Trends for Emerging Technologies

Christos Chatzidakis

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EXECUTIVE SUMMARY

- Top Languages, Databases, Platforms, Web Frames
  - PostgreSQL set to challenge the dominance of MySQL
  - Javascript on the top
  - Linux and Docker
  - The upward trend in jQuery
- The community of developers has a fairly young age average.
- They are predominantly male with undergraduate level of education or even without degree.
- Findings are geographically, fairly US-centric

INTRODUCTION

- The Data Analytics Team is analyzing several datasets to help identify trends for emerging technologies and support the corresponding decision making of the Board of Directors. Such insights and trends would be:
- What are the top programming languages that are in demand?
- What are the top database skills that are in demand?
- What are the most popular IDEs? and
- Demographic data like gender and age distribution of developers.

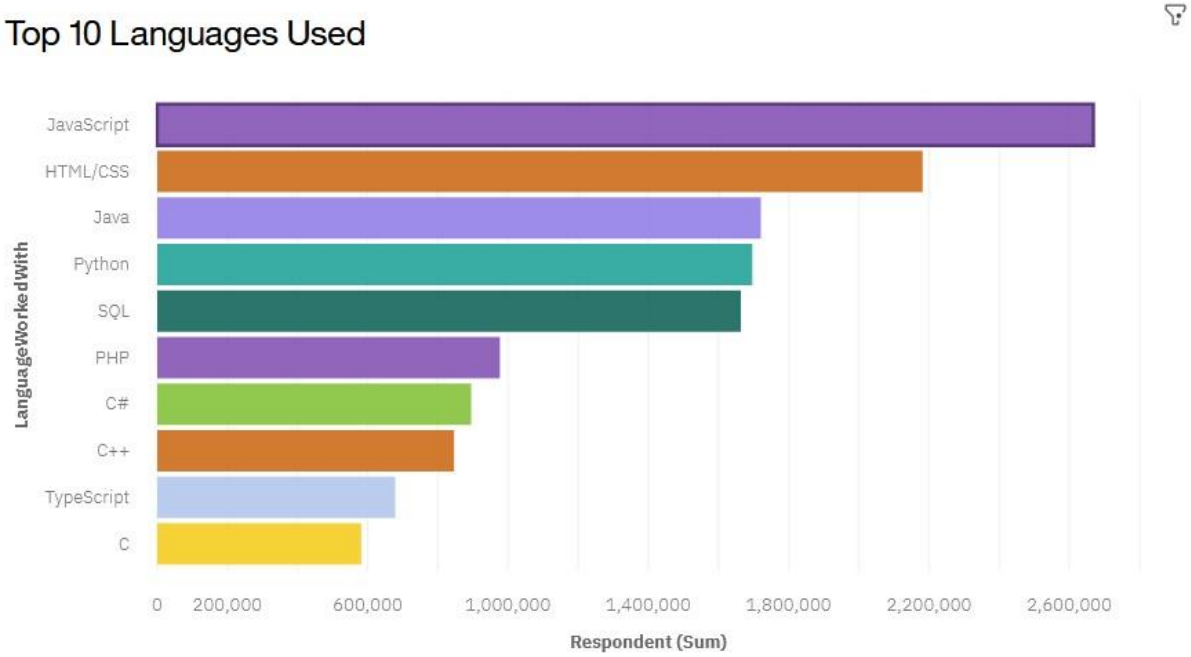
METHODOLOGY

- Collected the top programming skills from:
  - Job postings
  - Training portals
  - Surveys
- Data Collection Using APIs/Webscraping
- Data Wrangling
  - Finding/Determining Missing Values
  - Finding/Removing Duplicates
  - Normalizing Data
- Exploratory Data Analysis
  - Distribution
  - Outliers
  - Correlation
- Data Visualization
  - Visualizing Distribution of Data
  - Relationship
  - Composition
  - Comparison

