Analysis for Technology Trends

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OUTLINE

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- Methodology
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EXECUTIVE SUMMARY

- Technology Trends -
  - Programming Languages
  - Databases
  - Web Frames
- Gender gaps in technical jobs
- Technical skills gap in countries
- Demographics survey

INTRODUCTION

- About:
  - Analyzing the trends in software development
- Purpose:
  - What are the top programming languages in demand?
  - What are the most in demand database knowledge?
  - Nice to have technical skills requirement for the future

METHODOLOGY

- Data Sources:
  - Stack Overflow Developer Survey 2019
  - GitHub job posting
- Web Scraping with API
- Data Cleaning
- Exploratory Data Analysis
- Data Visualization

RESULTS

	Respondent...	LanguageWorkedWith	LanguageDesireNextYear	DatabaseWorkedWith	DatabaseDesireNextYear
1.	25142	R			
2.	25142	Python			
3.	25142	C	C		
4.	25142	Go	Python		
5.	25142	C++	C++		
6.	25142	HTML/CSS	R		
7.	25142	PHP			
8.	25142	Bash/Shell/PowerShell	Bash/Shell/PowerShell	PostgreSQL	PostgreSQL
9.	25141	C#	F#		Microsoft SQL Server
10.	25141	JavaScript			
11.	25141	TypeScript			
12.	25141	HTML/CSS			Redis
13.	25141	Java			
14.	25141	Python			
15.	25141	SQL			

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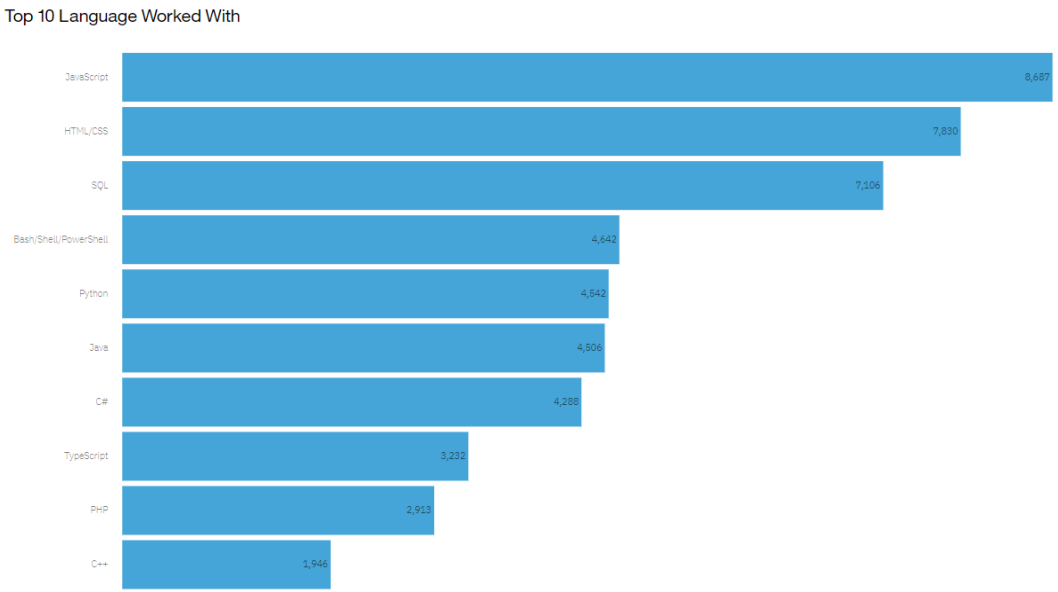
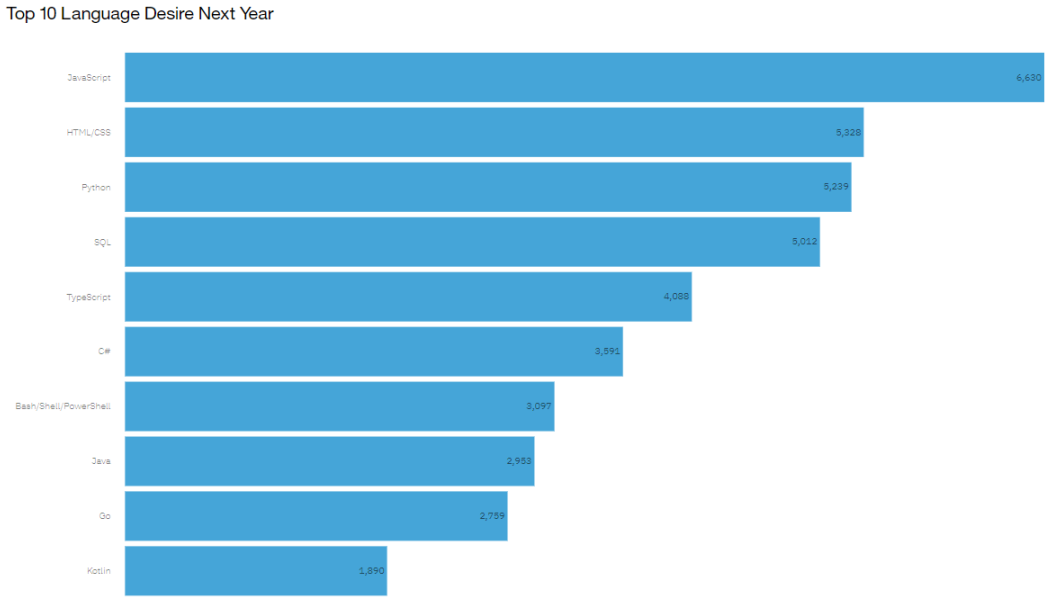
PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

