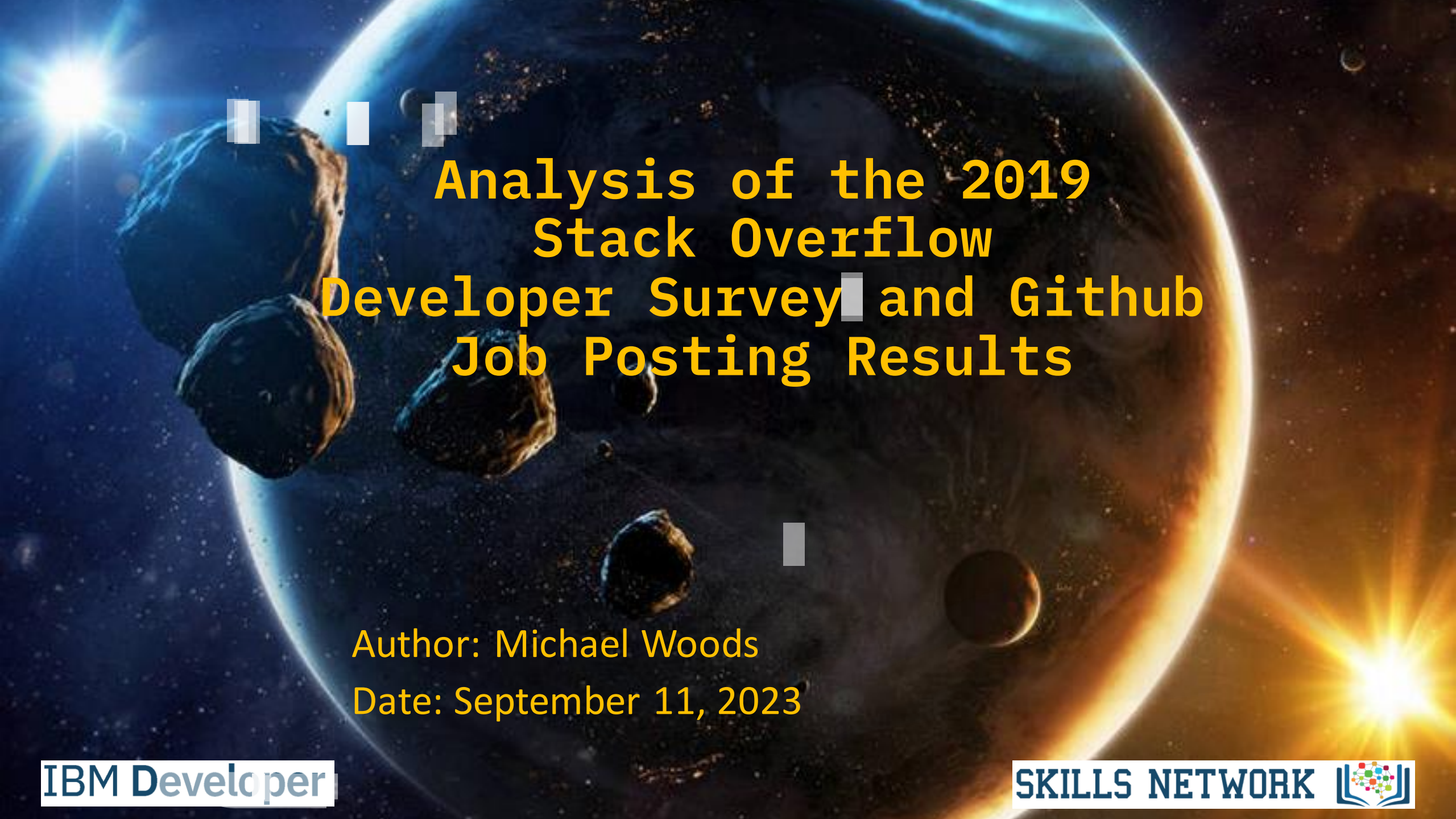

Analysis of the 2019 Stack Overflow Developer Survey and Github Job Posting Results

Author: Michael Woods

Date: September 11, 2023

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OUTLINE

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

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EXECUTIVE SUMMARY

- JavaScript is a Top Language
- MYSQL is a Top Database
- Python is a Top Language to Learn
- Job Posting Key Skills do not correlate
  - C is not a common language used
- Human Resources needs better inter department communication

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INTRODUCTION

- The analysis of the datasets gives a view of the top languages and databases that respondents use in their current jobs. These datasets also give a picture of what the respondents think are going to be languages and datasets that they will need to use or interested to learn in the future. The job posting and language dataset from Github jobs shows us what language/key skills employers are looking for in their job postings.

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RESULTS

The results are that learning Javascript, HTML, MYSQL, PostgreSQL, are computer language skills that are in great demand and currently being used in many jobs. The results of what respondents want to learn in the future such as Python, MongoDB and Redis point towards a trend that those languages are going to be sought after by employers in the future. This may be proven by the average annual salary for Python being very high and second only to Swift. MongoDB is also a top key skill in job postings which may also be pointing towards more use by companies.

METHODOLOGY

- The data was either scraped or imported
- The data was cleaned/transformed
  - Duplicates dropped
- The data was studied and split into relevant graphs
- Correlations were calculated

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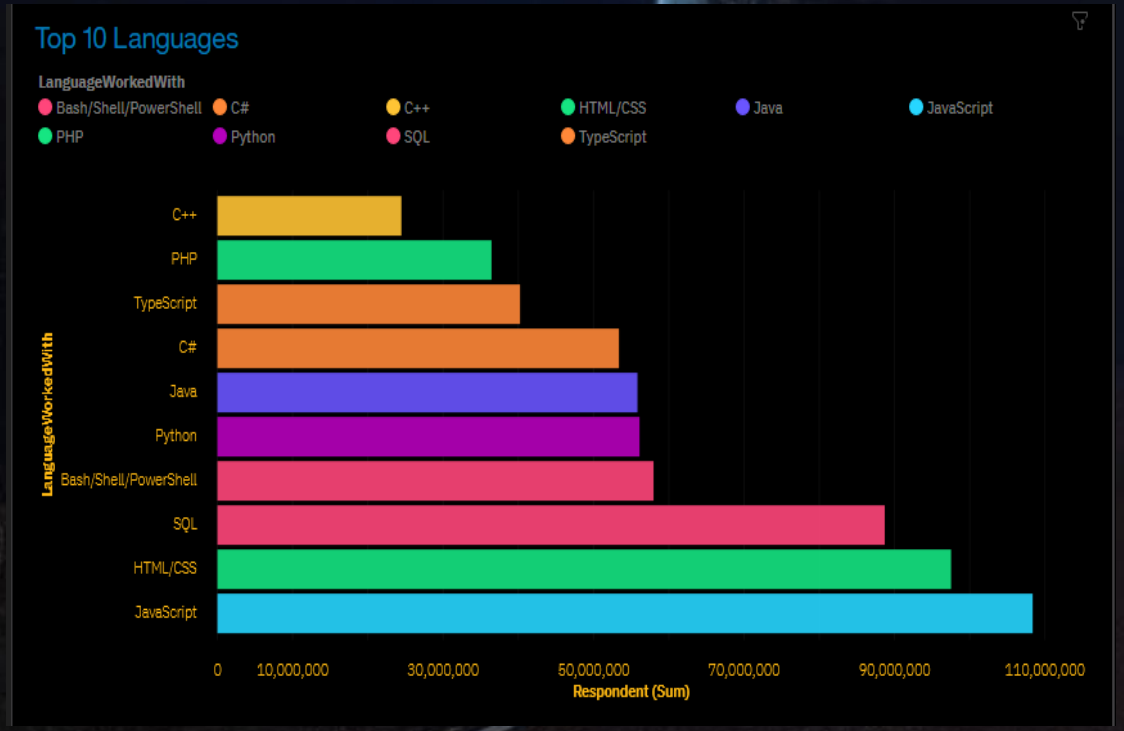
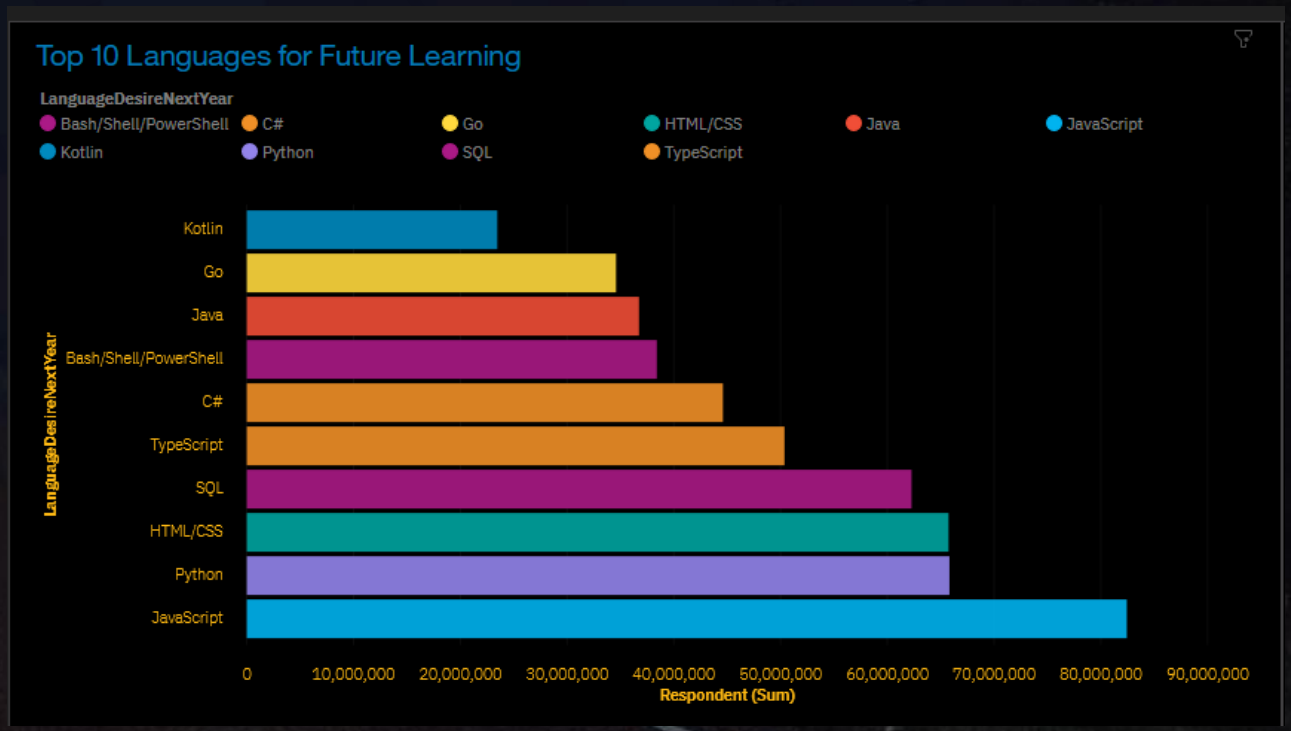
PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



