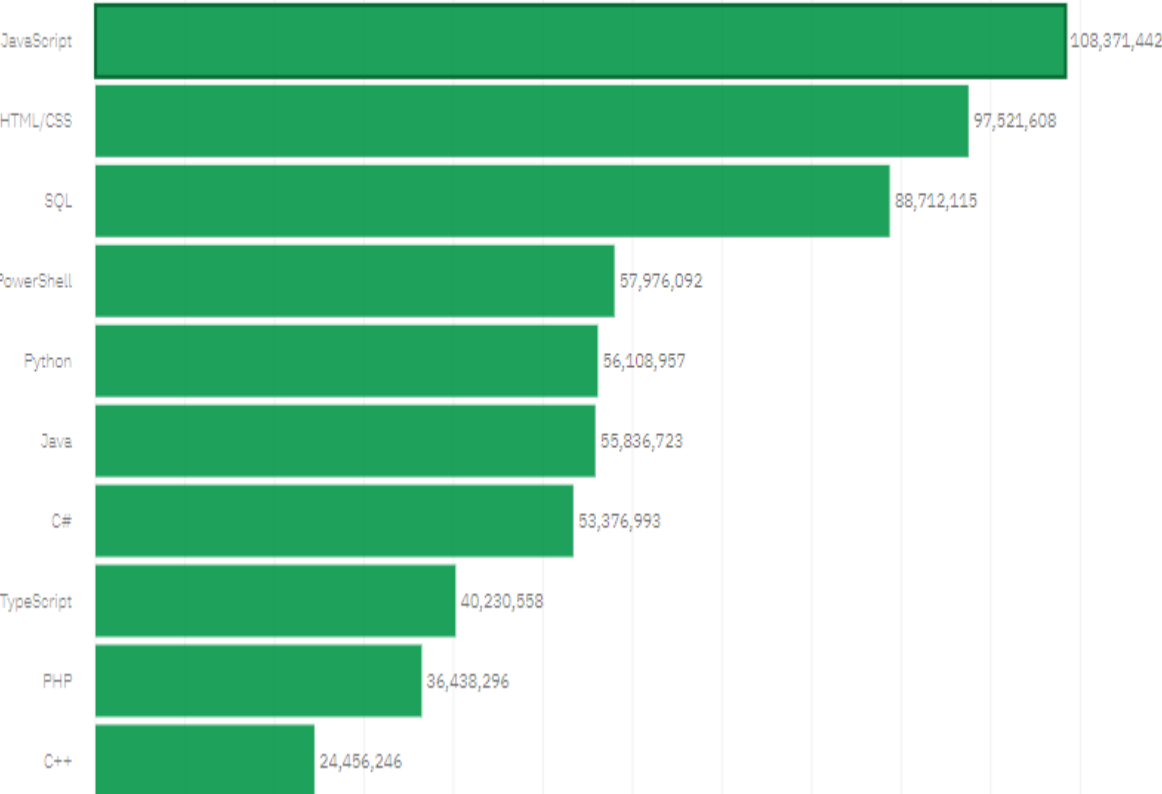
RESULTS

Respond... String	LanguageWorked... String	LanguageDesireNext... String	DatabaseWorked... String	DatabaseDesireNext... String	PlatformWorked... String	PlatformDesireNex... String	WebFrameWorked... String	WebFrameDesireNext... String
4	C	C	MySQL	MySQL	Linux	Linux		
4	C++	C#	SQLite	SQLite	Windows	Windows		
4	C#	JavaScript						
4	Python	SQL						
4	SQL							
9	Bash/Shell/PowerShell	Bash/Shell/PowerShell	DynamoDB	PostgreSQL	AWS	AWS	Express	Express
9	C#	C	PostgreSQL	Redis	Docker	Docker	Ruby on Rails	Ruby on Rails
9	HTML/CSS	HTML/CSS	SQLite	SQLite	Heroku	Heroku	Other(s):	Other(s):
9	JavaScript	JavaScript			Linux	Linux		
9	Python	Ruby			MacOS	MacOS		
9	Ruby	Rust			Slack	Slack		
9	Rust	SQL				Other(s):		
9	SQL	TypeScript						
9	TypeScript	WebAssembly						
9	WebAssembly	Other(s):						
9	Other(s):							
13	Bash/Shell/PowerShell	Bash/Shell/PowerShell	Couchbase	Firebase	Android	Android	Angular/Angular.js	Express
13	HTML/CSS	HTML/CSS	DynamoDB	MySQL	AWS	AWS	ASP.NET	Vue.js

