# Data Analyst Capstone

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# OUTLINE

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

# EXECUTIVE SUMMARY

- Web development languages are the most popular in use and will remain as such
- AI and Machine learning are driving trends language use
  - Python and SQL are growing in popularity.
  - Interpreted languages, easier to learn, are trending up
  - The most popular languages are all focused on manipulating data
- A noticable shift in databases away fromMySQL towards PostGres is developing
- NoSQL databases are trending
- Platform usage is dominated by web centered frameworks.

# INTRODUCTION

- The most popular languages remain those focused on web development.
- A growing trend is a group of languages related to data and machine learning.
- Older compiled languages are continue to lose popularity
- Databases show a shift in the most popular open source database.
  - MySQL is dropping in popularity.
  - PostGres is replacing MySQL.
  - Microsoft SQL server remains the most used licensed database

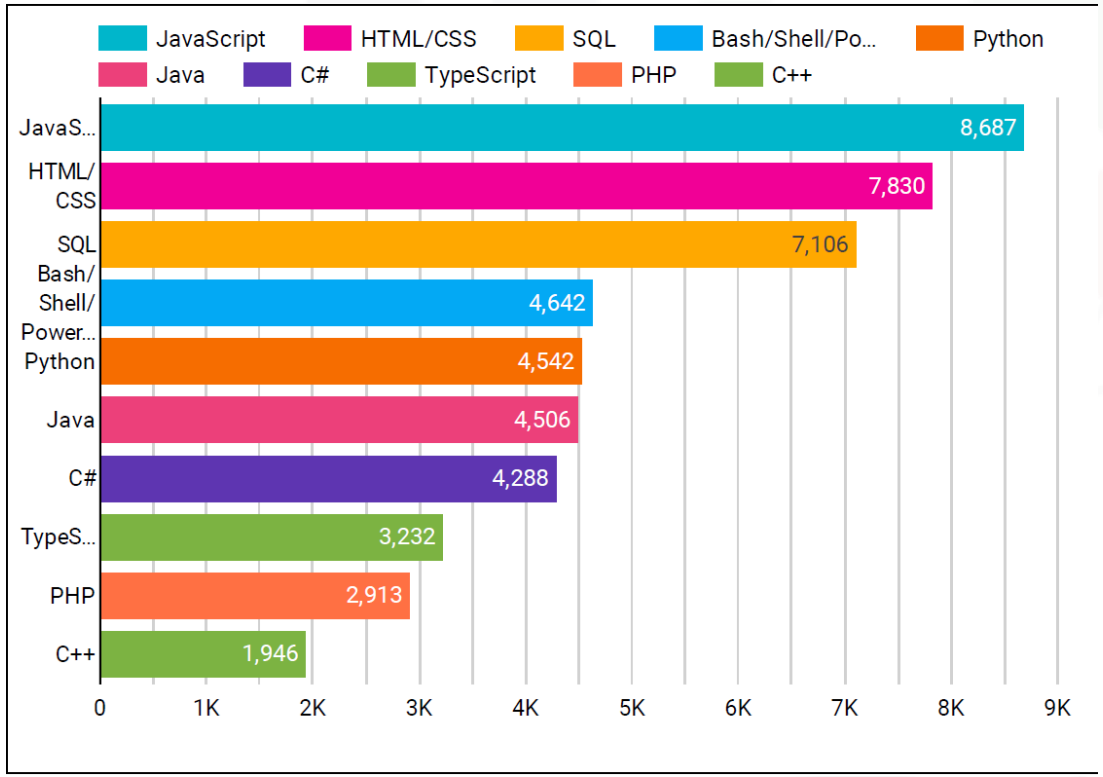
# METHODOLOGY

- Data was gathered from several websites and portals.
  - Job posting content was scraped from and IT job website.
  - Content was pulled from Portals.
  - APIs were used to collect survey data from a leading IT board.
- Once the data was collected, the data sets were explored and reviewed to decide how to proceed with normalization.
- The data was cleaned and prepared for analysis.
  - Duplicate rows and data sets were removed.
  - Missing values were dealt with.
  - Some data values were normalized or formatted for better analysis