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PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

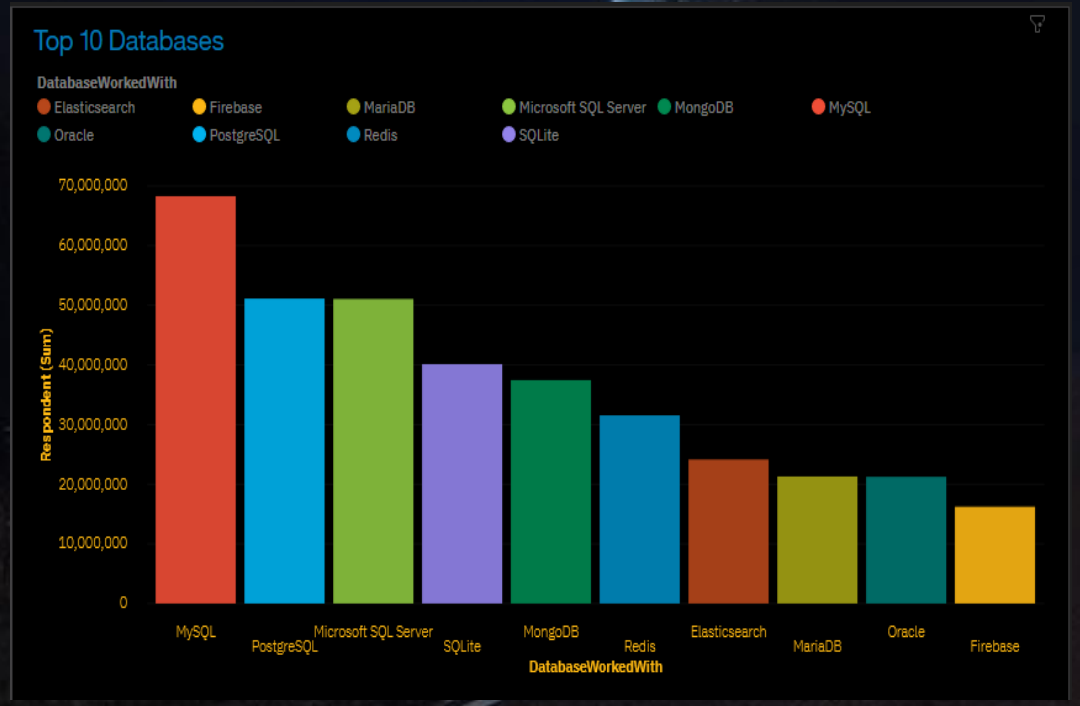
- Javascript is the top language used
- Javascript is the top language for other respondents to learn
- Python is a top language to future learn

Implications

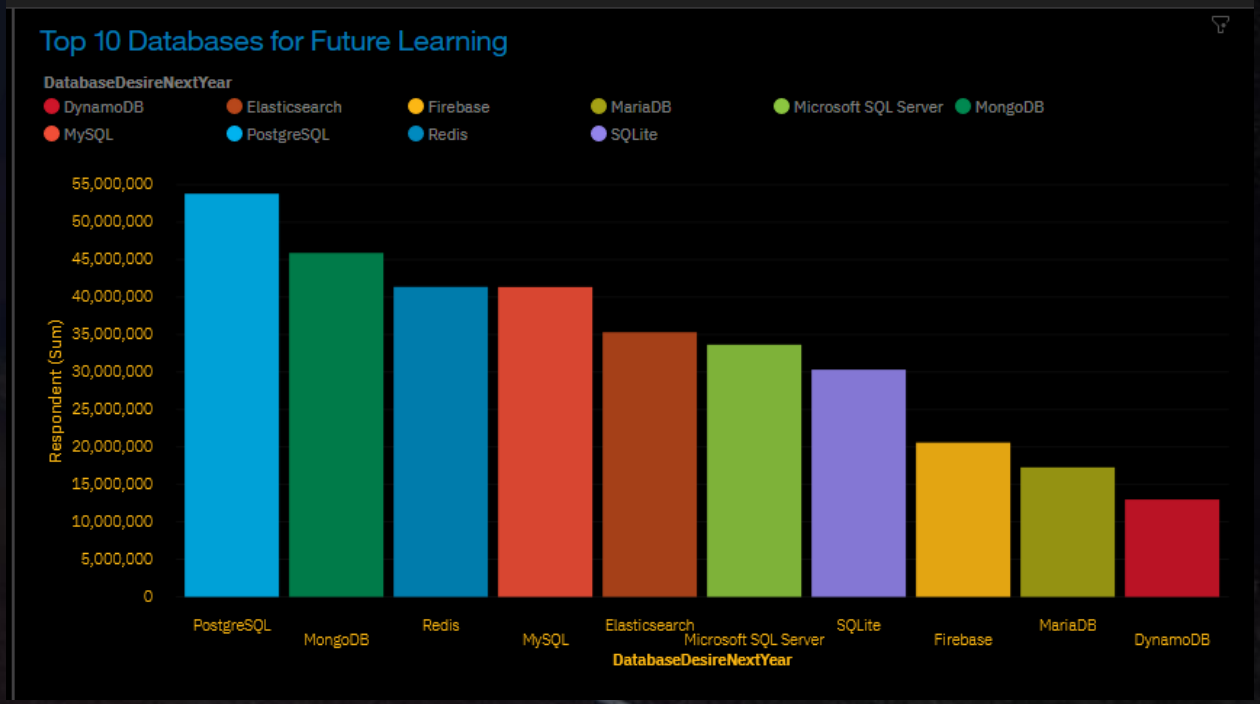
- Javascript should continue to be learned by most respondents
- Javascript should continue to be a future language to learn
- Respondents see a future use in Python