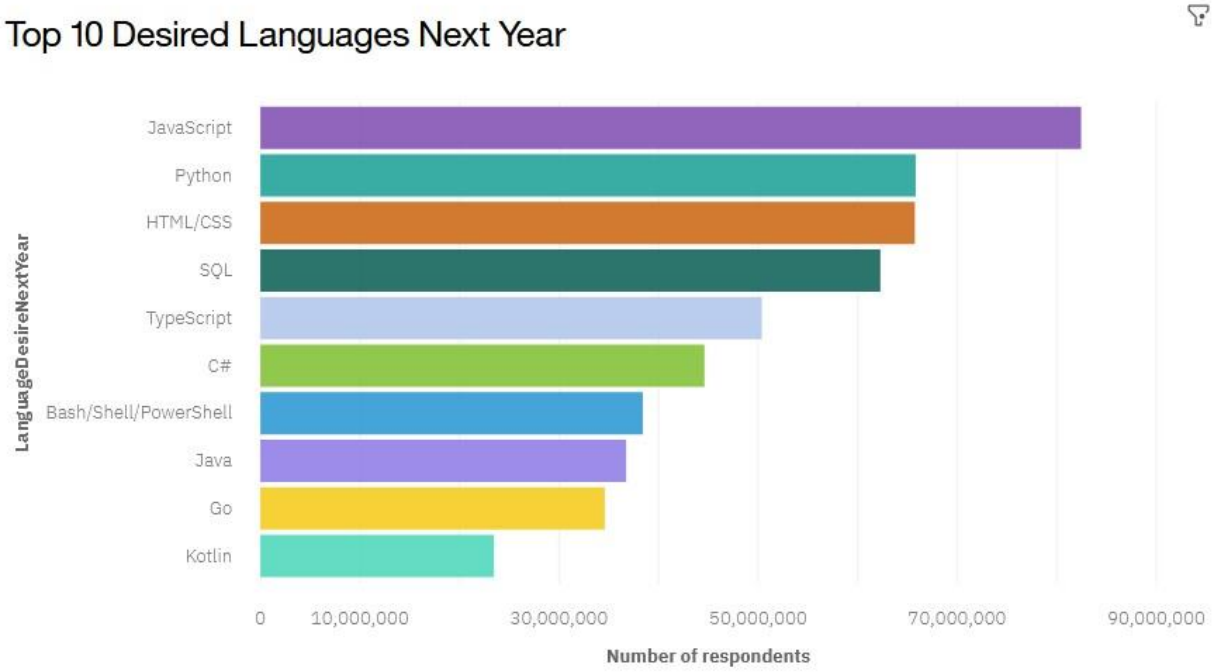
RESULTS

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

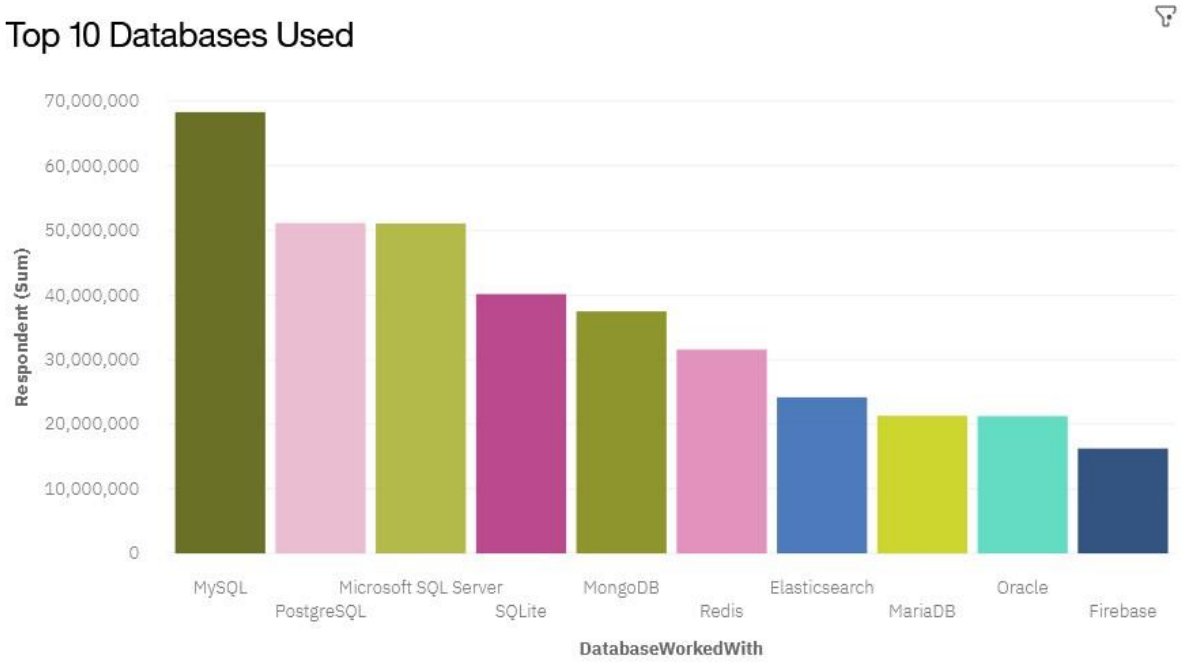
- Top 3 – Javascript, HTML/CSS, Java
- Noticeable upward trend for Python and Typescript
- Upcoming Bash/Shell/Powershell and Go