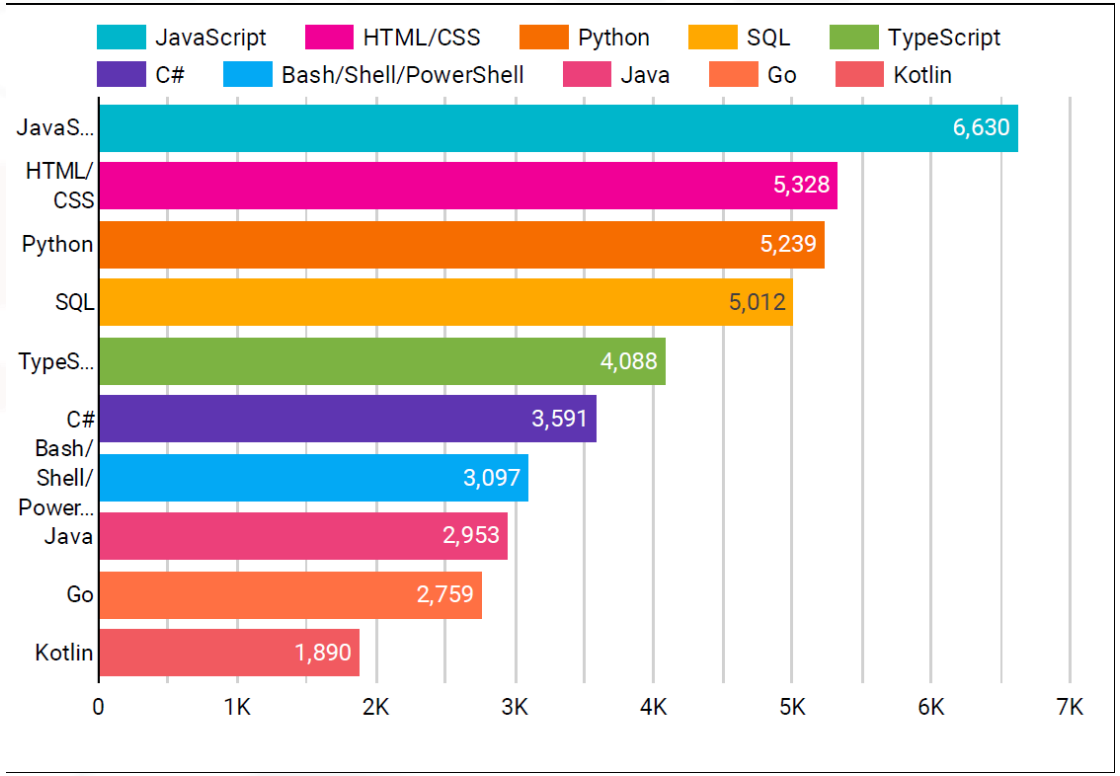
# RESULTS

# PROGRAMMING LANGUAGE TRENDS

## Current Year




## Next Year



# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

## Findings

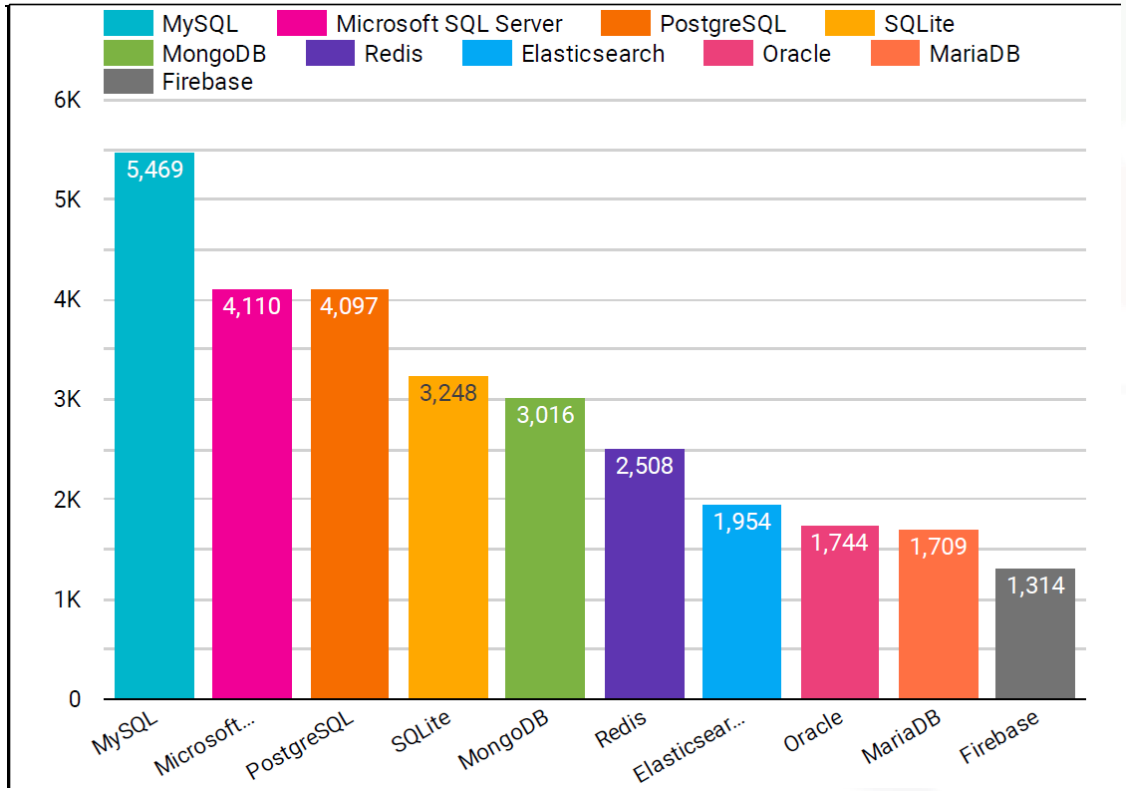
- Javascript and HTML are the top languages for this year and next.
