Survey of the IT Workforce

By Richard Kowalski
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Skills Network

OUTLINE

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- Methodology
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EXECUTIVE SUMMARY

- The IT workforce is ever-changing dominated by males with a median age of 30, requiring knowledge of multiple programming languages, databases, web platforms and development tools
- The following areas were examined:
  - Current Technology Usage
  - Future Technology Trends
  - Demographics
- Dashboards present data on current technology usage, future trends and demographics.
- Programming language popularity changes over time with new languages that can handle tasks more efficiently and are easier to code with.
- Database popularity changes as newer technologies are developed.
- Findings:
  - The number of workers in the IT area drop off after the age of 30
  - Women make up a small number of the IT workforce
  - AI is making a large impact on the IT field by making file processing coding easier for everybody
  - The number of programming languages, databases, web platforms, and web frames IT workers need to be familiar with continuously changes.

INTRODUCTION

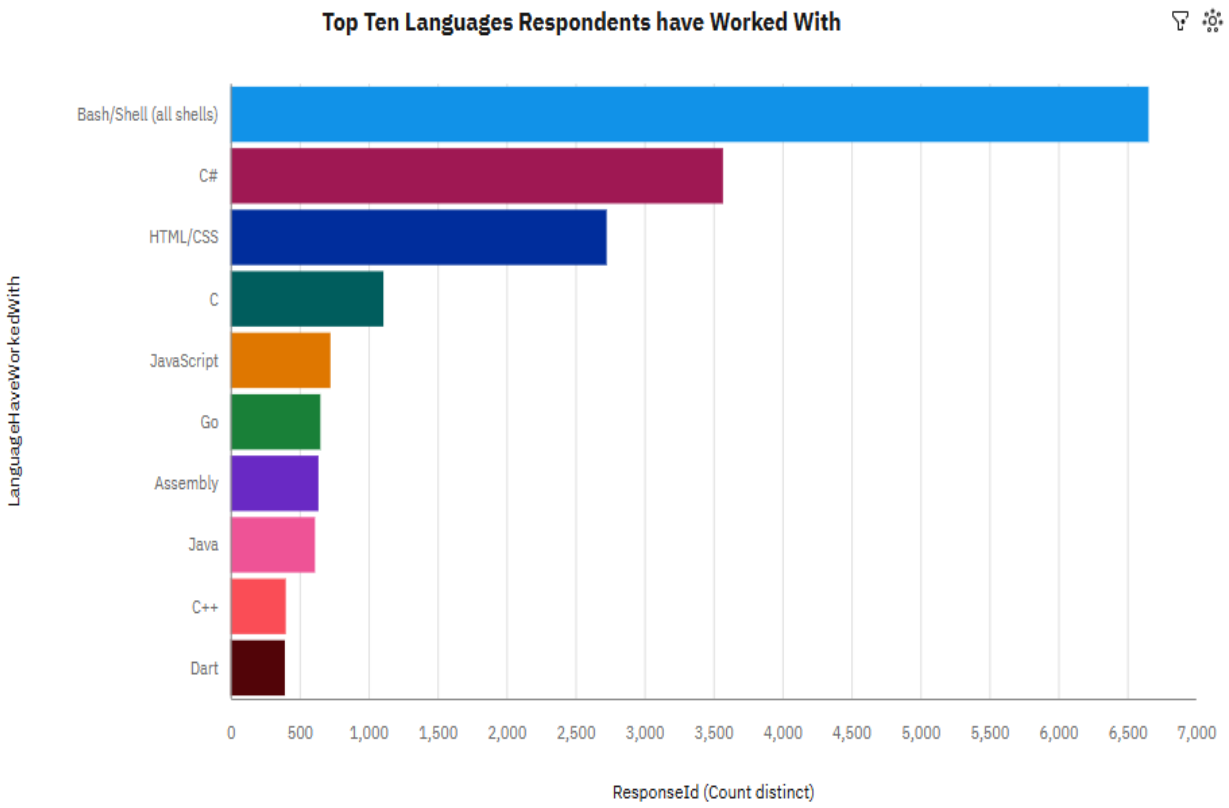
- The IT field is a diverse field requiring a wide skill set, including multiple programming languages, databases, web platforms and web development tools.
- Findings and implications are discussed for current and next year programming language trends.
- Current and next year database trends are analyzed with findings and implications.
- Dashboards present data on current technology usage, future trends and d
- This project examines:
  - Current Technology Usage
  - Future Technology Trends
  - Demographics