Implications

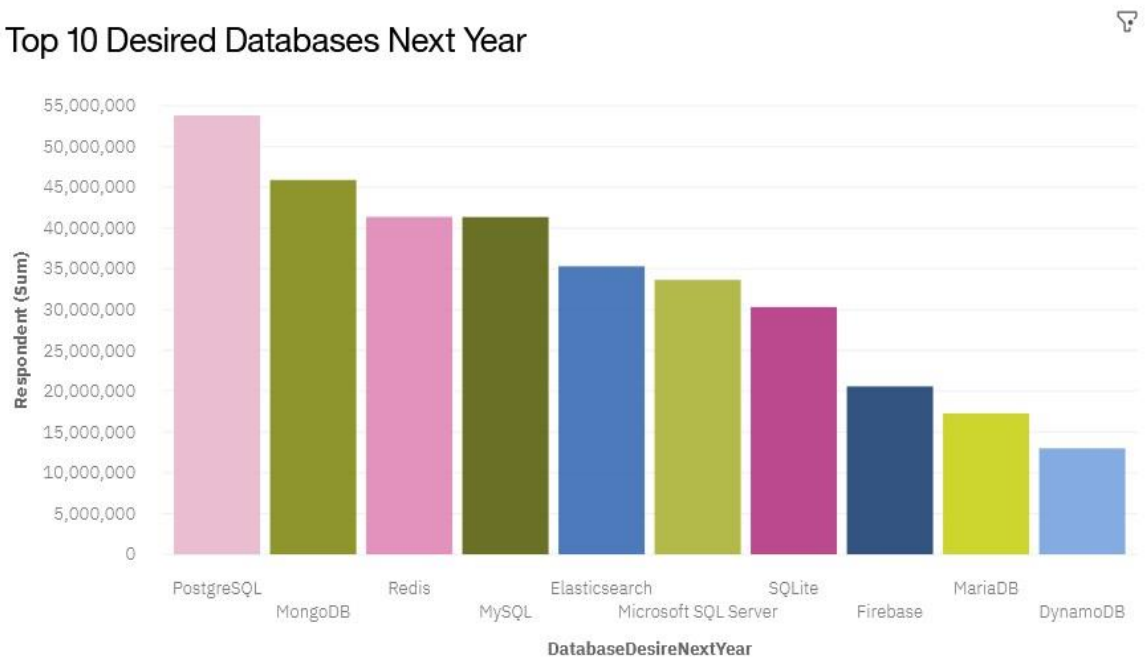
- Javascript to remain by far the most popular
- Python about to replace Java in the top 3

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Top 3 – MySQL, PostgreSQL, Microsoft SQL Server
- My SQL diminishing popularity
- PostgreSQL with increasing interest

Implications

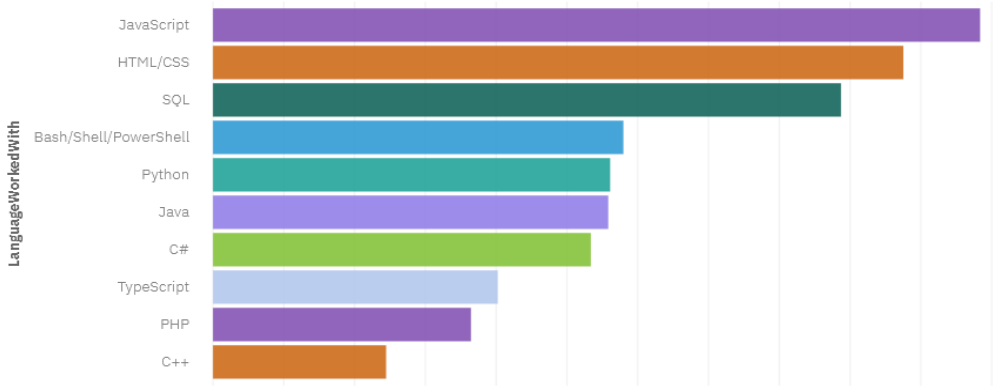
- PostgreSQL to challenge MySQL as the top Database
- Redis and MongoDB to increase their current numbers significantly

DASHBOARD

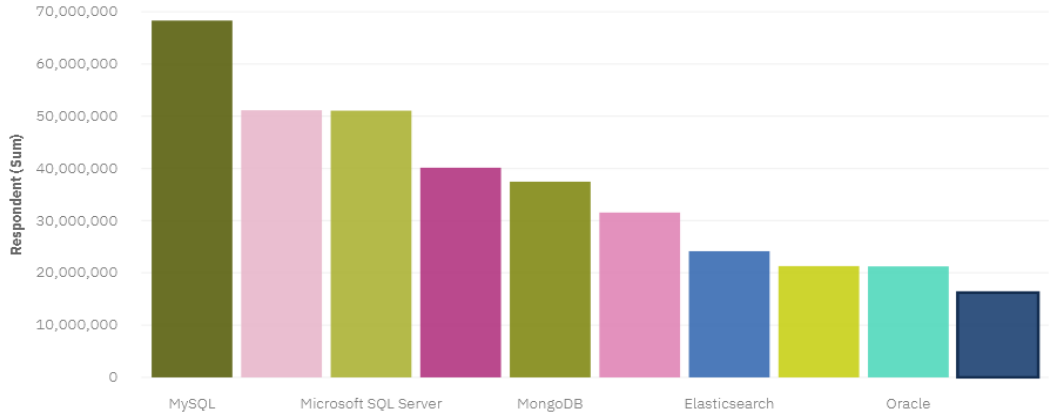
https://eu-de.dataplatform.cloud.ibm.com/dashboards/31b48c90-5ffa-47b4-a029-7cfeacde0f59/view/5b7baa3c23b111c56bfcc0e407992e5428337158b3bb8003d1827b4906327197a83a1698c82b1a08d8155162f4ea175bcf