DATABASE TRENDS

Current Year



Next Year



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DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

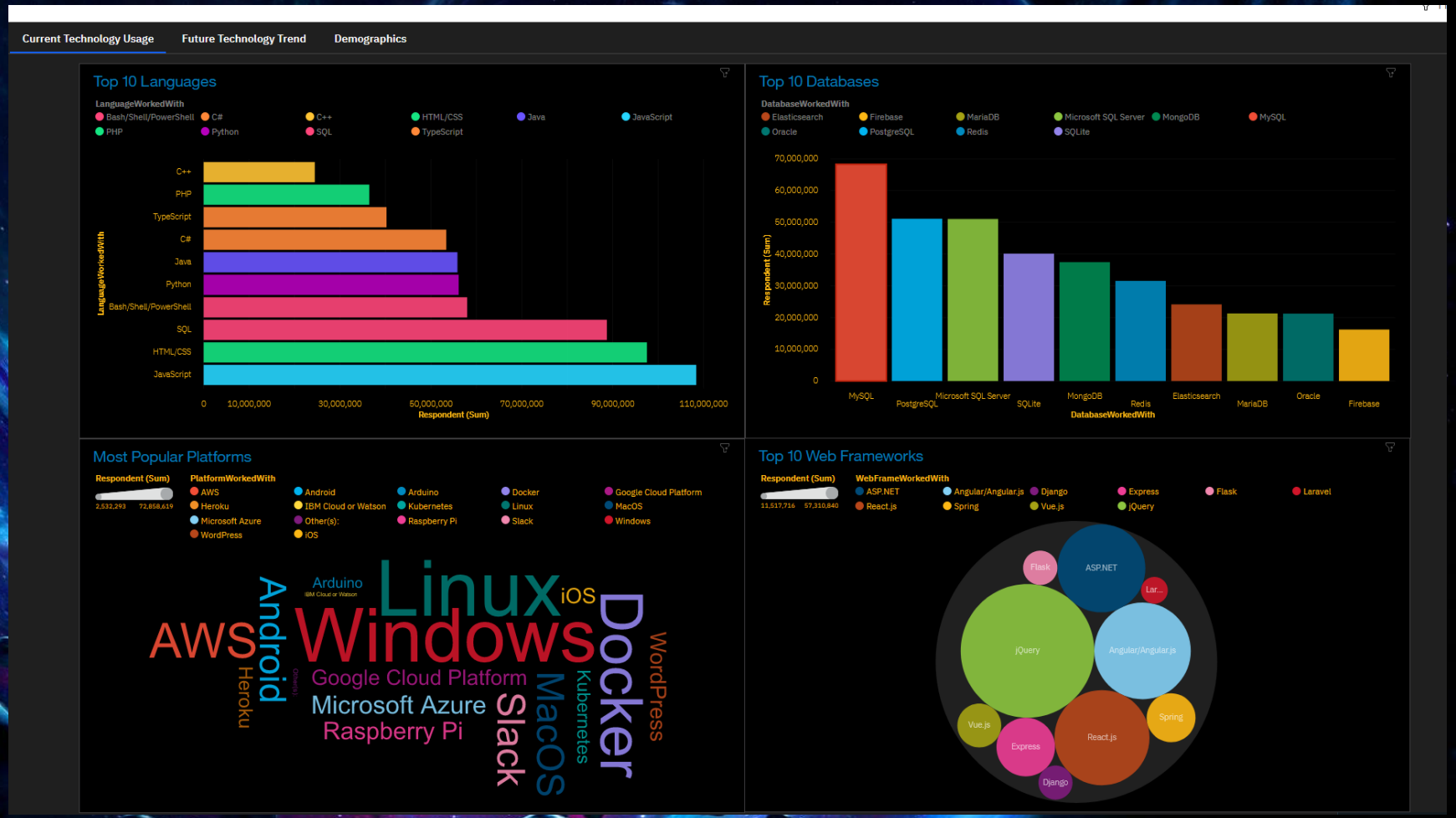
- MYSQL is the most used database
- PostgreSQL is the top database for future learning
- MongoDB and Redis are the 5 and 6 most used databases

Implications

- Respondents responses toward learning PostgreSQL are as it's the second most popular database language
- MYSQL is 4th on the list to learn even though it's the most used database language
- Respondents may be seeing a future use for MongoDB and Redis in the job market

Follow the link to view the Interactive Dashboard

https://dataplatform.cloud.ibm.com/dashboards/709f5d69-2e20-4f24-ad7f-b305c8f5b7d8/view/771ac02c60e812fc41f5dce407c82e557465230ce0bb8407d5877b4959667097a9601297c87d1a59de405130f6ea115ec1