PROGRAMMING LANGUAGE TRENDS

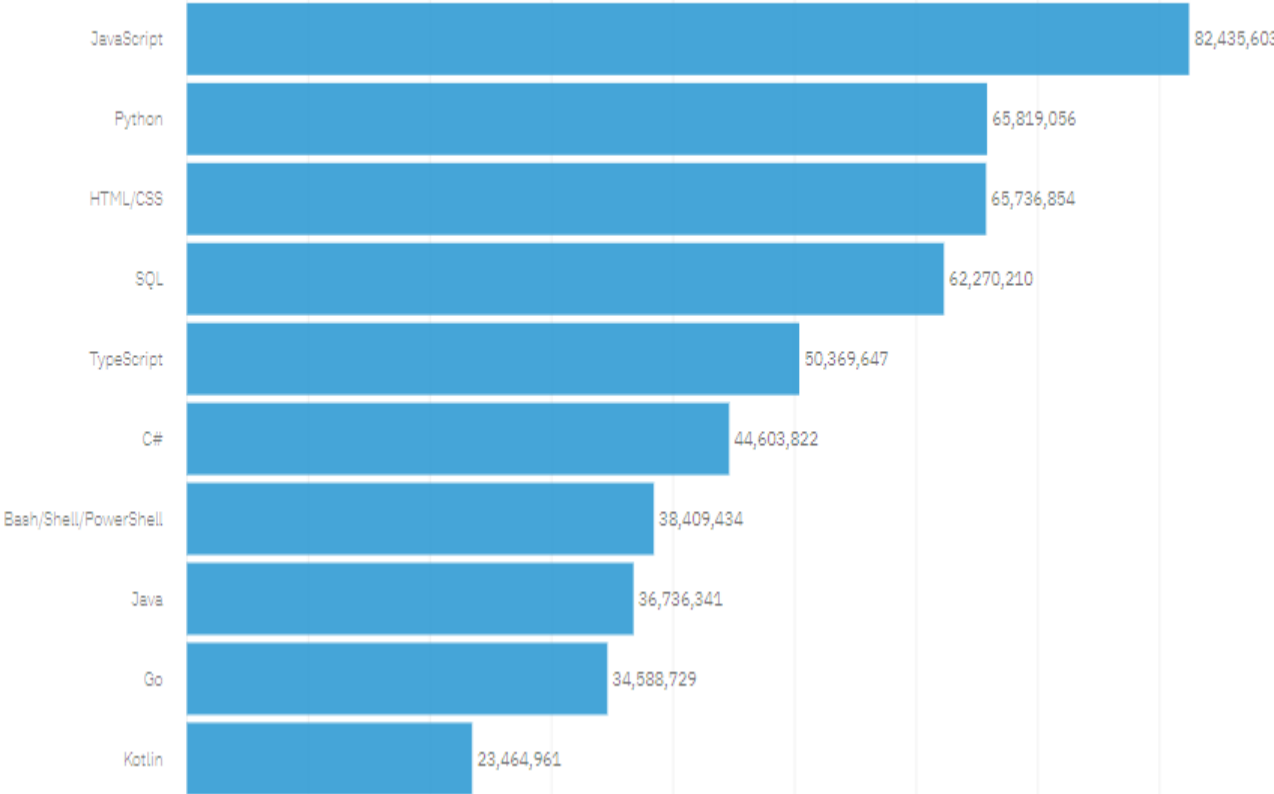
Current Year

Top 10 LanguageWorkedWith



Next Year

Top 10 LanguageDesireNextYear



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript remain the most popular language
- Python is trending to become second most popular language
- SQL remain the most popular database language
- C++ will be vanishing slowly from the most popular list