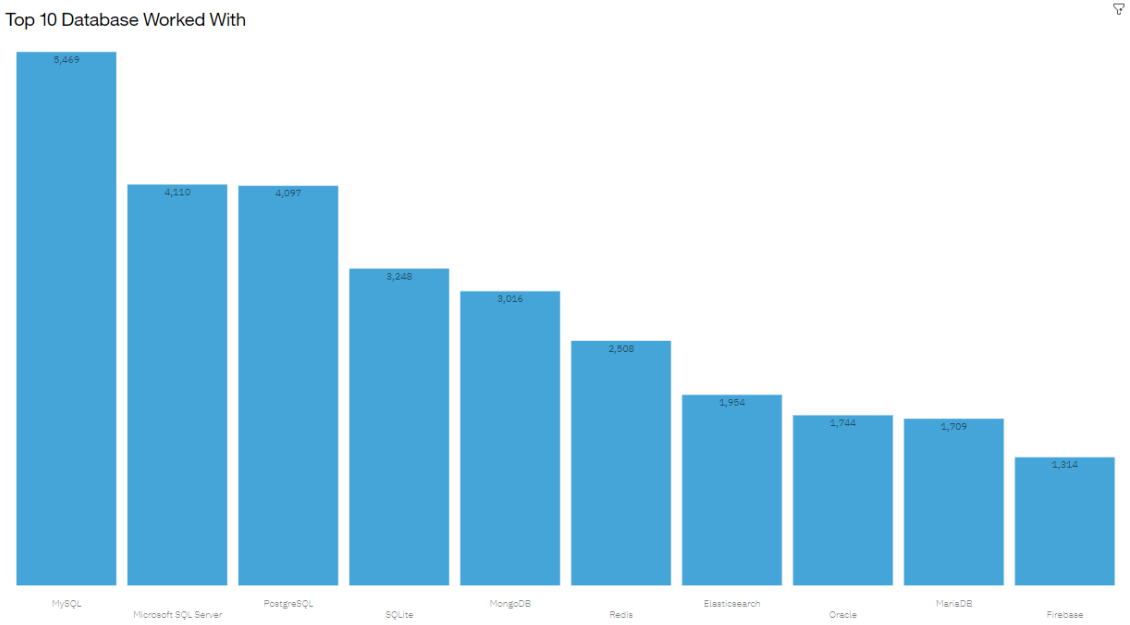
- The top 3 for this year are JavaScript, HTML/CSS, SQL.
- Python and Typescript becoming more popular next year. The top 3 for next year are JavaScript, HTML/CSS, Python.
- PowerShell edged out in the next year.