- Python will play a larger role next year
- SQL will remain in the top 5 languages

## Implications

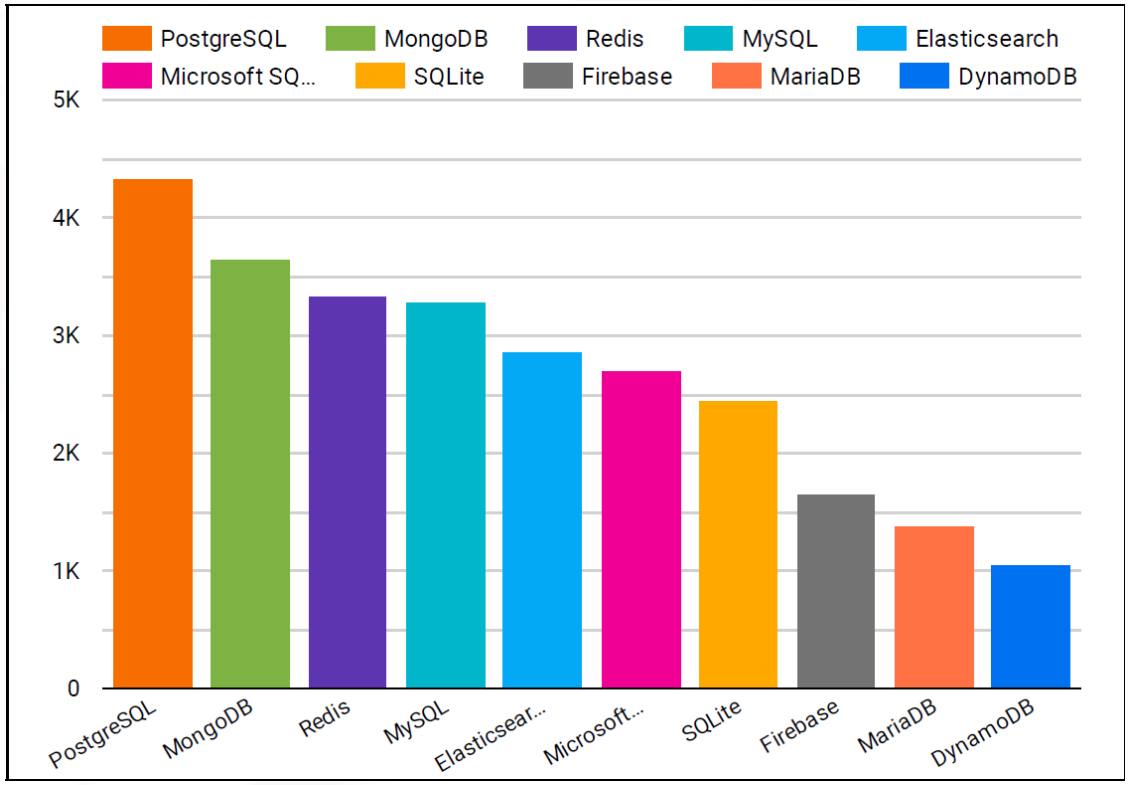
- Languages integral to the internet are popular and will remain so.
- The highest-ranking languages are interpreted rather than compiled.
- The Internet and AI drive the rankings