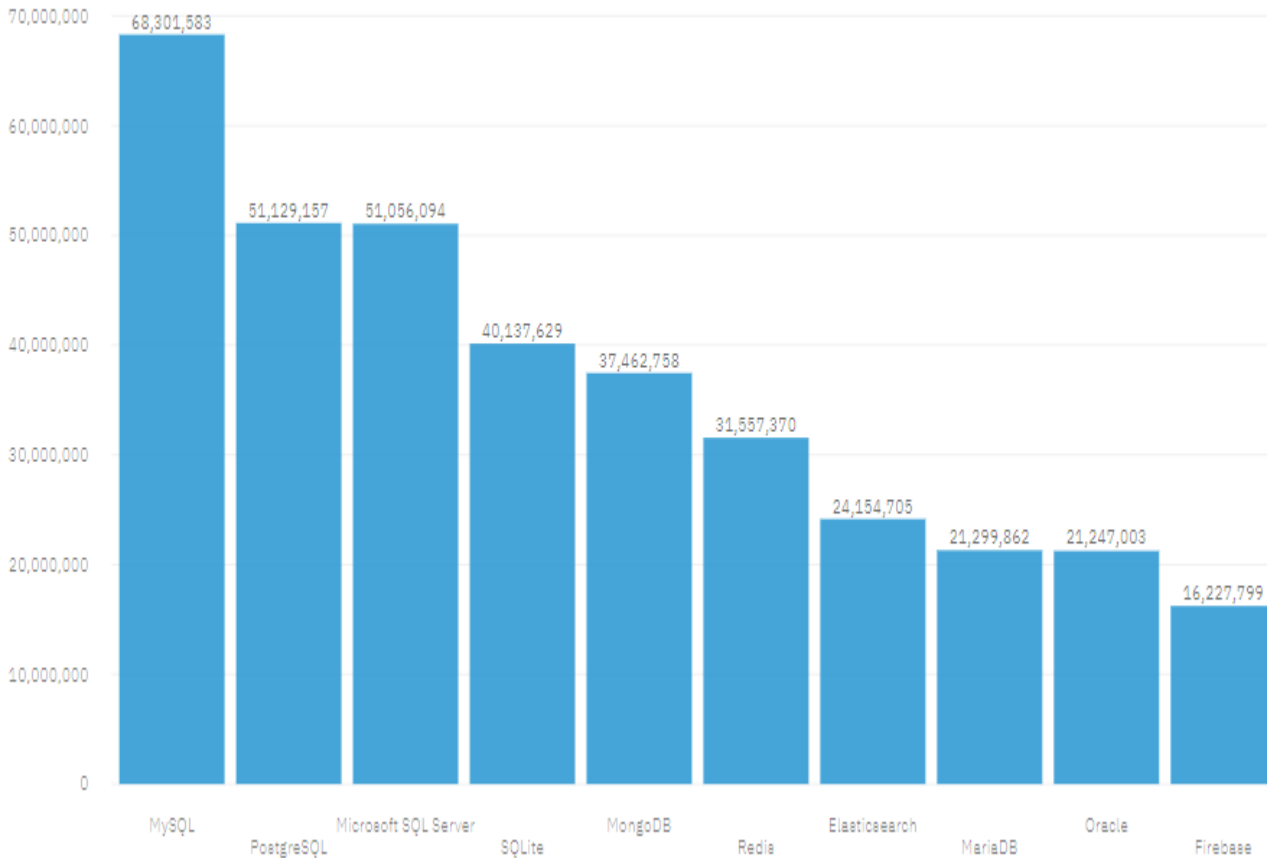
Implications

- JS market will be growing thanks to mobile devices, high demand for programmers
- ML and AI will become much more important, Python benefit from that
- SQL is the safest choice of language for DA

DATABASE TRENDS

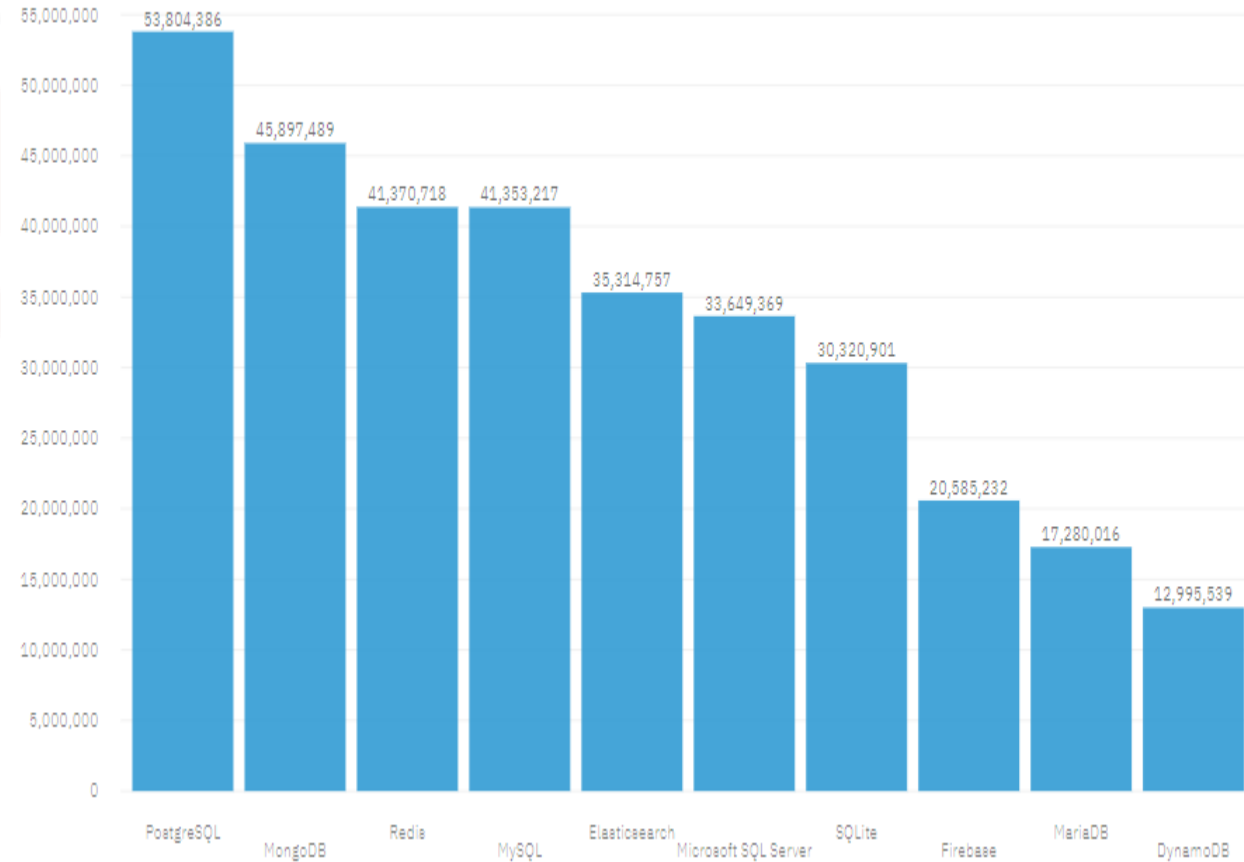
Current Year

Top 10 Database Worked With



Next Year

Top 10 Database Desired Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL is the most popular DB language
- PostgreSQL and MSSQL compete for second place
- MongoDB is growing leader

Implications

- Companies still prefer Open-Source software for DB
- No relational SQL will become much more popular
- Abstract data types will be important in correlation for Redis language

DASHBOARD



<https://eu-de.dataplatform.cloud.ibm.com/dashboards/6b3b3b4b-7e75-47b6-8cc8-0405bbb06fe7/view/4f28c91e17b722926bcdcce407982d012963710cb2bbd10188867b490f342497a83f13c2c82d42088f455164f0ba155dc1>