Implications

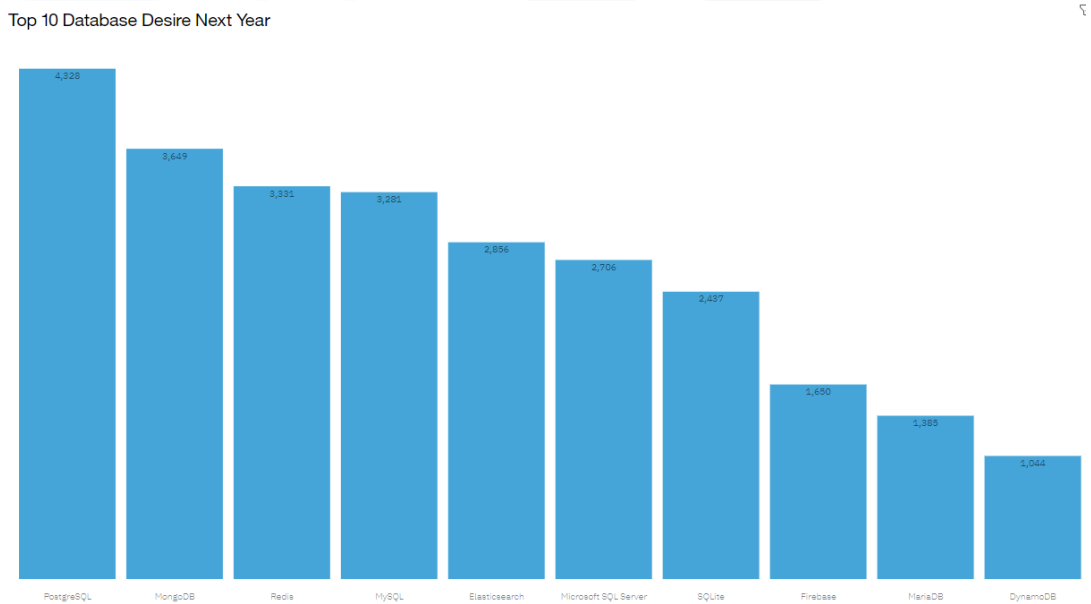
- Web Development skills are still in high demand.
- SQL knowledge is still essential with big data.
- Python is still the best choice with the growth of AI and ML.

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL and MS SQL are the most popular.
- MongoDB and Redis are popular in the upcoming year.
- Should take note of the growth of Elasticsearch.

Implications

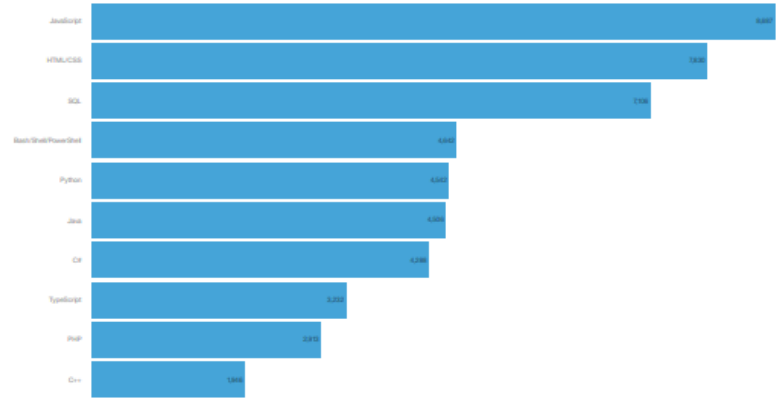
- Open sources databases are still preferable to companies.
- NoSQL databases will make an impact for storing non-rational data
- Elasticsearch simplifies data ingest, visualization, and reporting

DASHBOARD

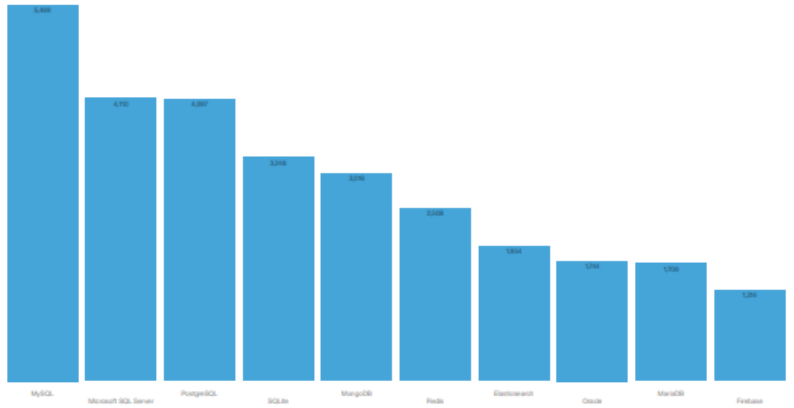
https://eu-de.dataplatform.cloud.ibm.com/dashboards/1200157f-55d8-4187-a030-d20198b02cfb/view/4125e01b61822ee440f5d4e4079d78552830275fe1bbd752d4d77b495a602097a96b4699c87d4f5ed240006afaed170fca