# DATABASE TRENDS

## Current Year




## Next Year



# DATABASE TRENDS - FINDINGS & IMPLICATIONS

## Findings

- Open source databases occupy most of the top slots
- MS SQL is losing popularity
- Mongo DB, a NoSQL database is expected to grow next year

## Implications

- Open source databases are popular due to features and cost
- Databases from large corporations are dropping in popularity.
- NoSQL databases may take a larger role as AI develops

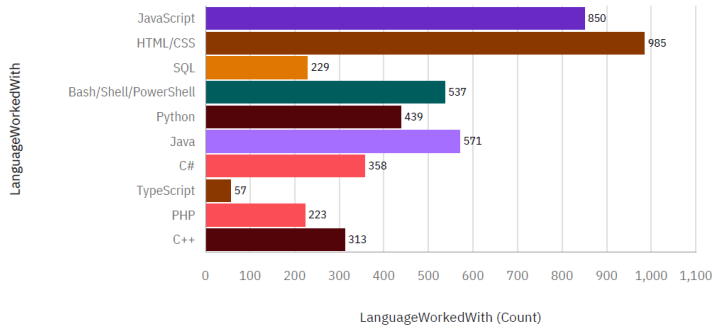
# DASHBOARD

https://github.com/Matthew-Paige/IBM_Data_Analyst.git

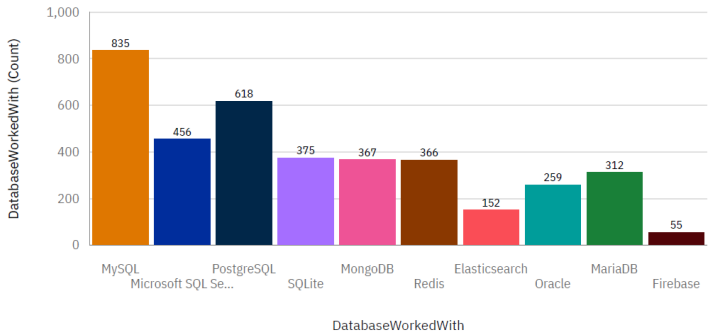
# DASHBOARD TAB 1

Current Technology Usage

Top 10 Languages Worked With

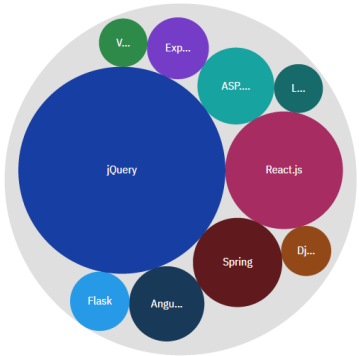



Top 10 Databases Worked with

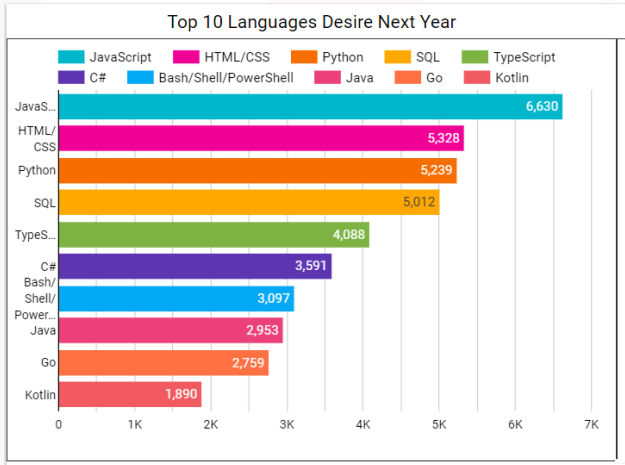


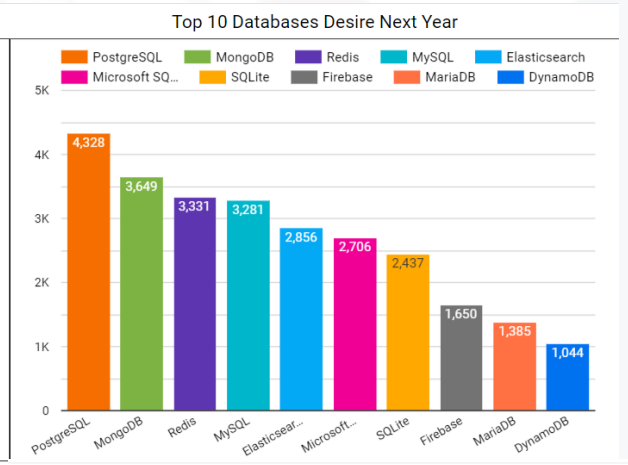

Platforms Worked With

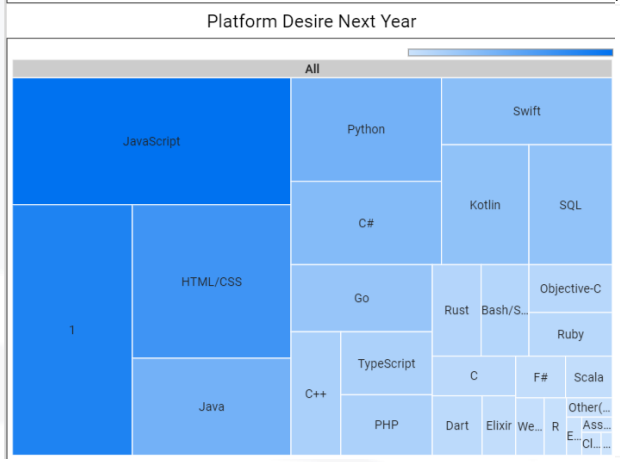
Top 10 Web Frameworks Worked With

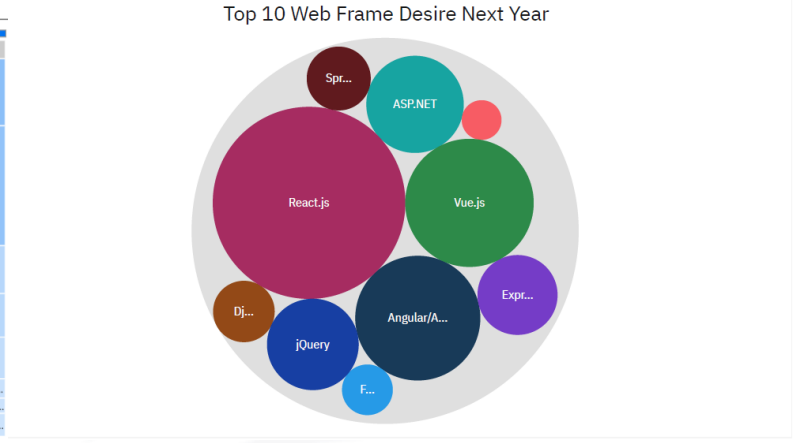