Current Technology Usage

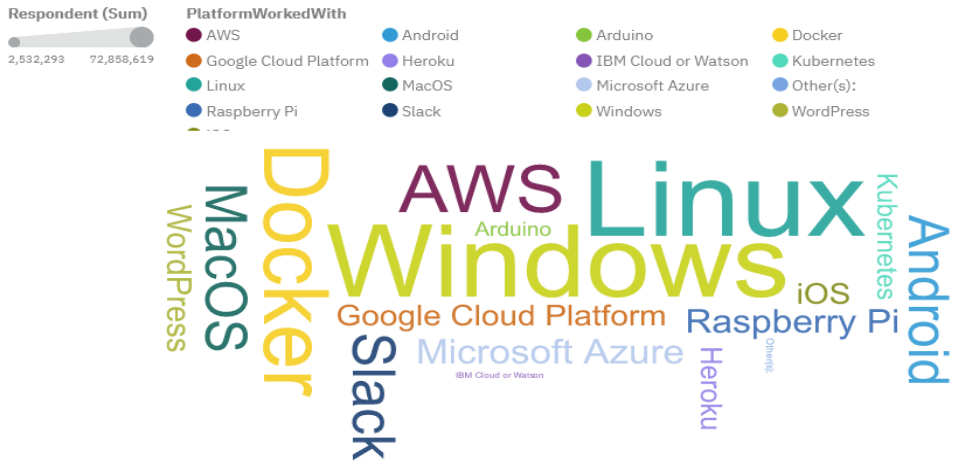
Top 10 Languages Used



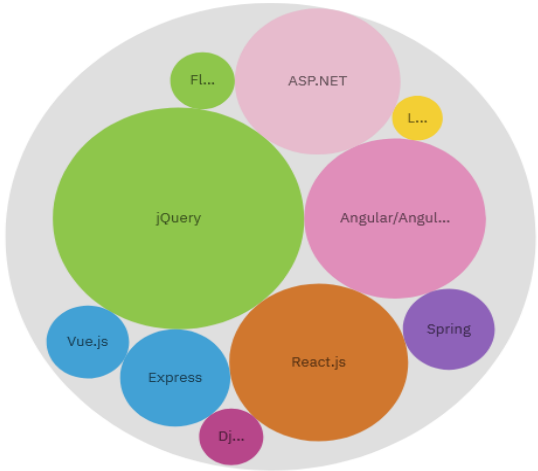
Top 10 Databases Used



Platforms Used



Top 10 Web Frames Used

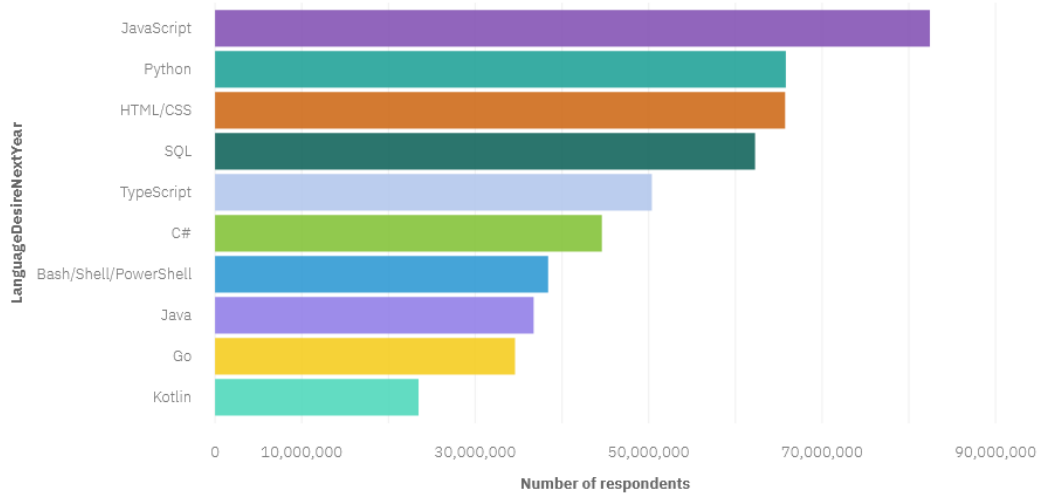


IBM Developer

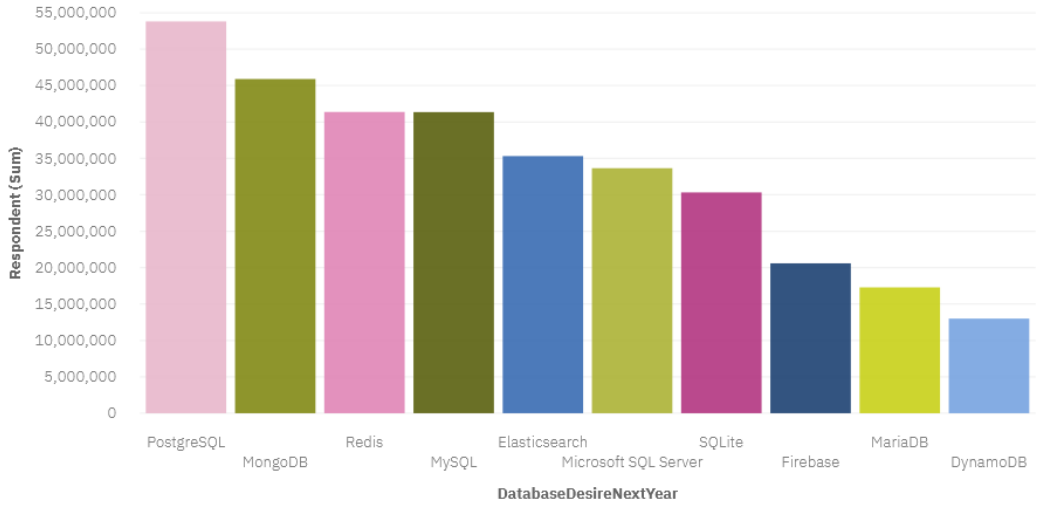
SKILLS NETWORK

Future Technology Trend

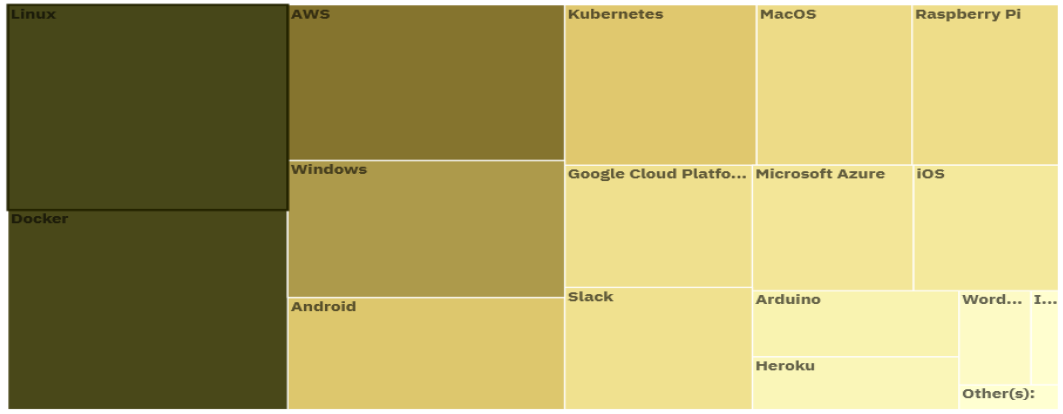
Top 10 Desired Languages Next Year



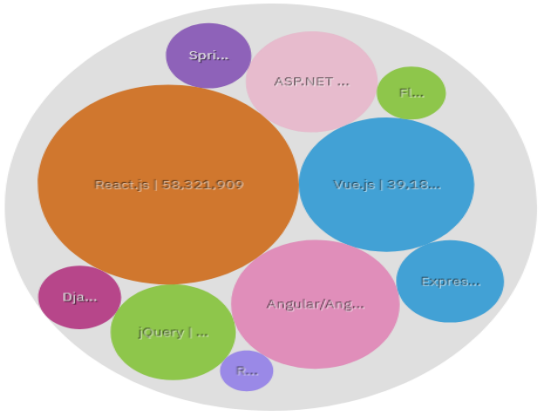