DASHBOARD TAB 1

Top 10 Language Worked With



Top 10 Database Worked With

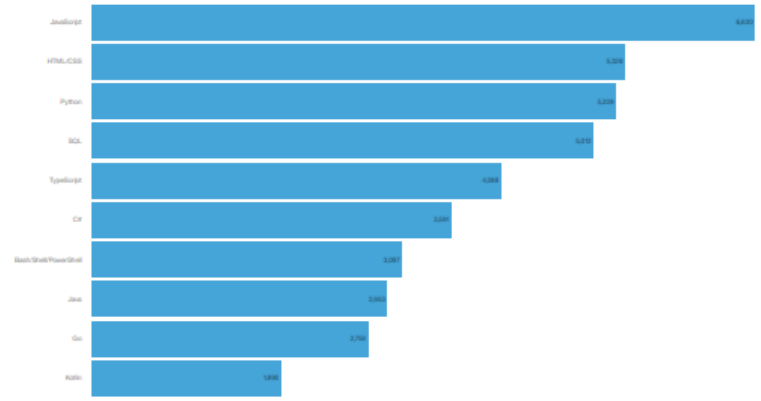


Platform Worked With

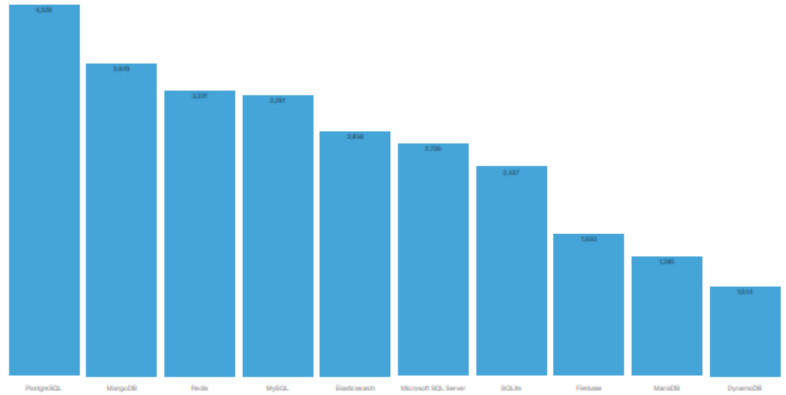
Top 10 WebFrame Worked With

DASHBOARD TAB 2

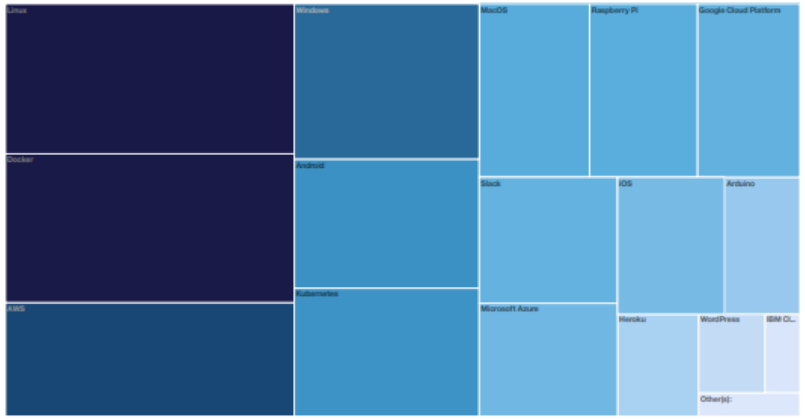
Top 10 Language Desire Next Year



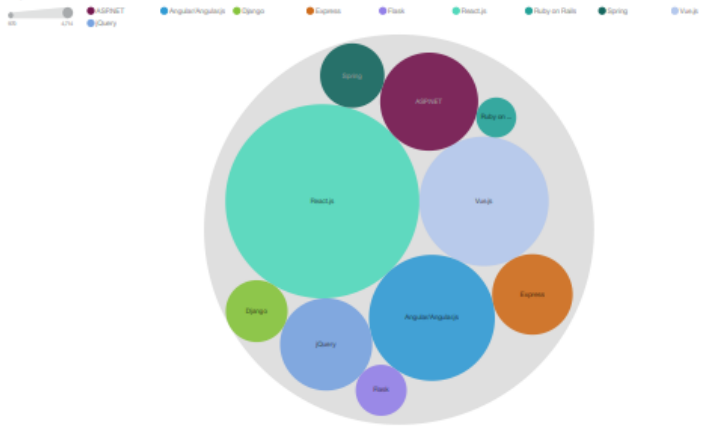
Top 10 Database Desire Next Year