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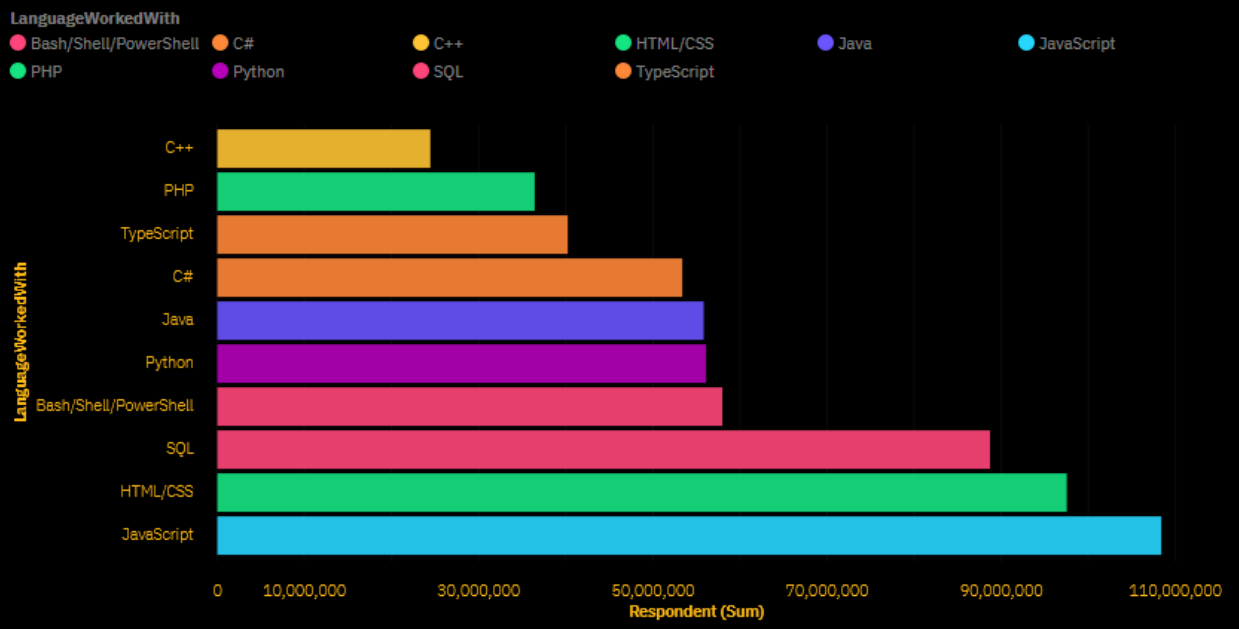
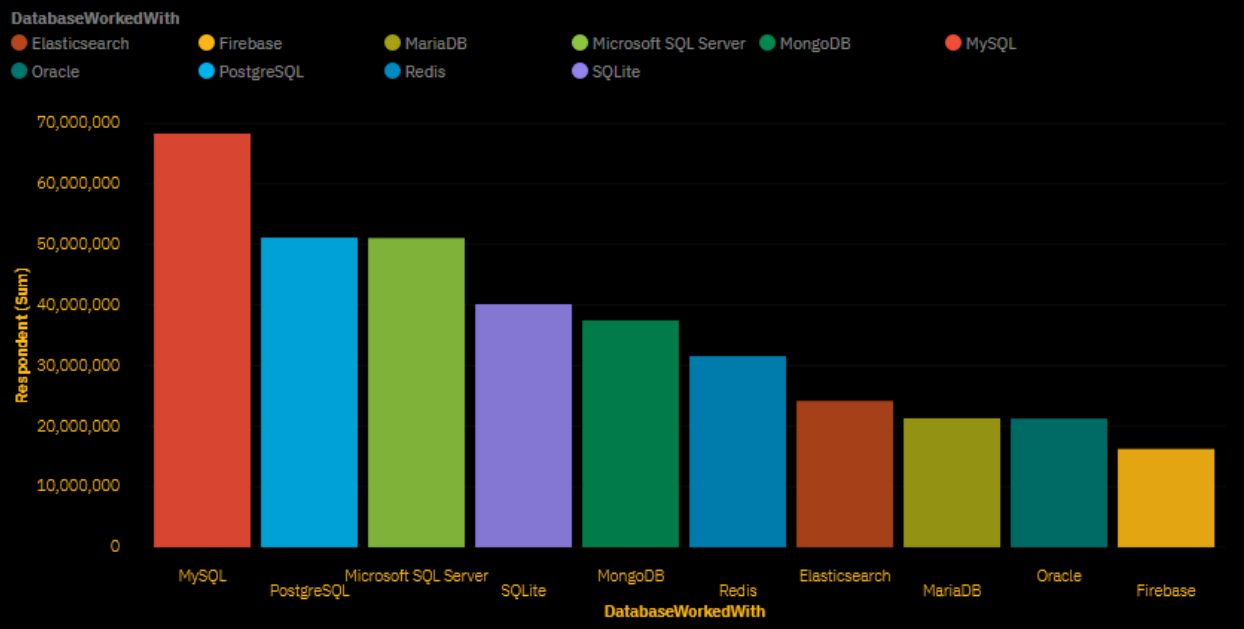
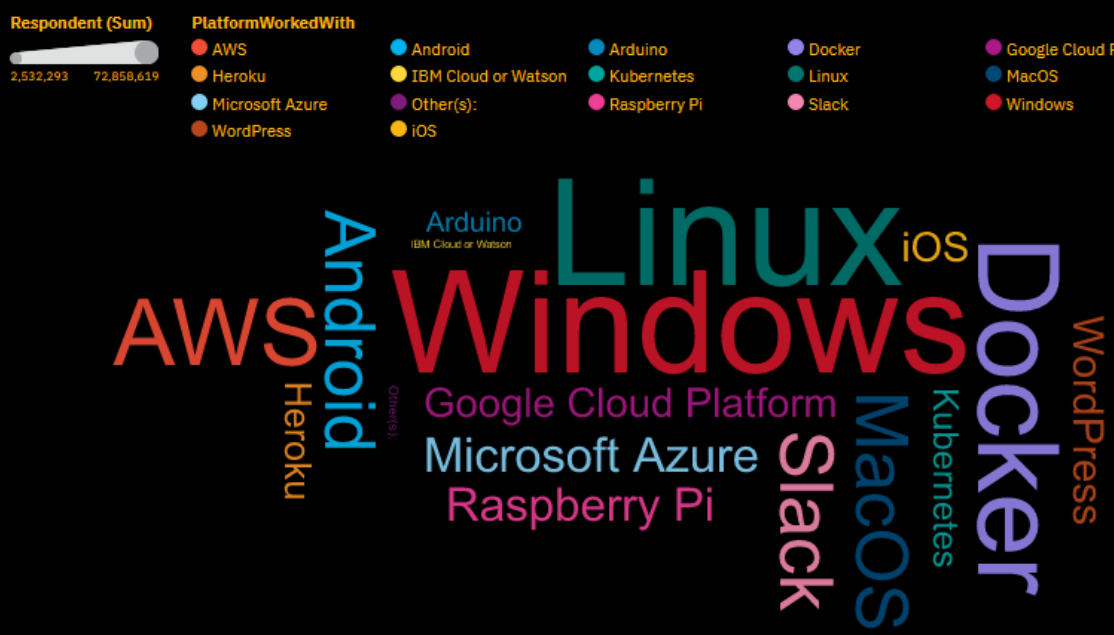
Top 10 Languages