# DASHBOARD TAB 2

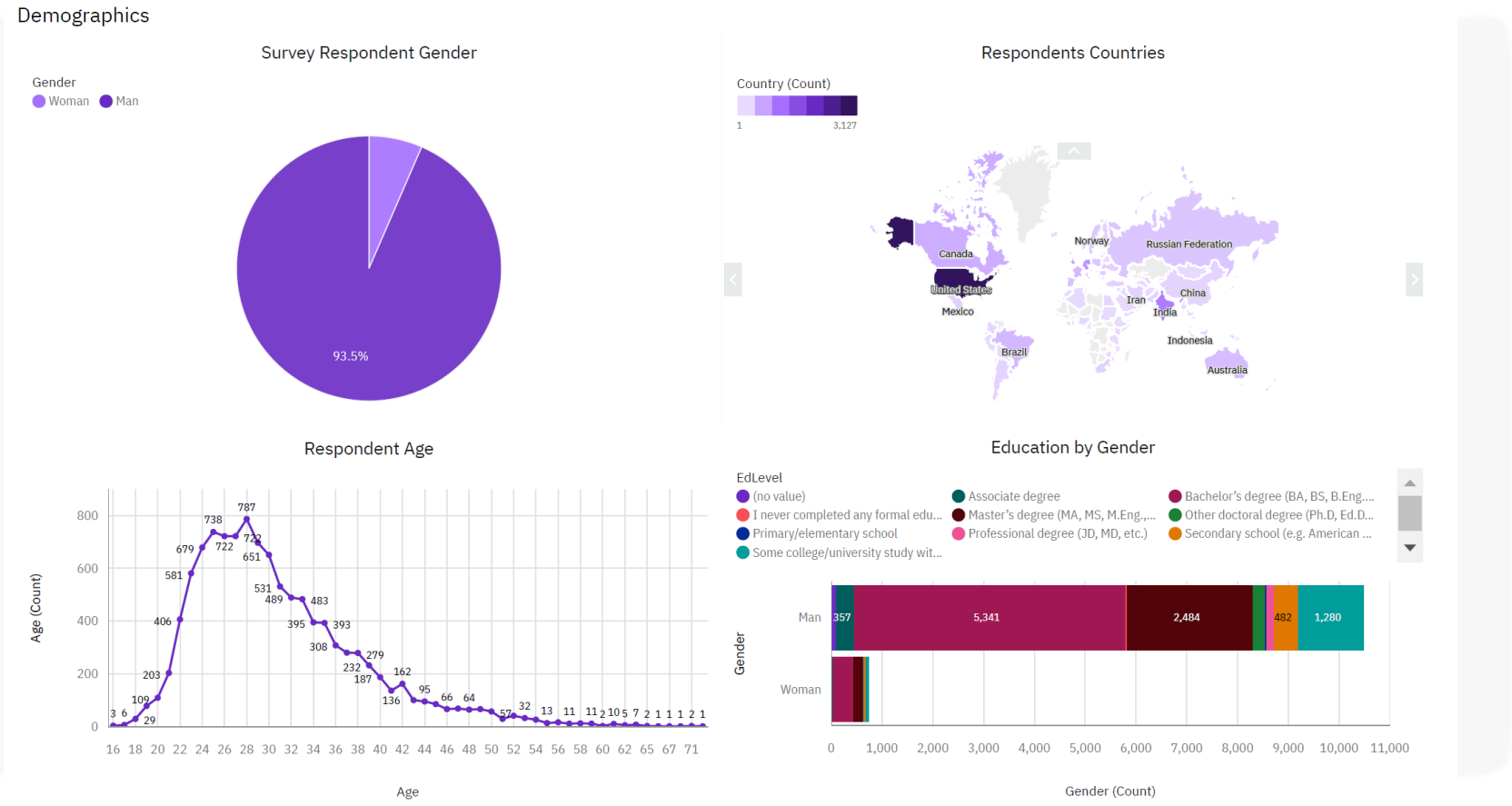


# DASHBOARD TAB 3



# DISCUSSION

# OVERALL FINDINGS & IMPLICATIONS

## Findings

- Languages for internet development dominate the most popular languages.
- Interpreted languages focused on AI and data science becoming popular.
- Open source databases are trending

## Implications

- Web development dominates most development.
- AI activity is driving future trends in language use.
- Large companies are losing ground in their database usage reach.