METHODOLOGY

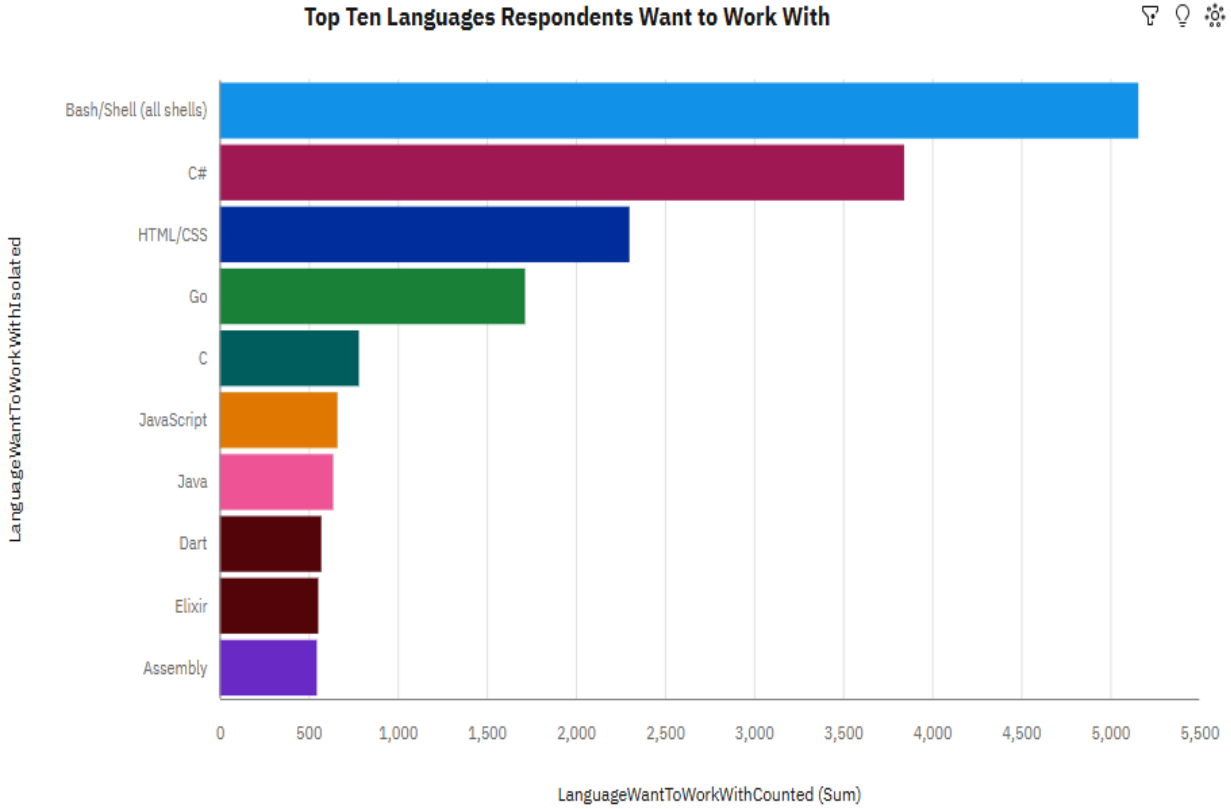
- The data for this project was collected from:
  - Web scraping
  - Provided data files
  - Coursera data analysis courses
- Current technology examined includes, programming languages, databases, web platforms, and development tools.
- Future technology examined includes, programming languages, databases, web platforms, and development tools
- The data is presented through:
  - Graphs
  - Dashboards
  - Charts