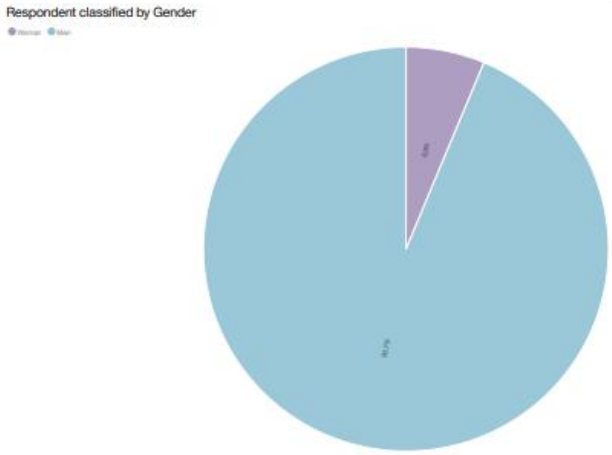
Platform Desire Next Year

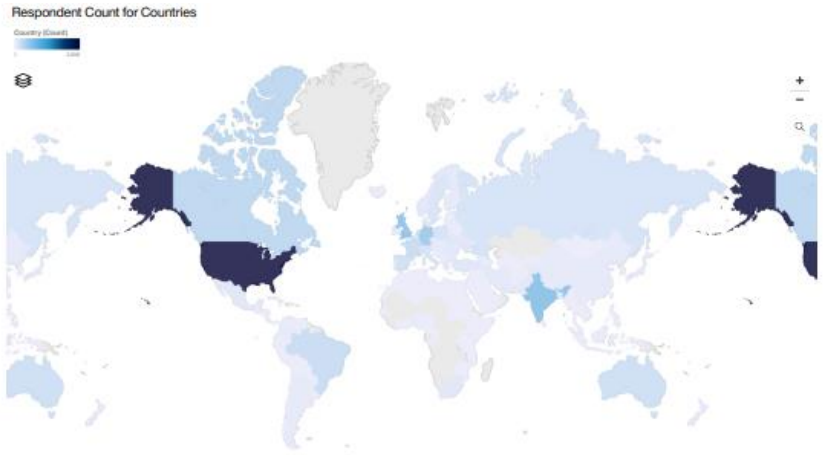


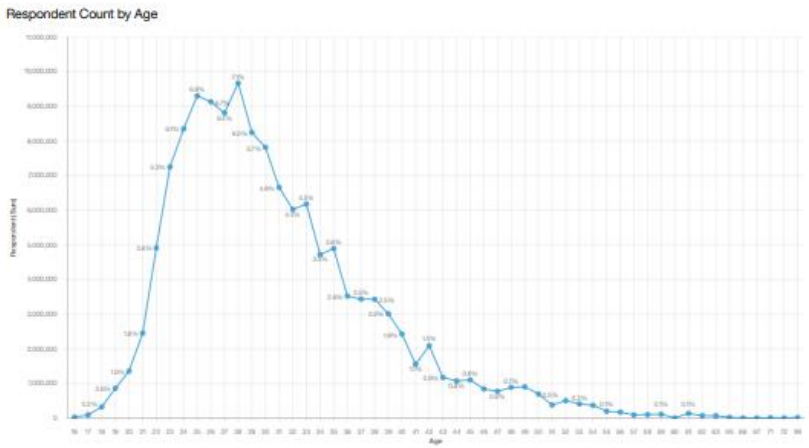
Top 10 Web Frame Desire Next Year

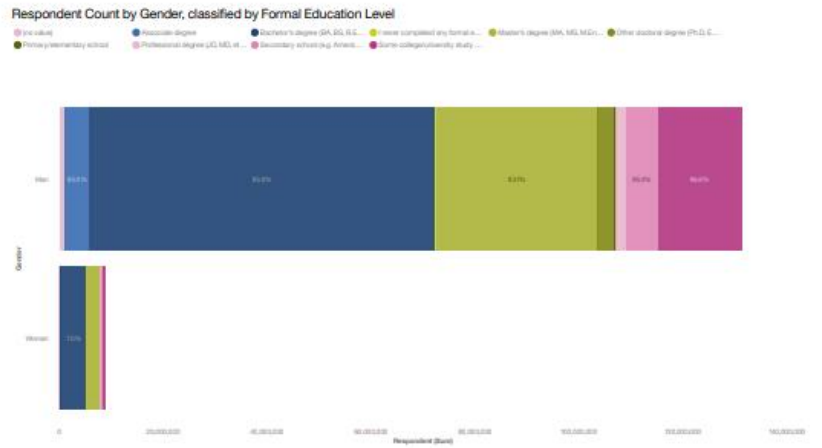


DASHBOARD TAB 3









DISCUSSION

- Technology Trends for now and future
- On-going trainings to keep the workfare in demand
- Eliminate age and education level gap in job recruitment