# CONCLUSION

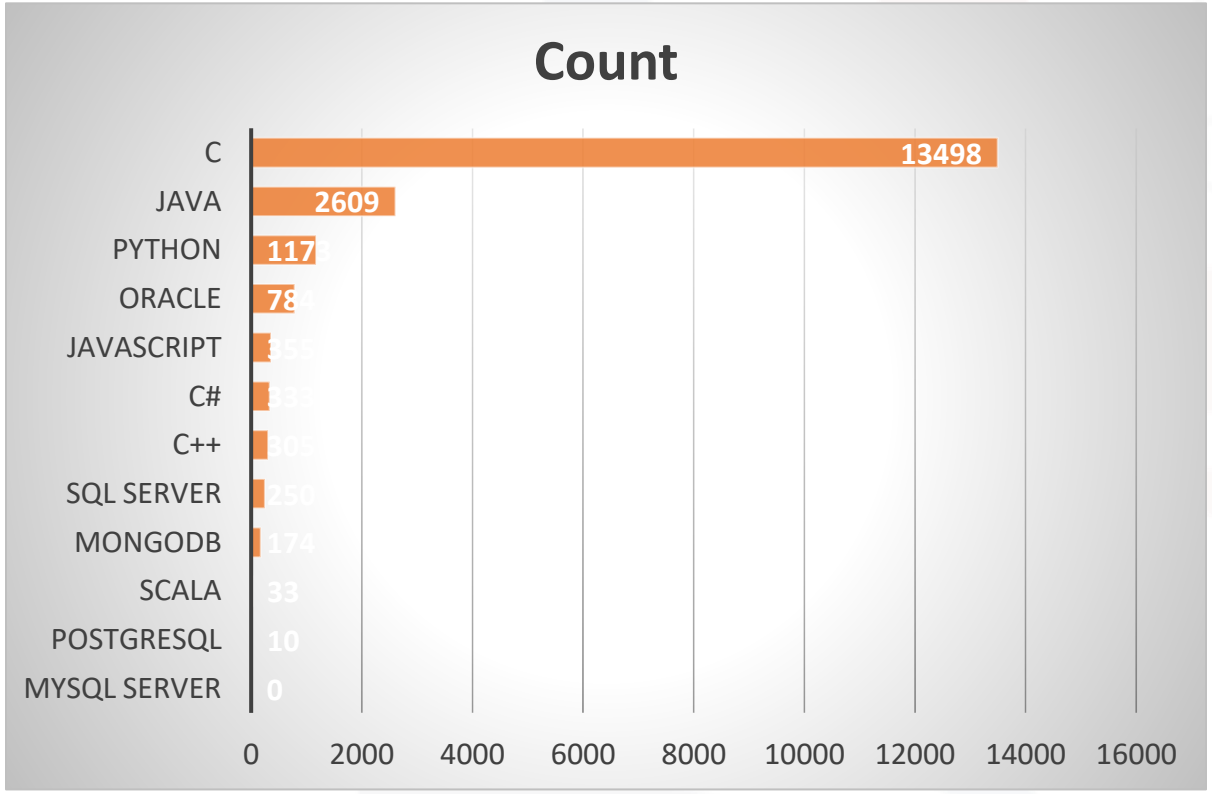
- The most popular languages, platforms and databases change from year to year.
- Languages that focus on the web and AI hold the tops spots consistently.
- A shift in databases towards open source is visible in the data.
- The IDE platforms are trending towards Web and AI focused platforms.