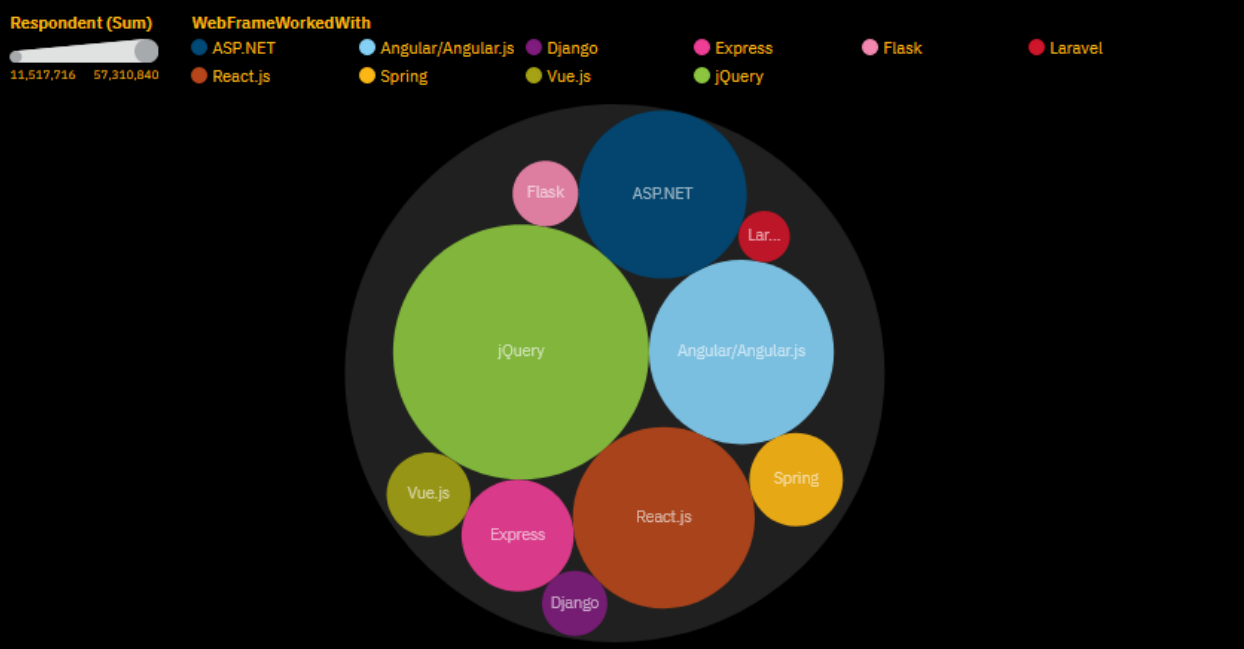
Top 10 Databases



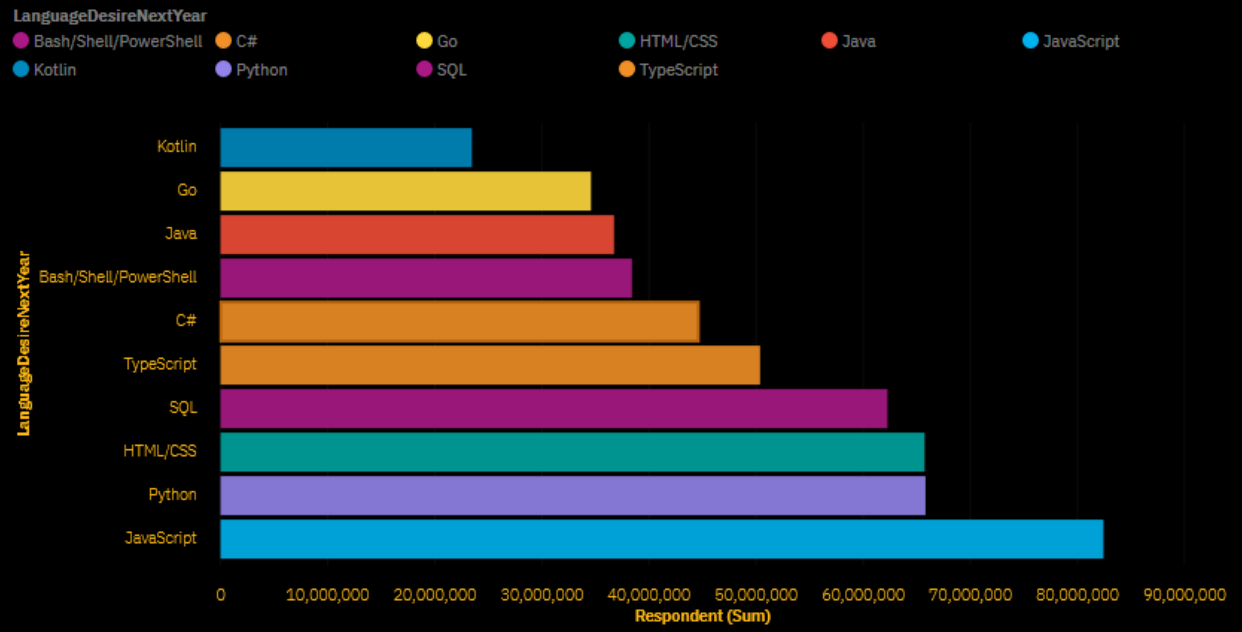
Most Popular Platforms



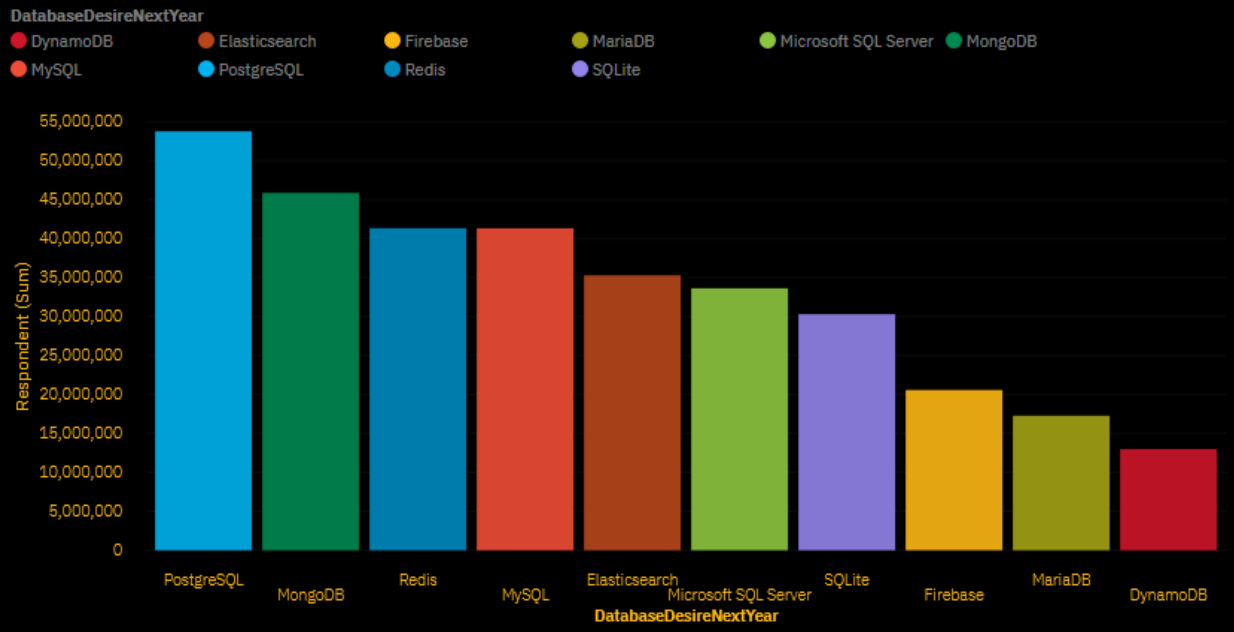
Top 10 Web Frameworks



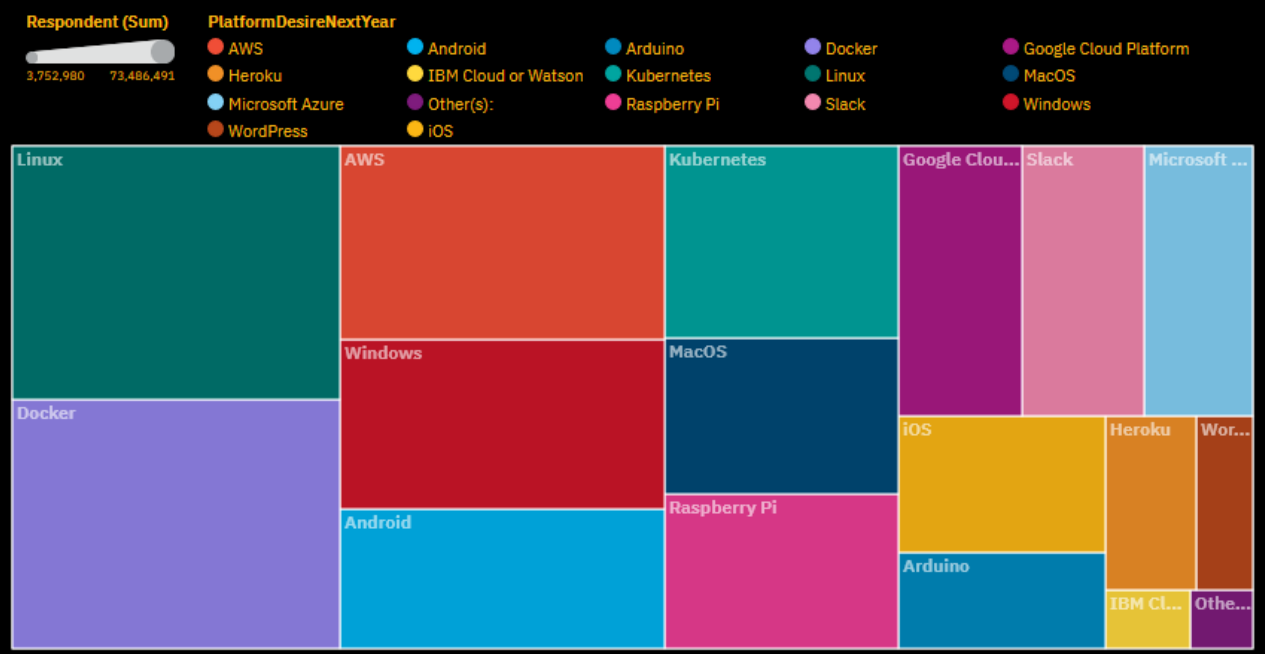
Top 10 Languages for Future Learning