OVERALL FINDINGS & IMPLICATIONS

Findings

- Technology is ever-changing ever year.
- Gender gap in technical jobs
- Cloud based Platforms such as Docker and AWS are growing

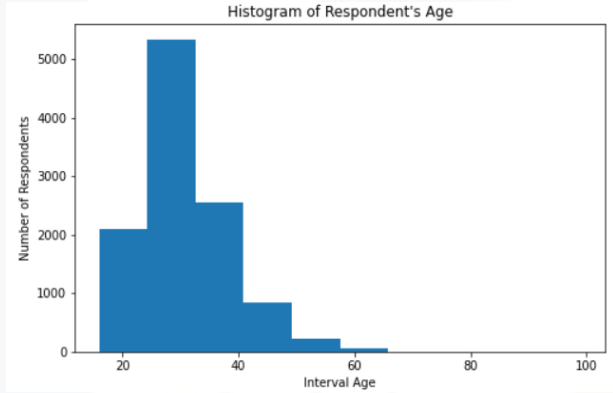
Implications

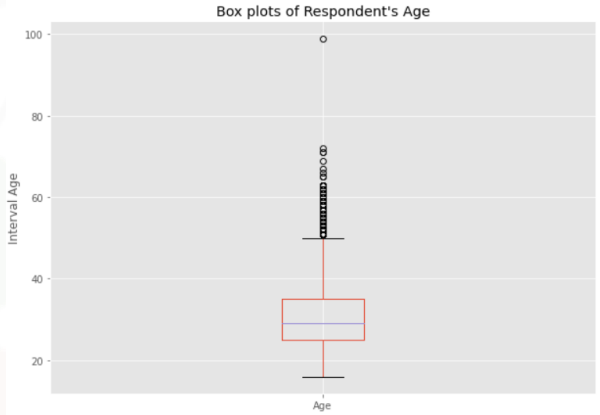
- Companies need to be open-minded and adaptable to changes.
- Impact to job hirings
- Shift to faster development by cloud services