# APPENDIX

- Sample of data collected

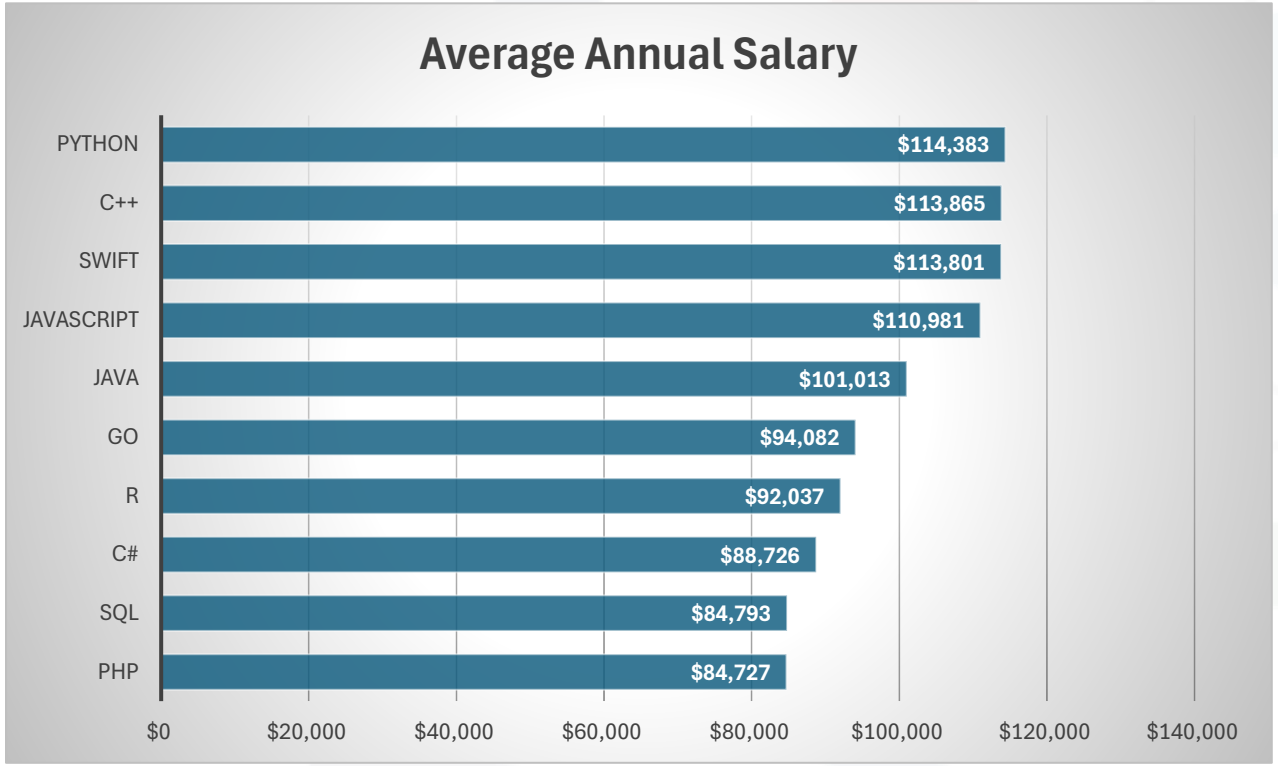
| Respondent | MainBranch | Hobbyist | OpenSourcer |
|---|---|---|---|
| 4 | I am a developer by profession | No | Never |
| 9 | I am a developer by profession | Yes | Once a month or more often |
| 13 | I am a developer by profession | Yes | Less than once a month but more than once per year |
| 16 | I am a developer by profession | Yes | Never |
| 17 | I am a developer by profession | Yes | Less than once a month but more than once per year |
| 19 | I am a developer by profession | Yes | Never |
| 20 | I am not primarily a developer, but I write code sometimes as part of my work | No | Never |
| 22 | I am a developer by profession | Yes | Less than once per year |
| 23 | I am a developer by profession | Yes | Less than once per year |
| 24 | I am a developer by profession | Yes | Never |
| 25 | I am a developer by profession | No | Never |
| 26 | I am a developer by profession | Yes | Less than once per year |
| 29 | I am a developer by profession | Yes | Less than once a month but more than once per year |
| 32 | I am a developer by profession | No | Never |
| 38 | I am a developer by profession | Yes | Never |

# JOB POSTINGS




- Job postings pulled from the job board. Count of jobs via language keywords.

# POPULAR LANGUAGES




- Popular languages based on average salary