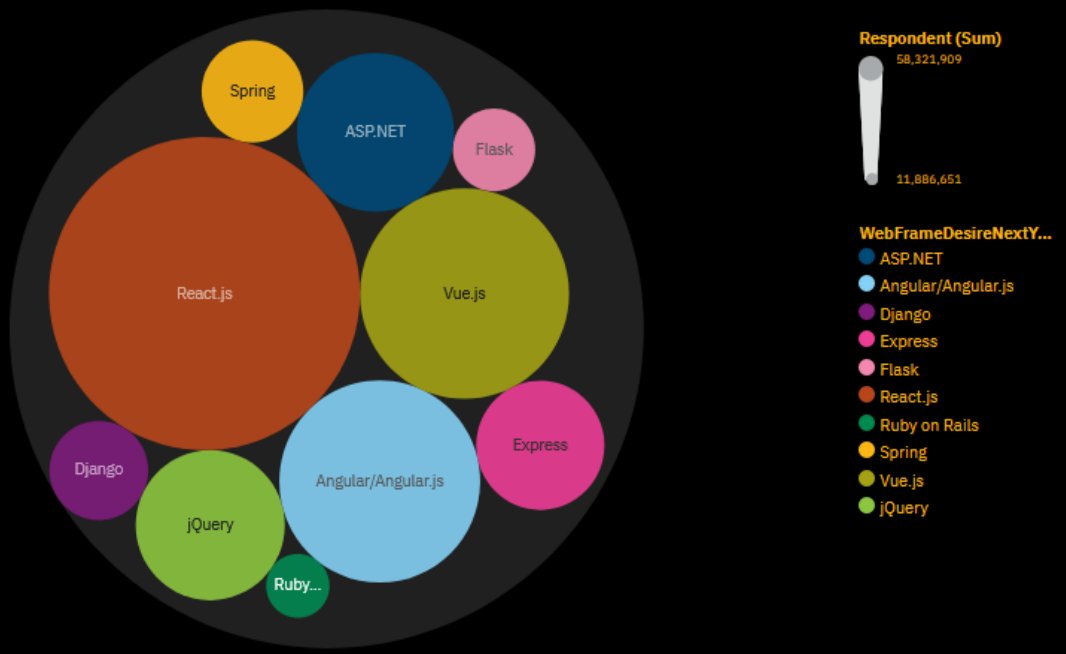
Top 10 Databases for Future Learning



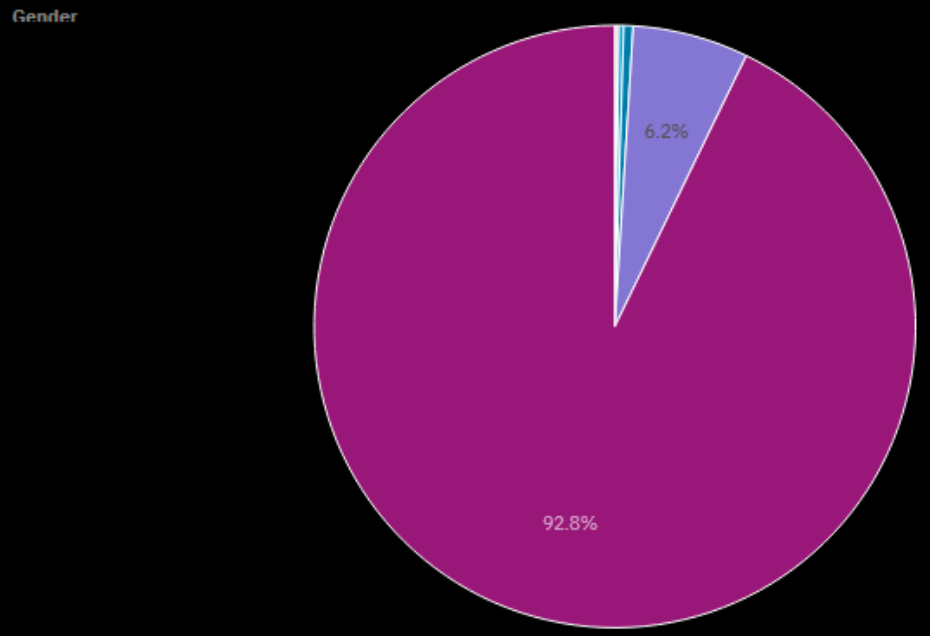
Platform Desire in a Year



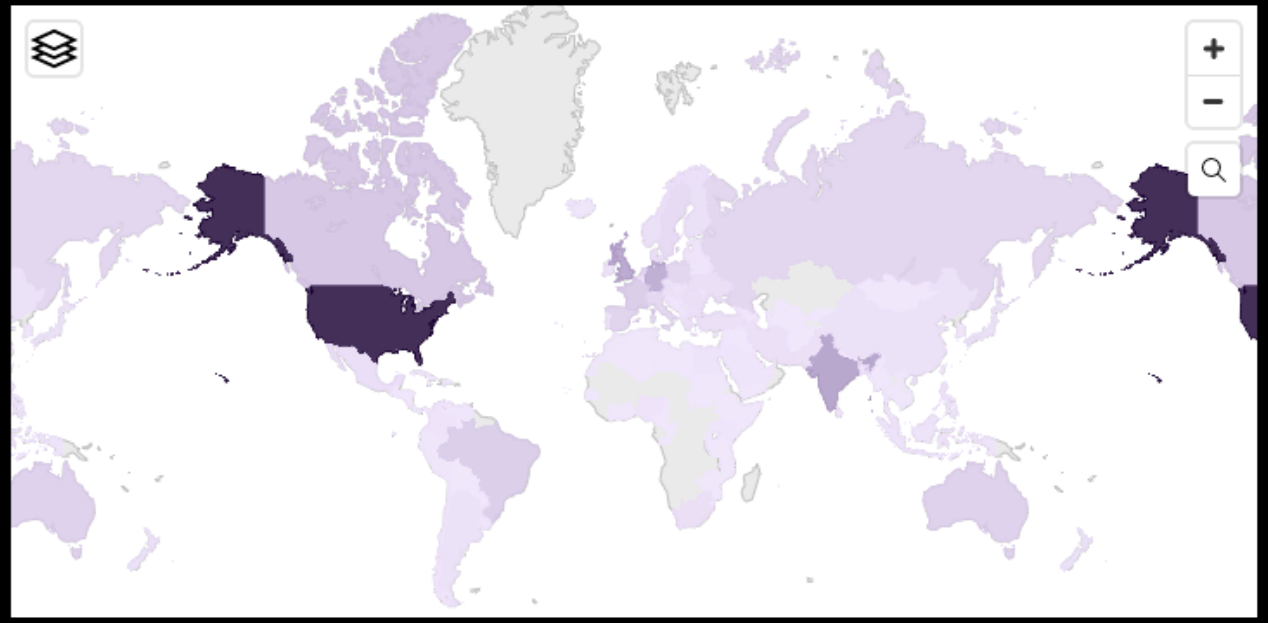
Top 10 Web FrameWorks for Future Learning