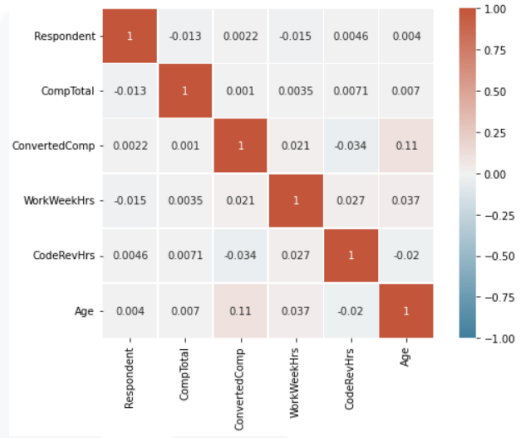
CONCLUSION

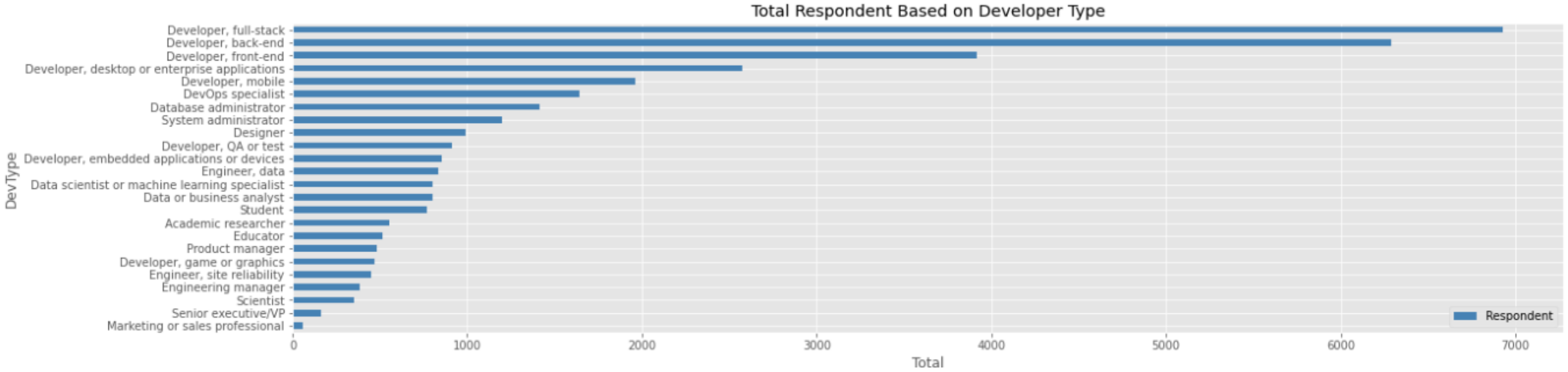
- Technology trends in software development for current and next year.
- Programming languages, Databases, Platforms and Web Frames Overview
- Demographics Overview
- Action to be taken to address the gender gap