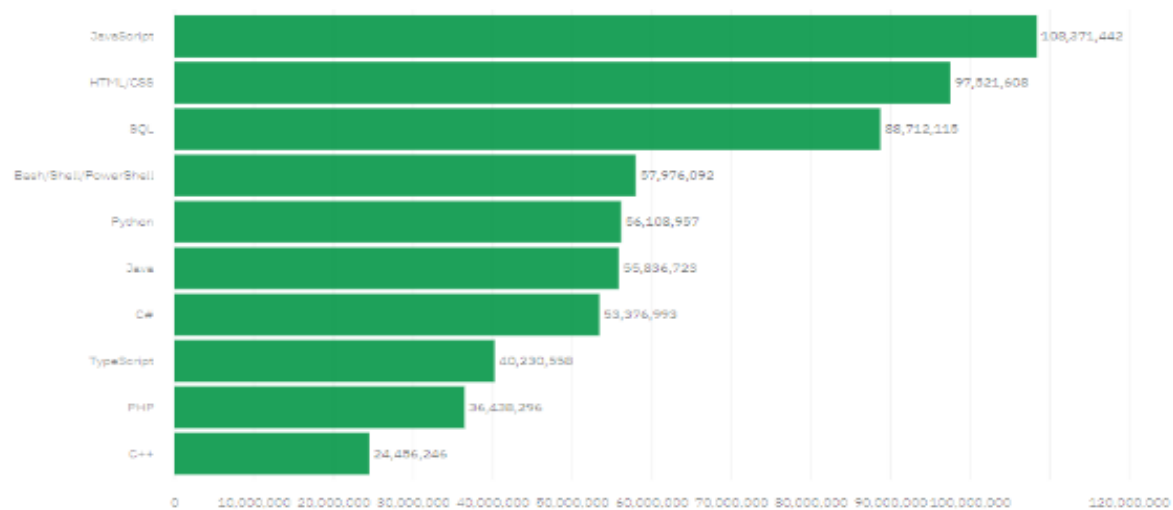
DASHBOARD TAB 1

Current Technology Usage

Future Technology Trend

Demographics

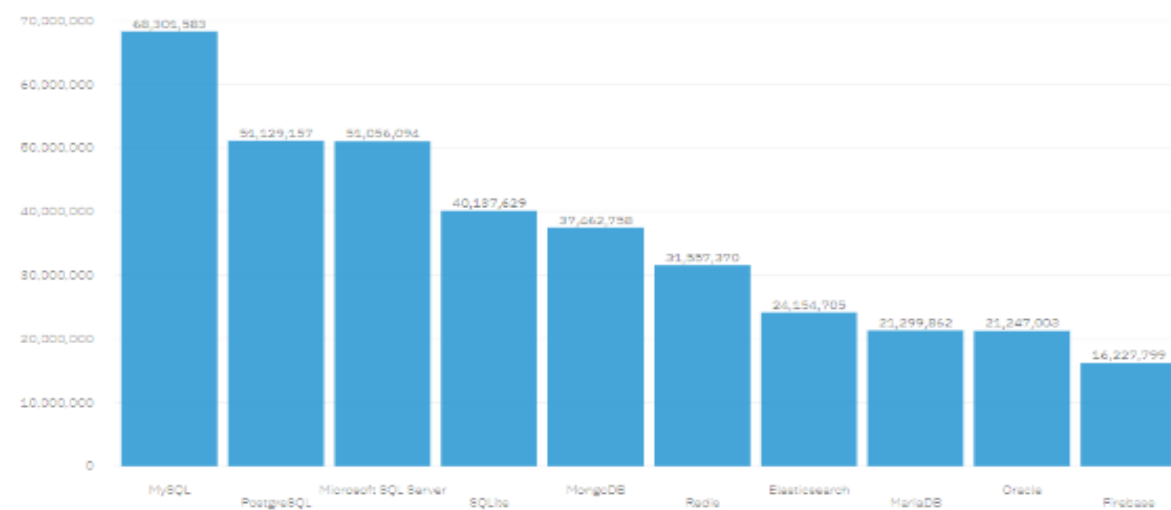
Top 10 LanguageWorkedWith



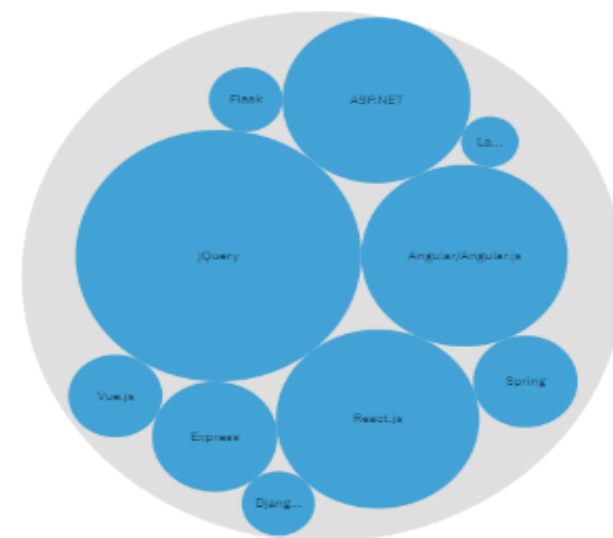
Popular platforms



Top 10 DatabaseWorkedWith

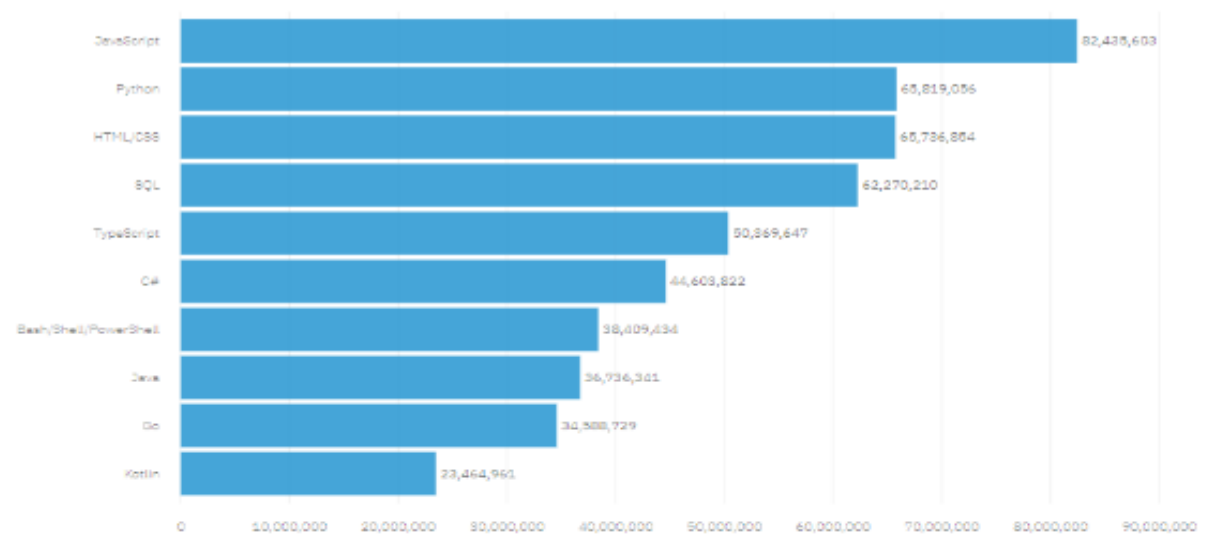


Top 10 WebFrameWorkedWith

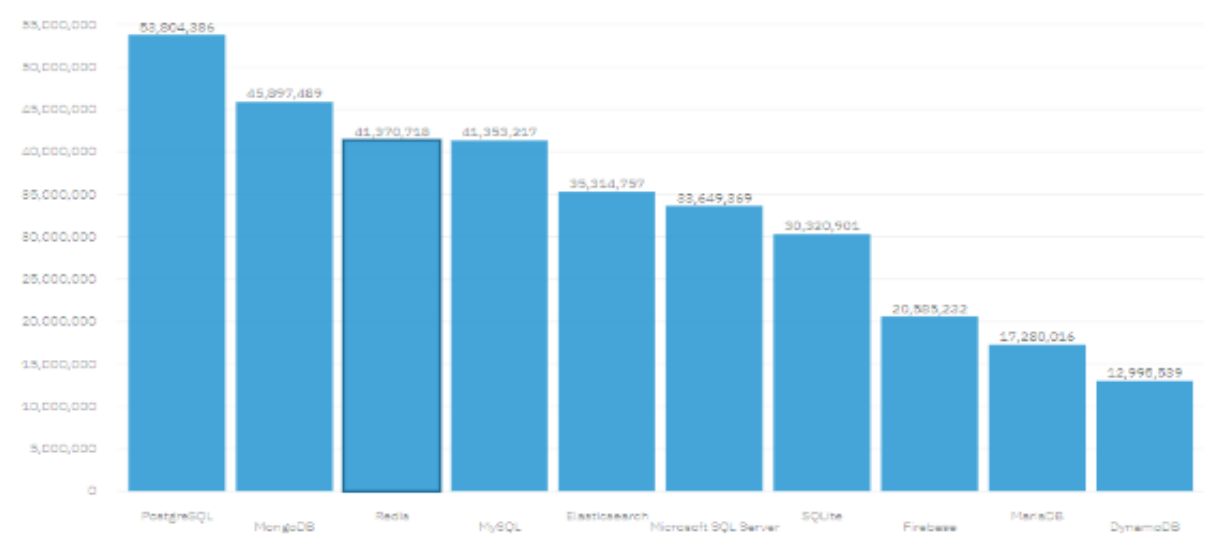


DASHBOARD TAB 2