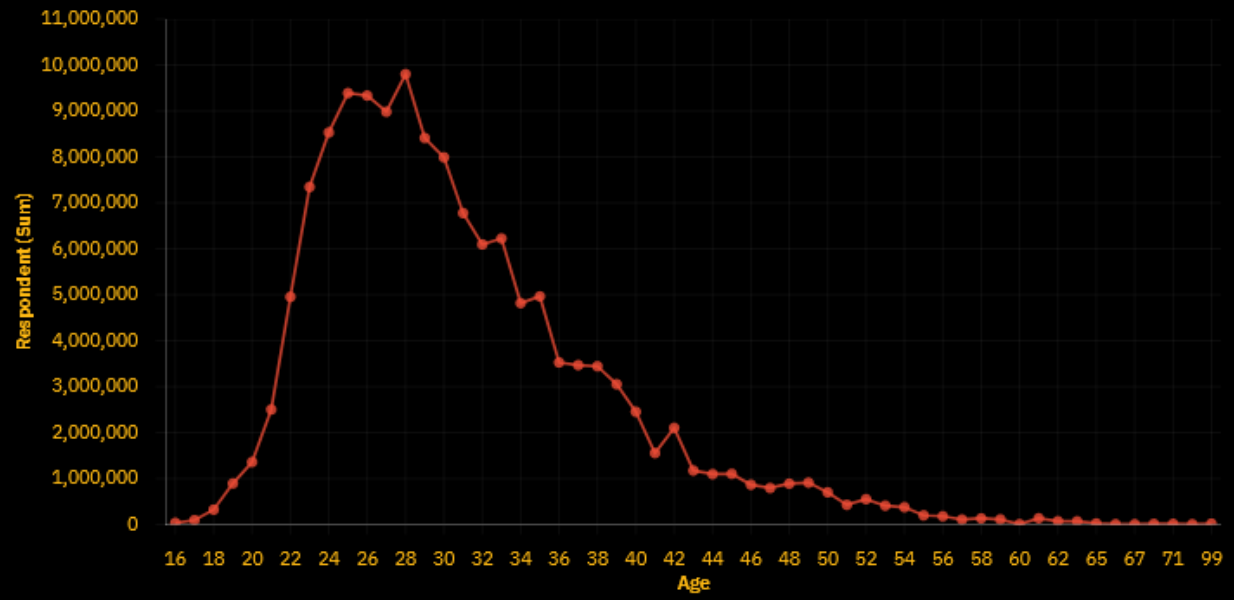
Respondent Gender Percentages



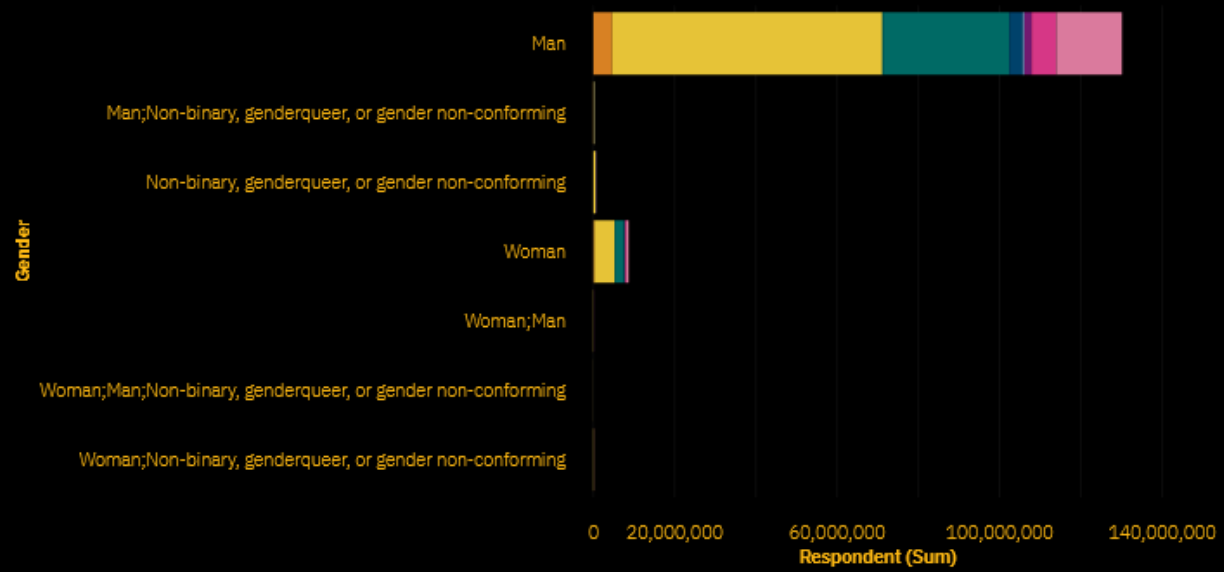
Total Respondents by Country



Number of Respondents by Age



Respondents by Gender and Formal Education



DISCUSSION

- Why are there so many job posting with a key skill being C language when it is not used frequently by the respondents of this survey?
- What is making Python and MongoDB of value to respondents and employers?
- Are HR departments effectively commuting with the other departments on the skills needed for a particular job?

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OVERALL FINDINGS & IMPLICATIONS

Findings

- Javascript is great to know and learn
- Python pays a lot
- MongoDB and Redis are gaining in popularity

Implications

- Javascript and Python are what employers are going to be looking for
- MongoDB may have an unforseen future use case for mass adoption
- The C language is not important to know in depth but you should know it to some extent to be able to put it on your resume

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APPENDIX

- Bar Chart of Top Job Listing
- Bar Chart of Average Annual Salaries for Languages
- Bar Chart and Pie Chart of times Key Skills appeared in Job Postings

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CONCLUSION

- Javascript, Python and SQL are sought after languages
- Python pays well and may have more jobs available than other languages
- MongoDB may have a large future use case and respondents may want to put learning MongoDB higher on their list of databases to learn.
- C is a good language to have a basic understanding for putting on job applications and resumes

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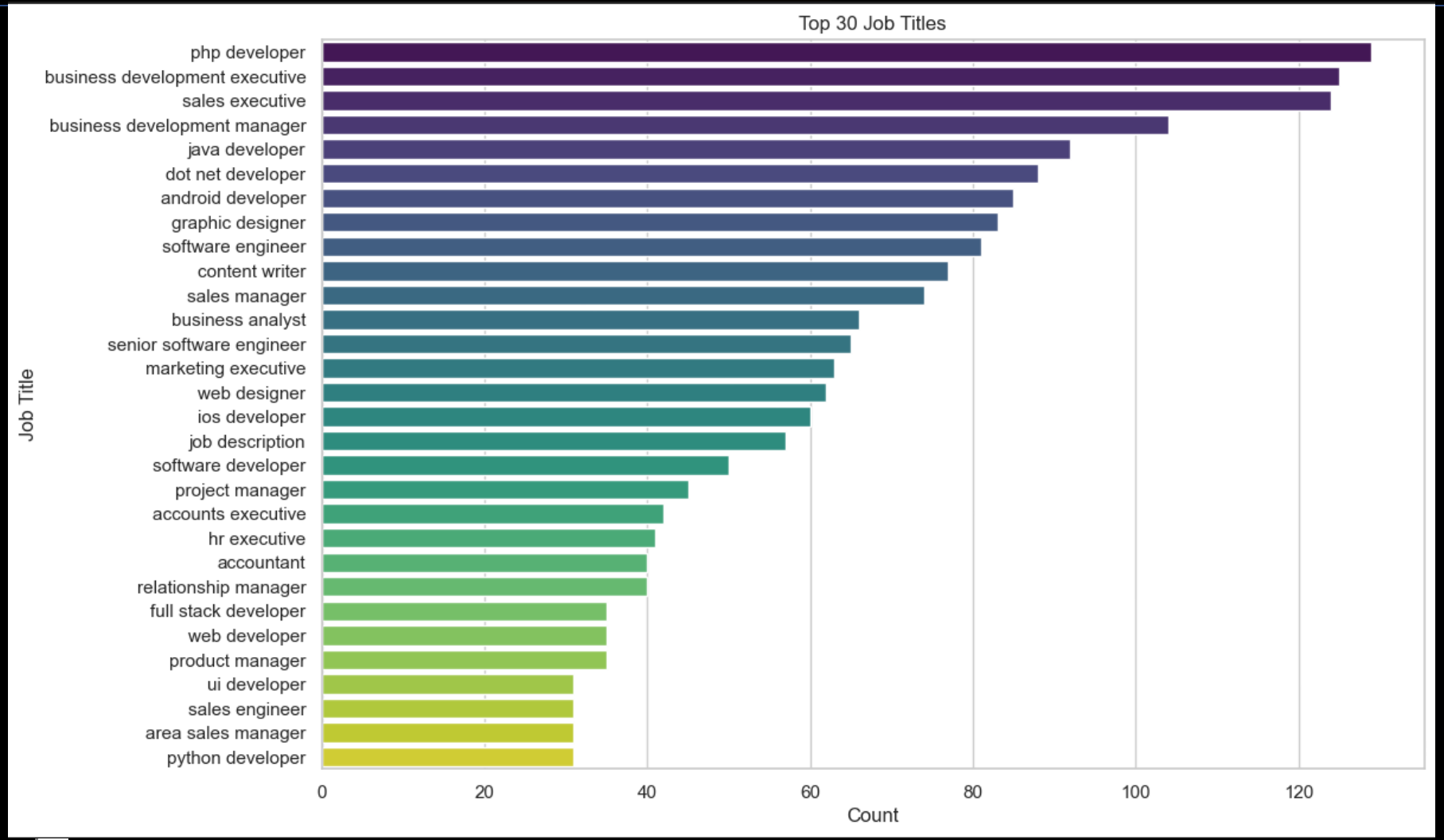
JOB POSTINGS