APPENDIX





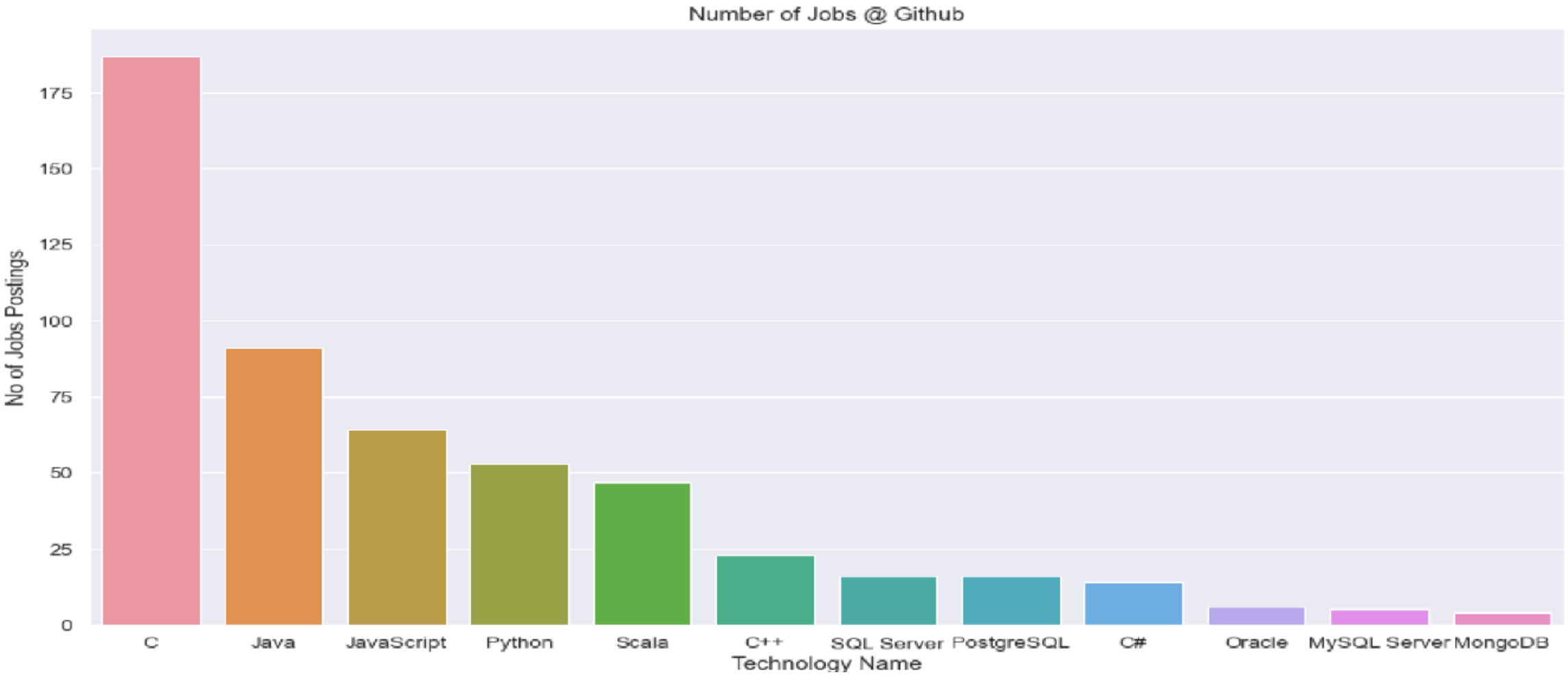
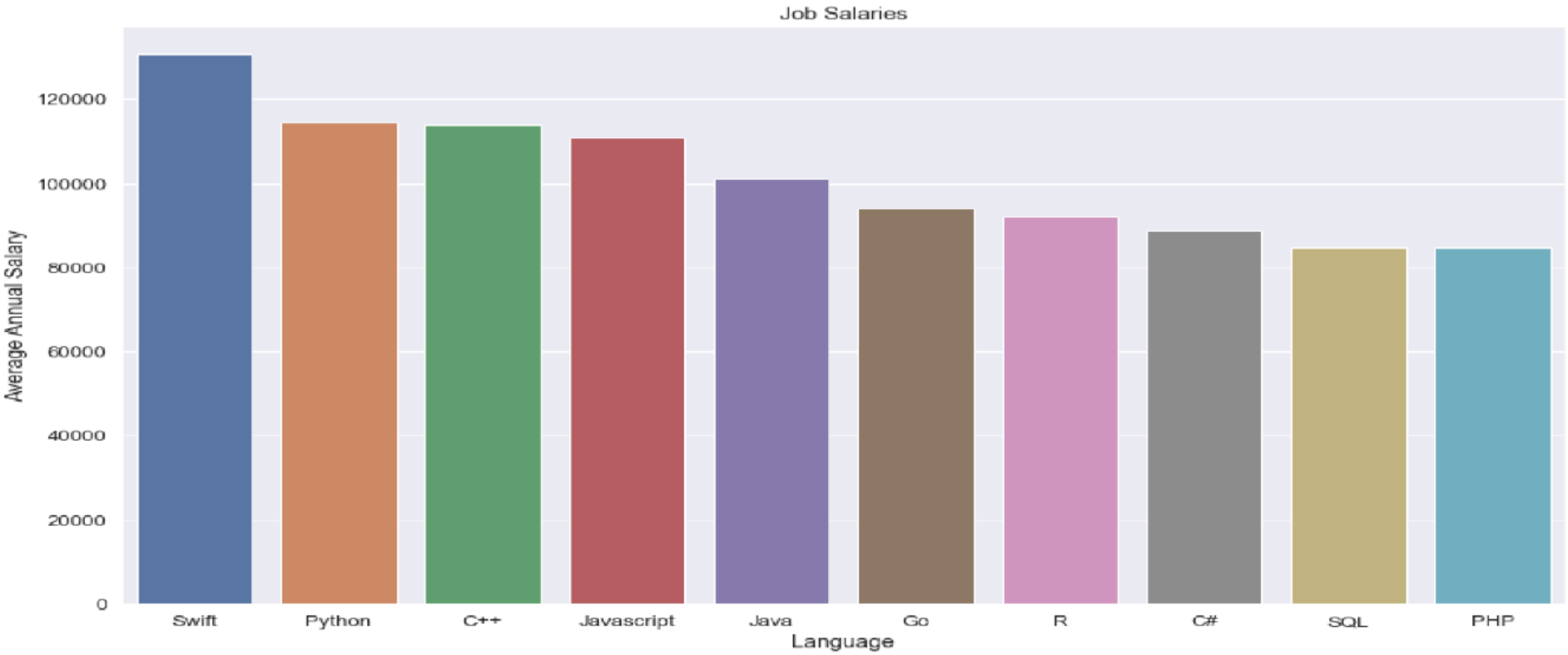




IBM Developer

SKILLS NETWORK

JOB POSTINGS



POPULAR LANGUAGES