Top 10 Desired Databases Next Year



Desired Platforms Next Year



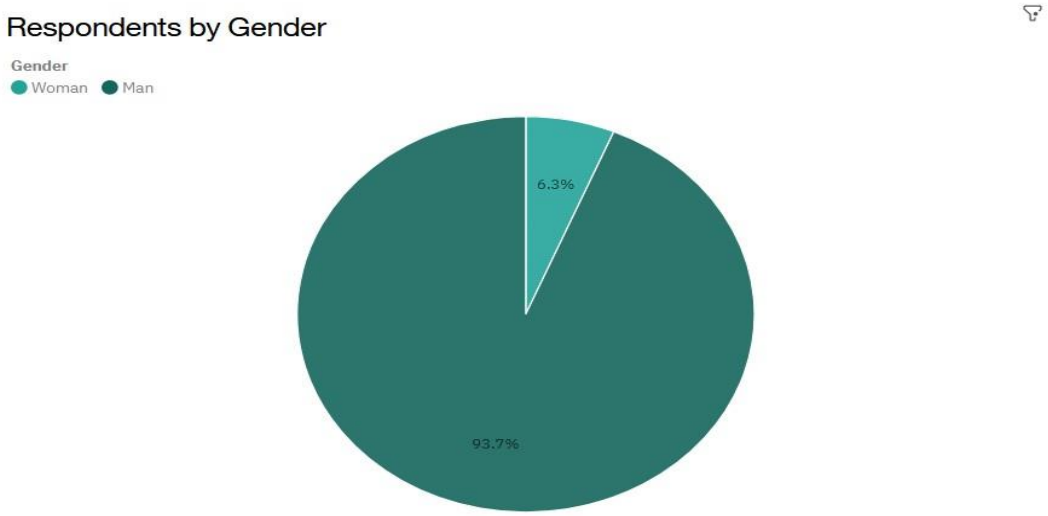
Top 10 Desired Web Frames Next Year

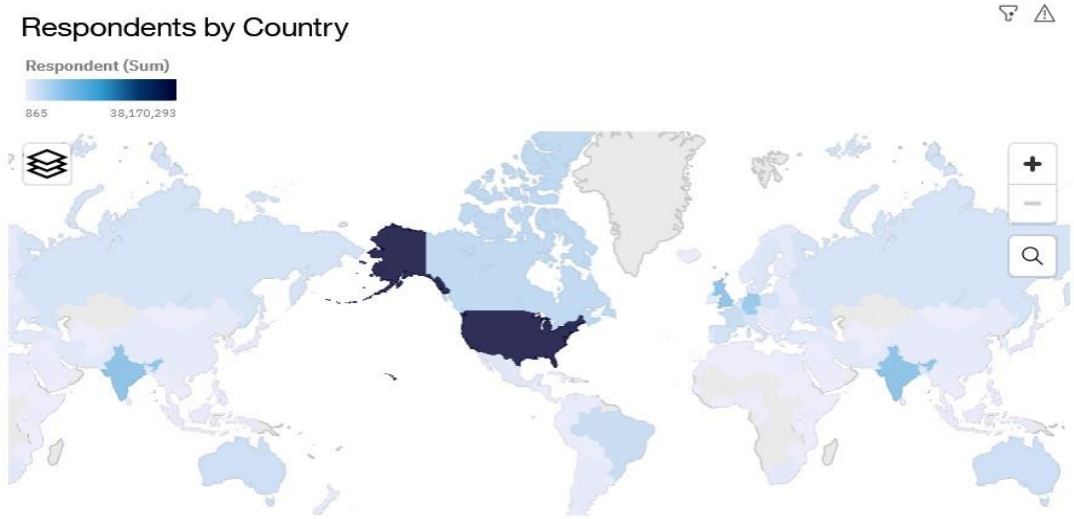


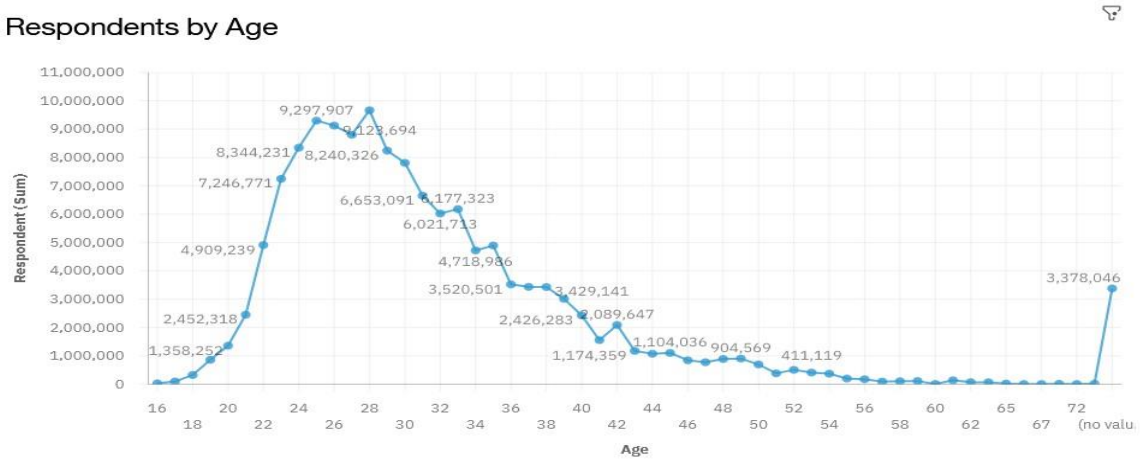
IBM Developer

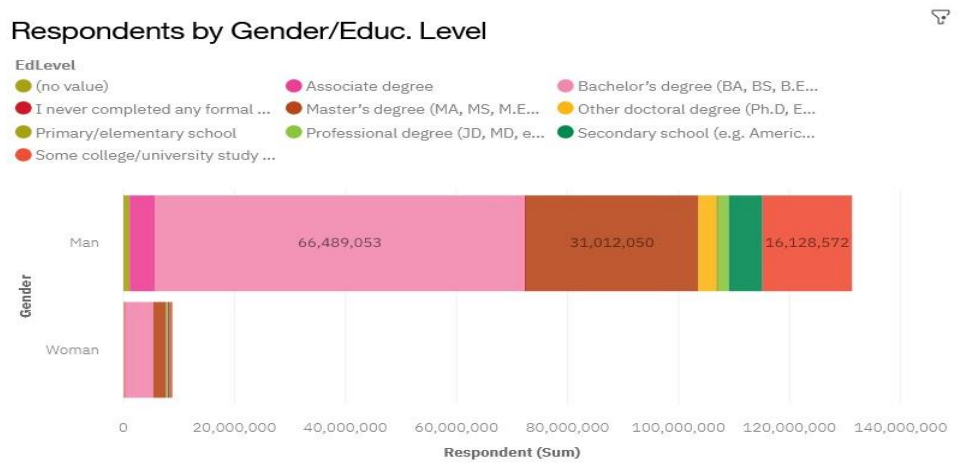
SKILLS NETWORK

Demographics









DISCUSSION

OVERALL FINDINGS & IMPLICATIONS

Findings

- Javascript, HTML/CSS & PostgreSQL, MySQL most popular in their fields respectively
- Big portion being in the field with a bachelor degree or even no degree at all
- The community of developers is largely male between the age of 25 and 30

Implications

- It’s a dynamic area as the dominant languages and database may change if the identified trends turn out to be long term.
- Stepping in the developing community does not necessarily require over the top studies
- The demographics clearly describe the type of person that will determine the future course of the field