Top 10 LanguageDesireNextYear



Top 10 DatabaseDesireNextYear



PlatformDesireNextYear



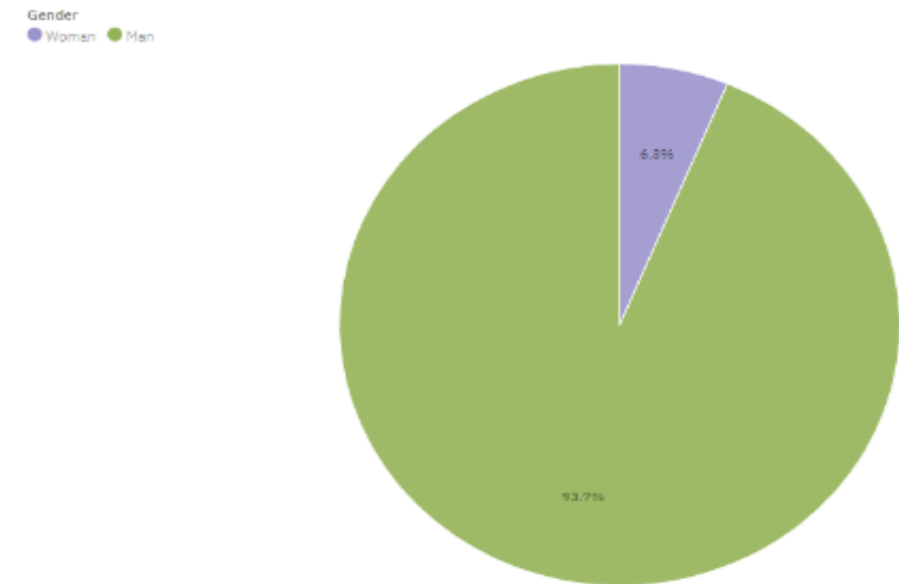
Top 10 WebFrameDesireNextYear



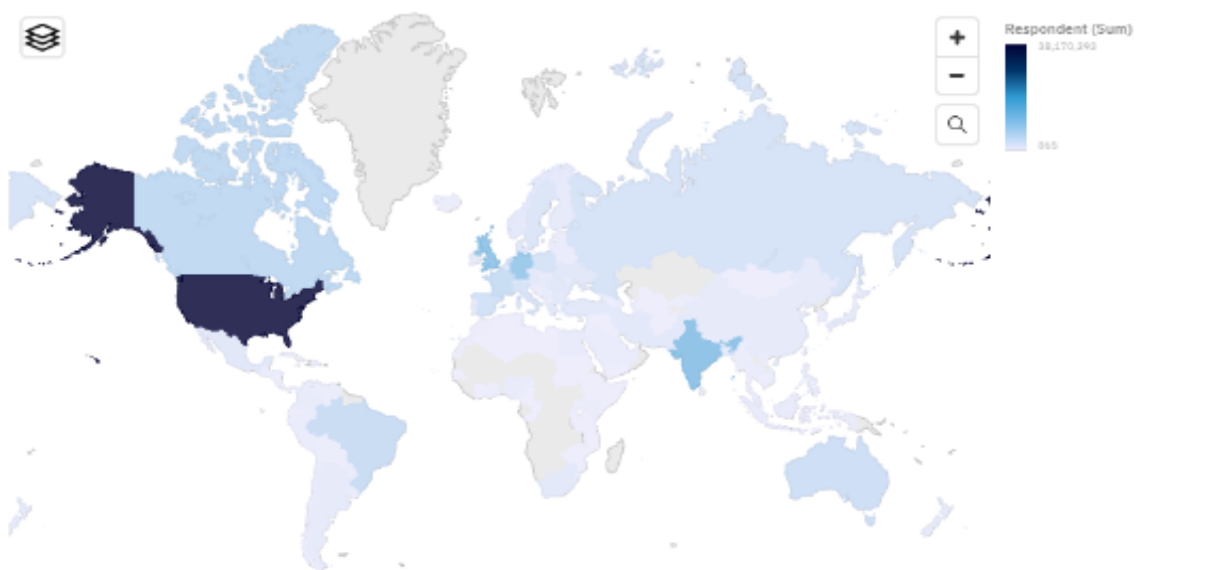
DASHBOARD TAB 3

Current Technology Usage Future Technology Trend Demographics

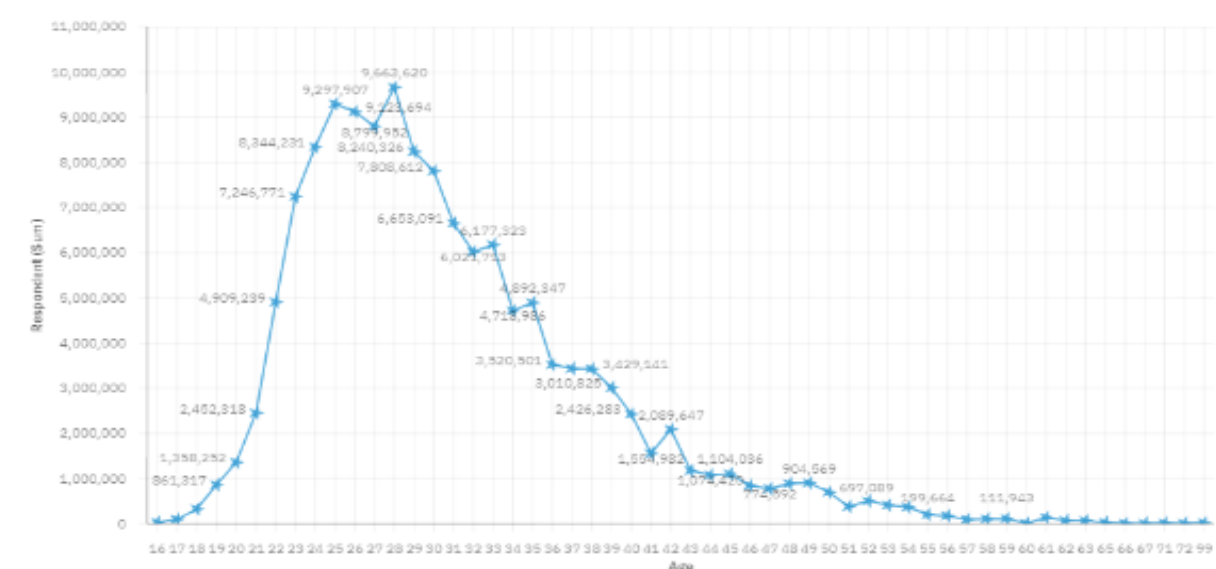
Respondent classified by Gender



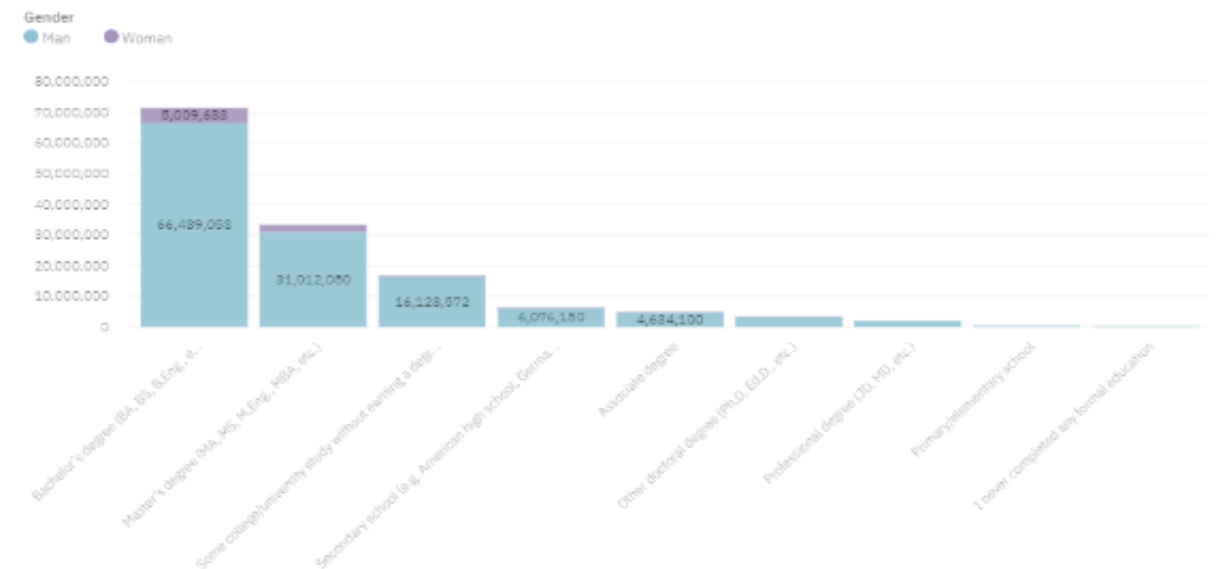
Respondent Count for Countries



Respondent Count by Age



Respondent Count by Gender, classified by Formal Education Level



DISCUSSION



- Trends we can observe based on showed charts
- What approach we need to take to train and reskill our crew
- How we can fill the gender gap in technology jobs
- Does the education matter in IT or only skill should decide

OVERALL FINDINGS & IMPLICATIONS

Findings

- Without surprise, USA is the leader of technology market
- We can see India, Germany and UK are also important
- How technology changes every year
- The size of gender gap

Implications

- Being flexible and prepare for change is crucial for companies
- A lot of countries can support the development of the market
- Companies need to encourage womens for jobs in technology
- Clouds are no1 for future