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

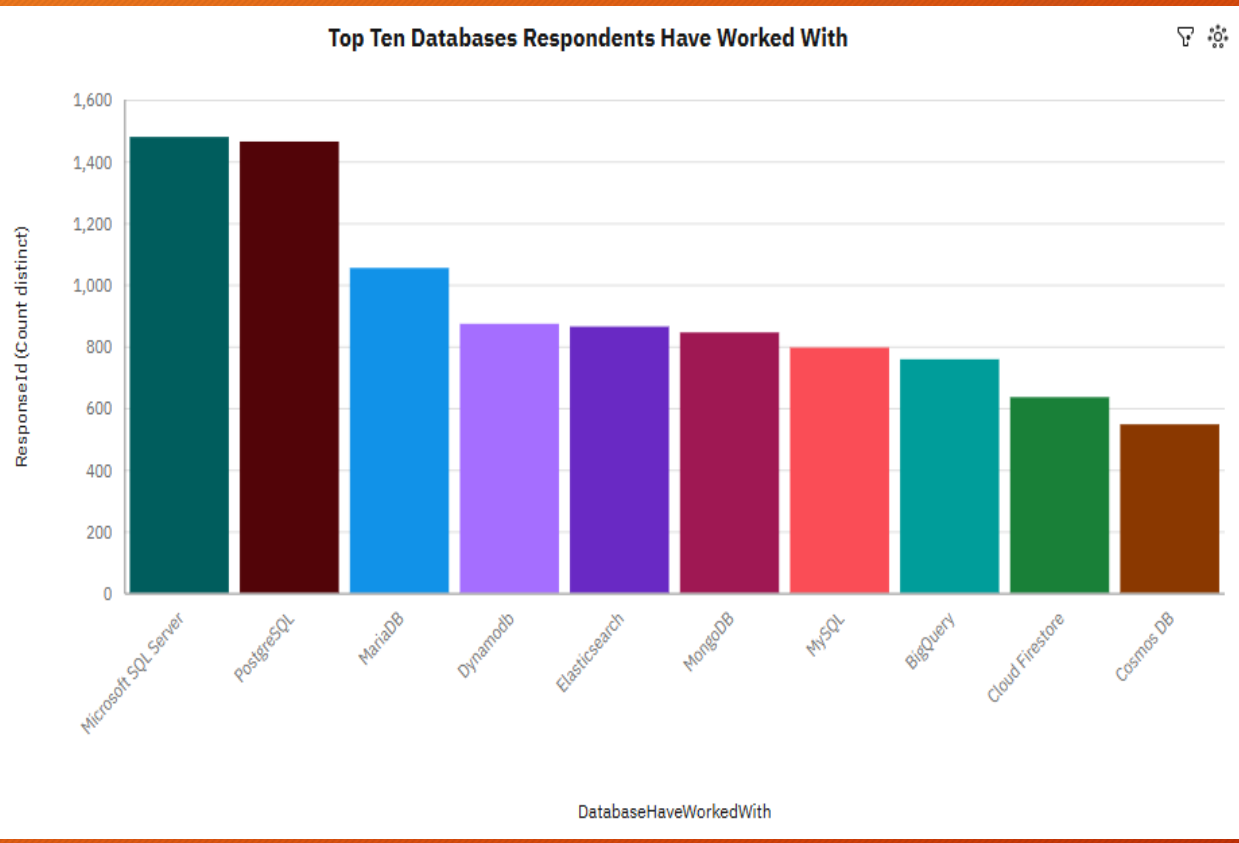
- Bash/Shell is widely used and a top desired to learn language
- C# and HTML/CSS are the next most used and desired programming languages
- Although popular, Python is not in the top ten languages
- Assembly language is still in use