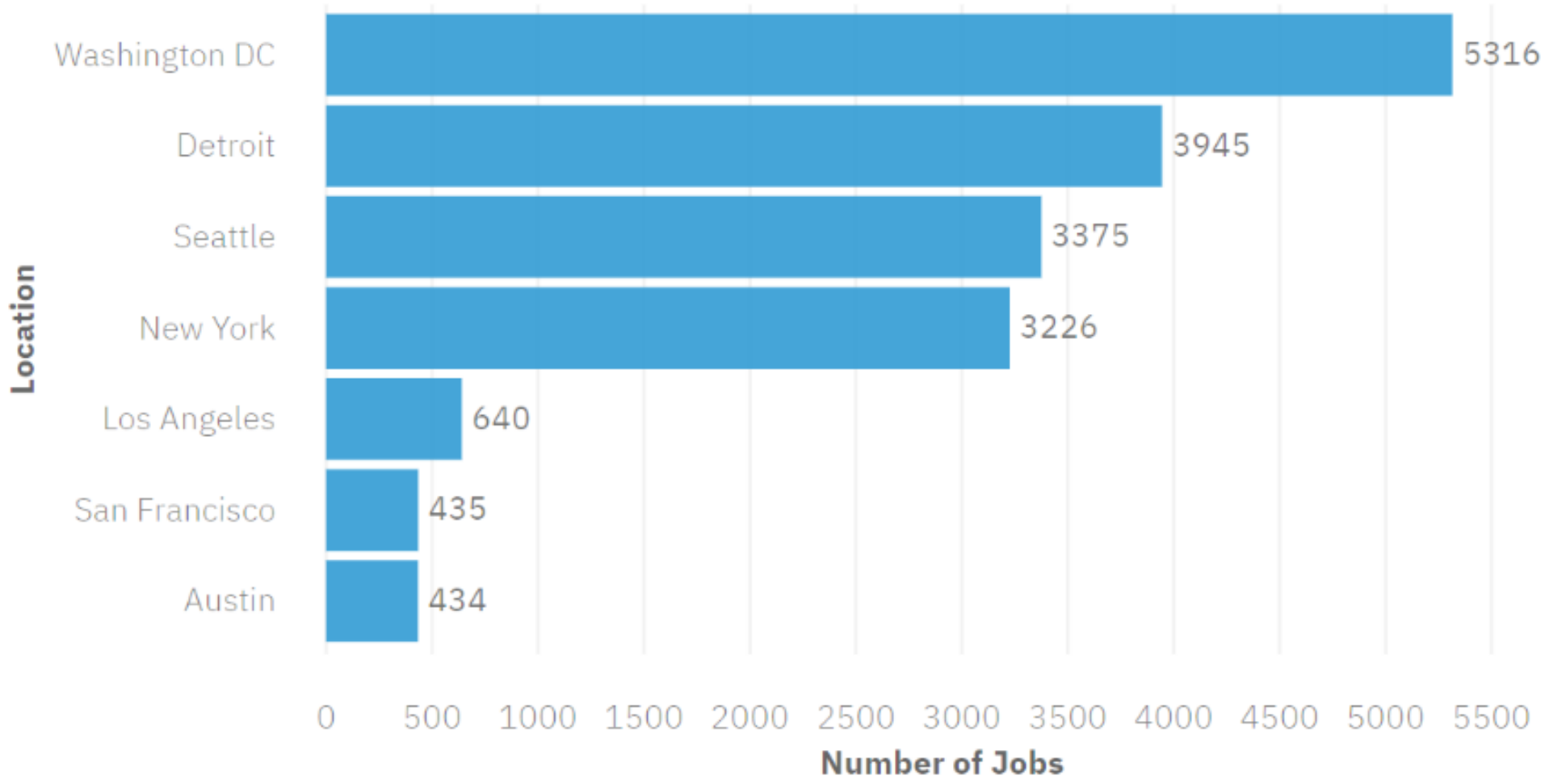
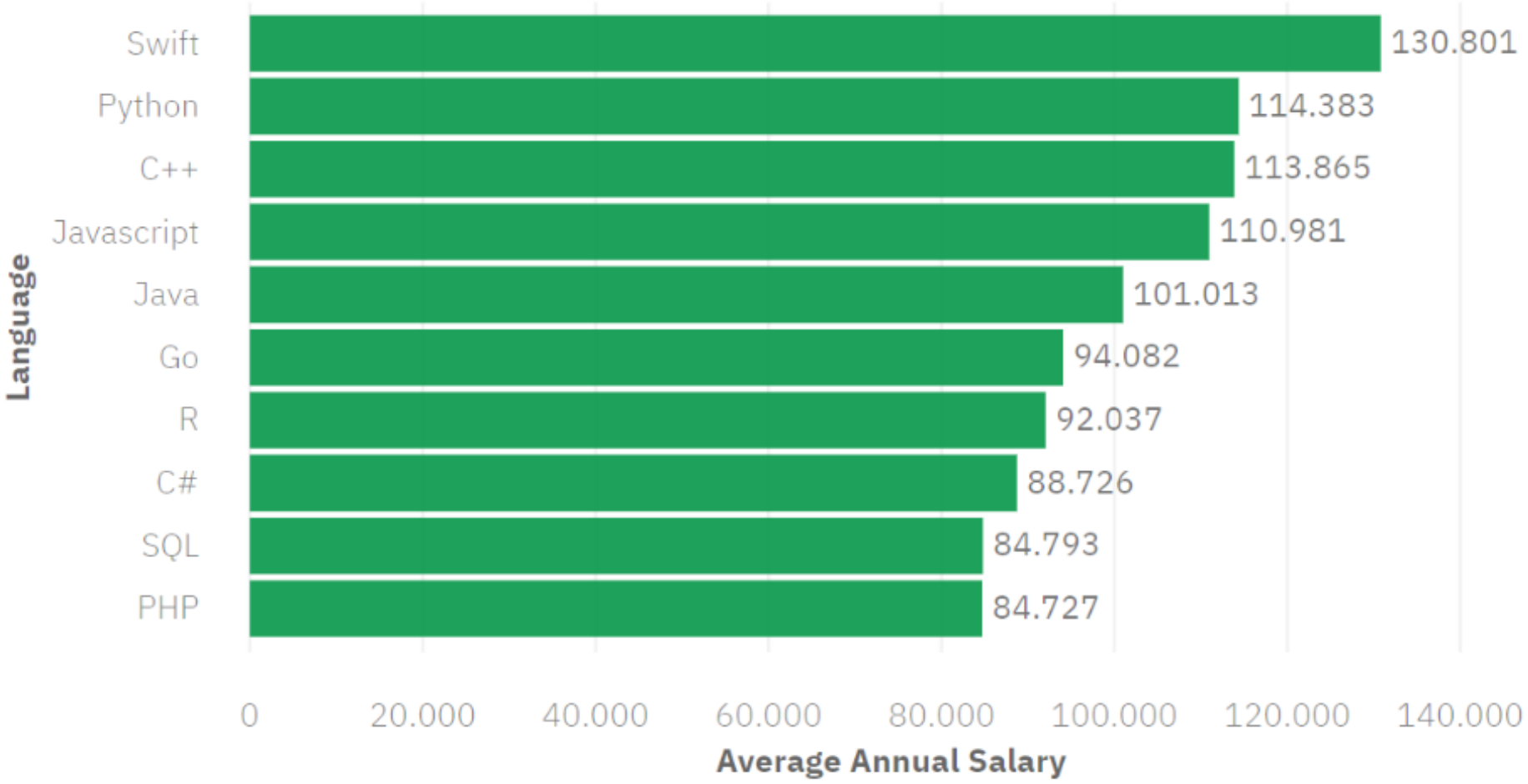
CONCLUSION

- The examined timeframe spans across this year and the next one therefore the trends do not lead to long term conclusions.
- The findings are solid though in terms of the dominant languages, databases, platforms and web frames.
- The above findings are not to be interpreted as global trends as US respondents are proportionately higher.

APPENDIX

A closer look at the US market. Findings from the US job postings data.

JOB POSTINGS



POPULAR LANGUAGES