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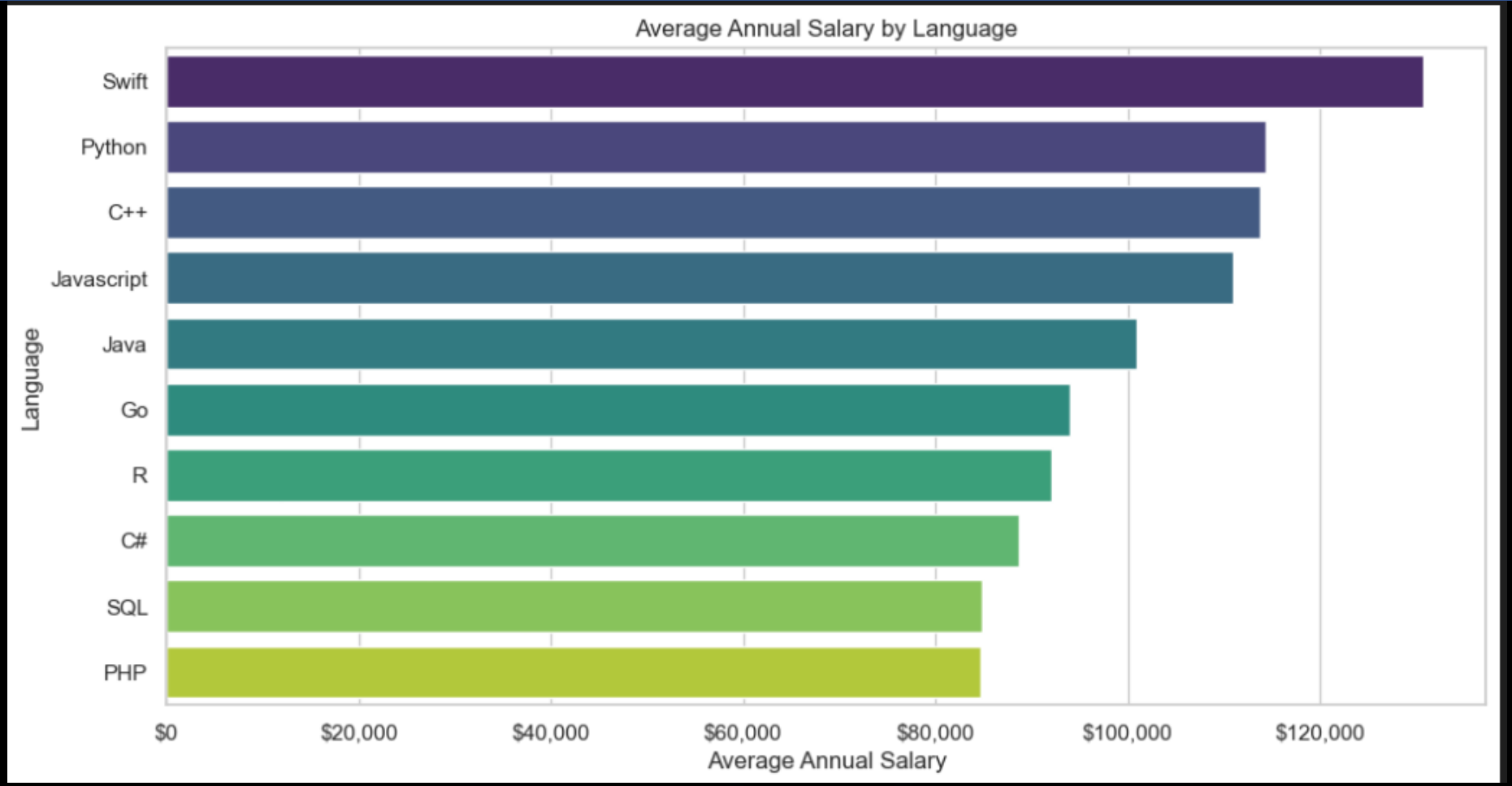
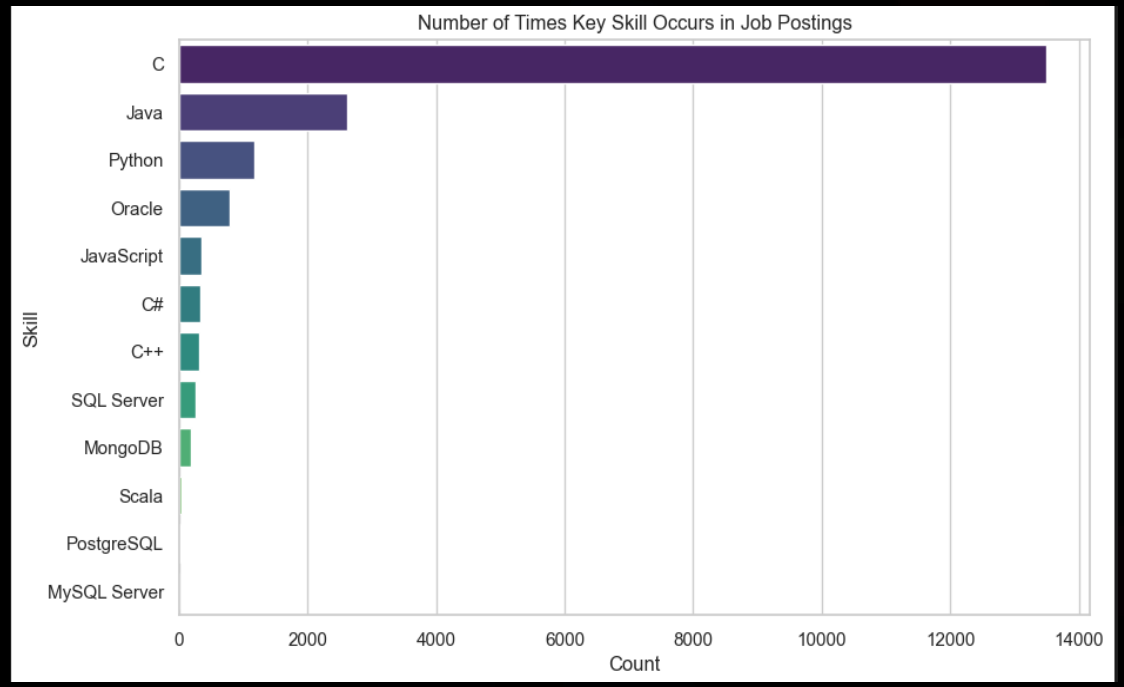
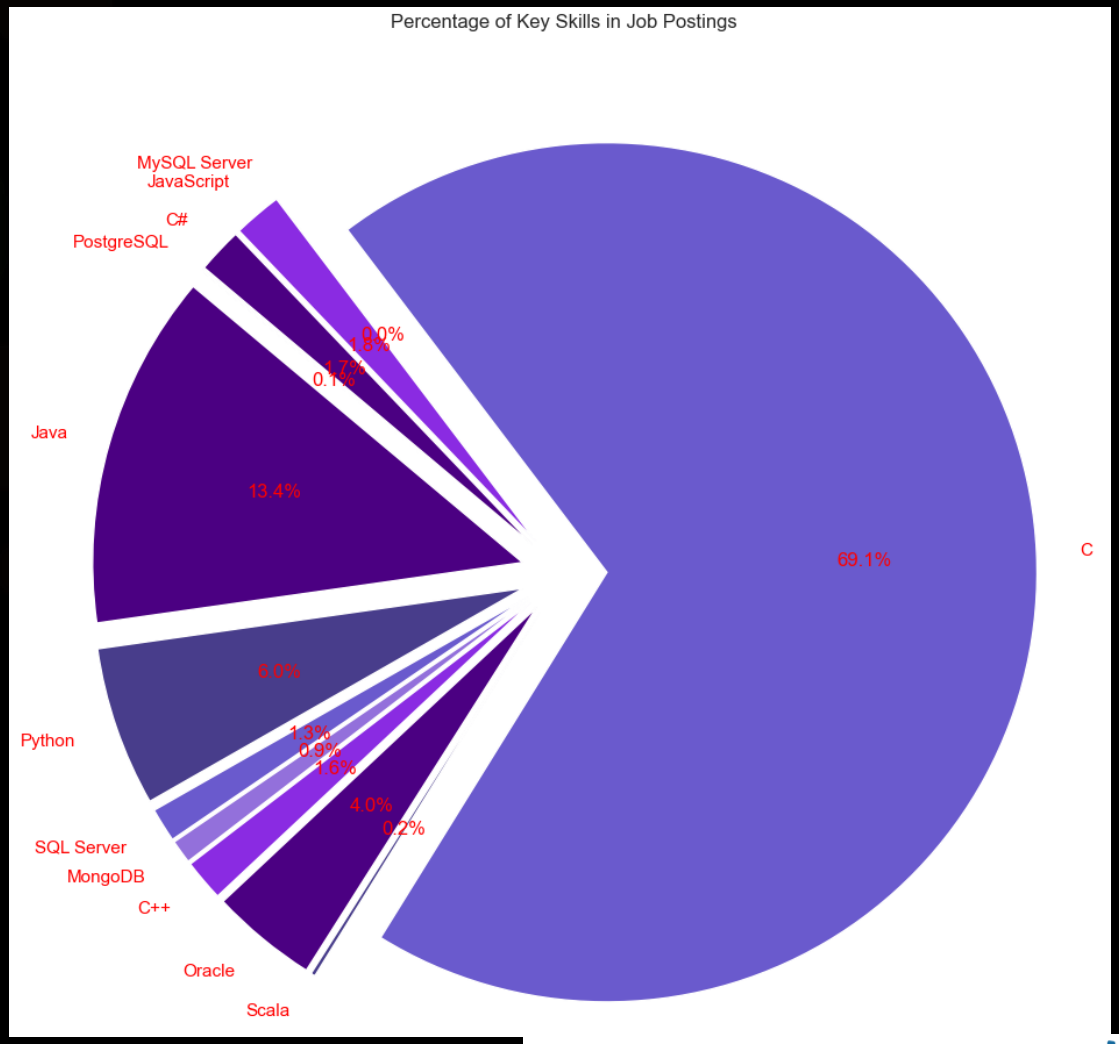
POPULAR LANGUAGES



Top Key Skills in Job Postings





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