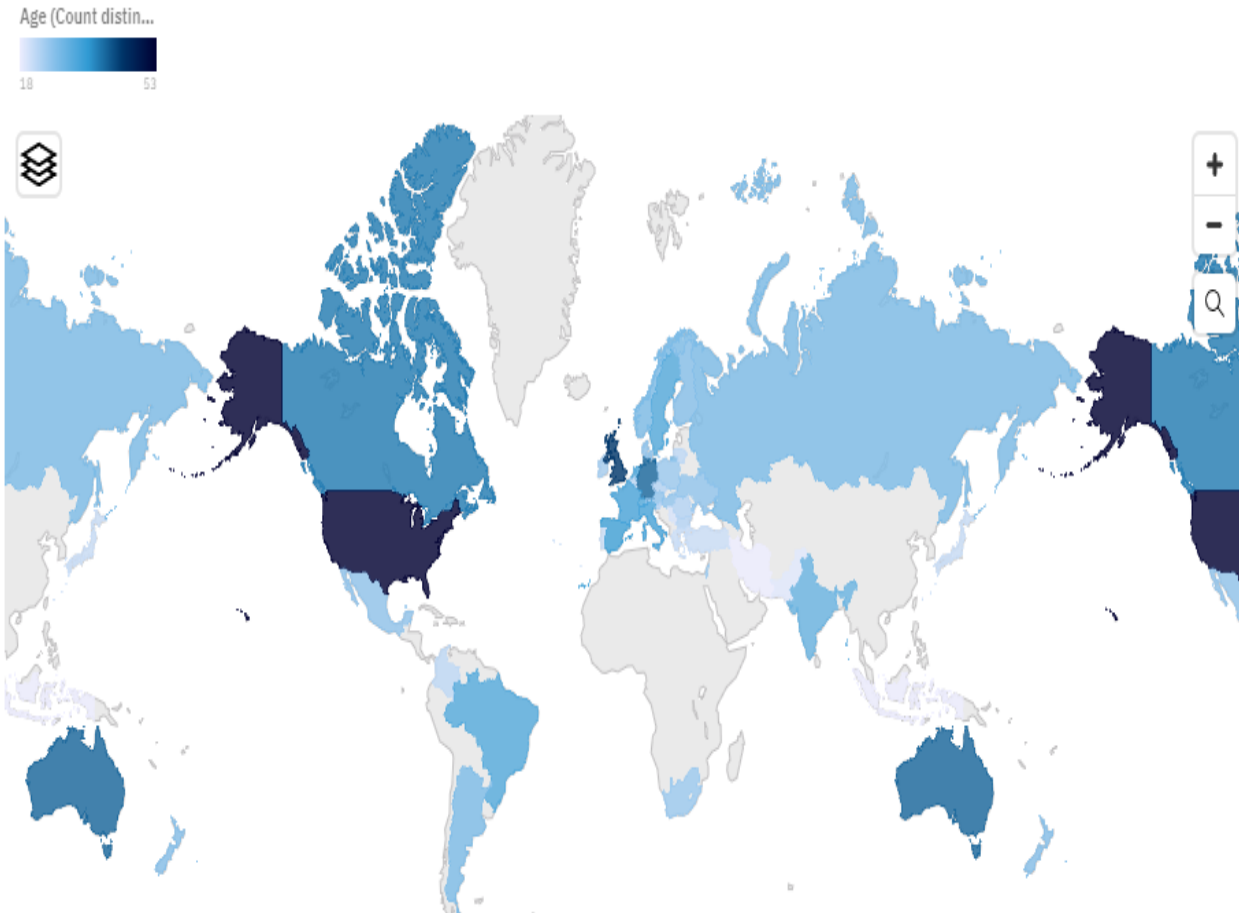
CONCLUSION



- We find out current trends in technology market for next year
- We cover subject on programming language, database and platforms
- Set a target to fill gender gap in technology
- ML and Clouds as a crucial targets for future

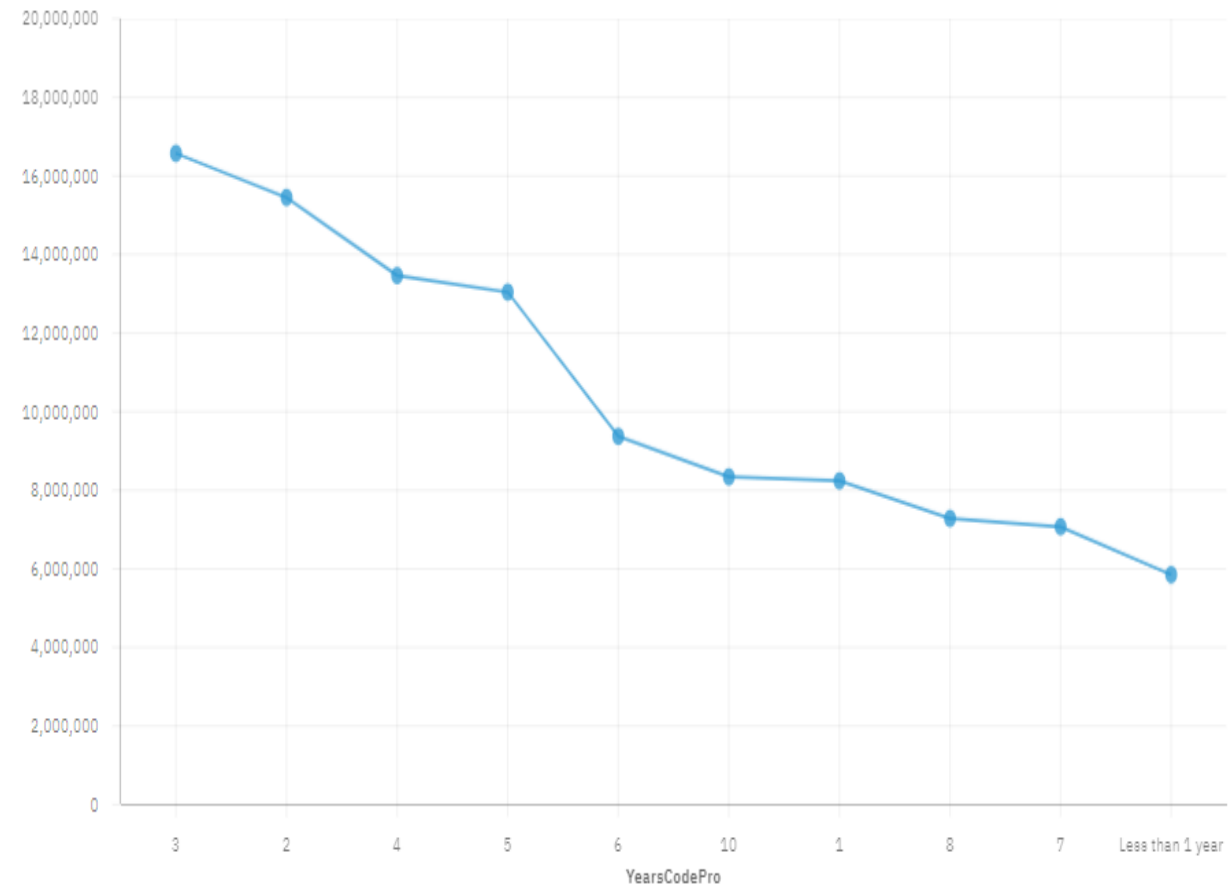
APPENDIX

Worker age per country



IBM Developer

How long You coding as Pro



SKILLS NETWORK



Appendix conclusions

Findings

- USA has the oldest average age of Devs, when India and Europe this result is much younger
- There are a lot of countries with great potential
- The most common Pro Dev programming 2-3 years

Implications

- USA need to focus to bring more young people to industry
- There is a plenty of space for improve in technology in Asia
- The best times of technology is still in front of us, as the market is very young

JOB POSTINGS



POPULAR LANGUAGES