Implications

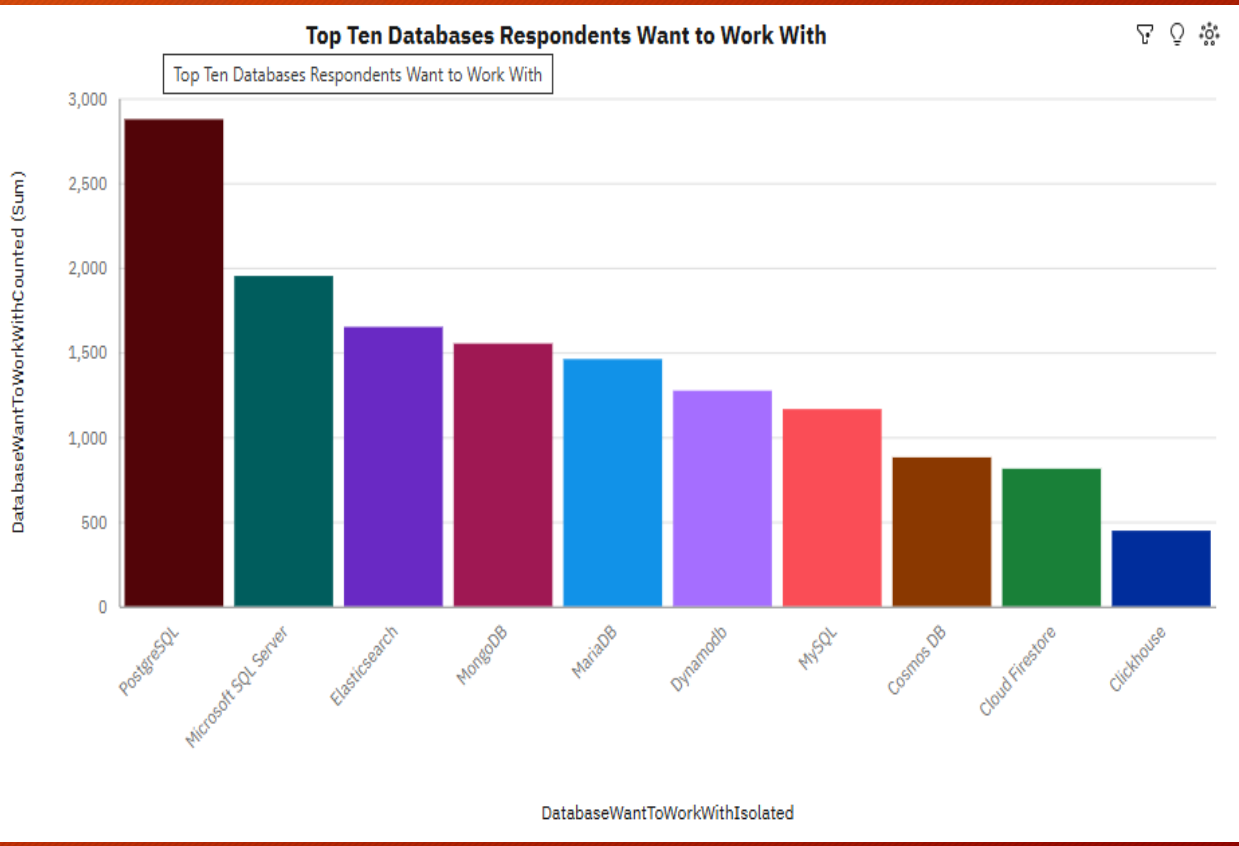
- Bash is a flexible and easy to use scripting language that will be hard to replace
- Most coding can be accomplished with Bash, C# and HTML/CSS
- Python may be over-hyped
- Older languages are still useful

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Microsoft SQL Server and PostgreSQL are the top two databases in use
- Most people want to learn PostgreSQL
- The other databases are used almost equally
- PostgreSQL is the top database users want to learn

Implications

- Microsoft SQL Server and PostgreSQL dominate the database world
- MariaDB is the nearest challenger
- The popularity of other databases users want to learn drops off after PostgreSQL
- It is important to stay current with new technologies

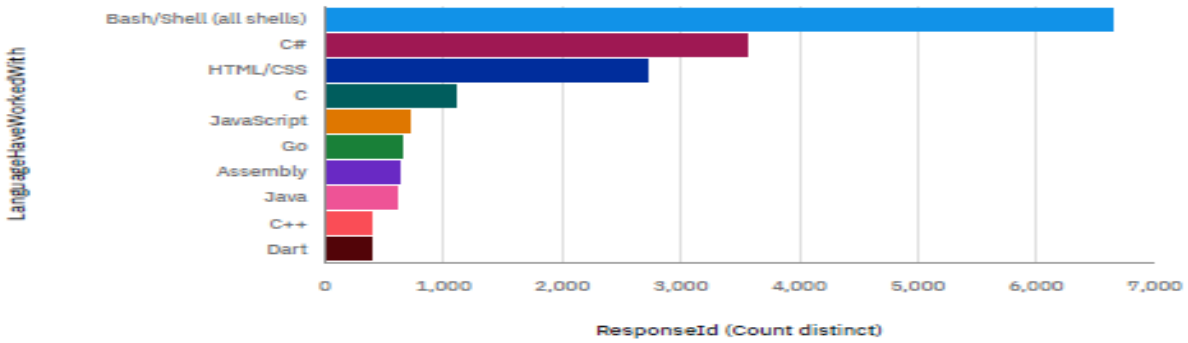
DASHBOARD

<Please present your dashboard in the following slides.>

Current Technology Usage Dashboard

Current Technology Usage

Top Ten Languages Respondents have Worked With



Top Ten Databases Respondents Have Worked With

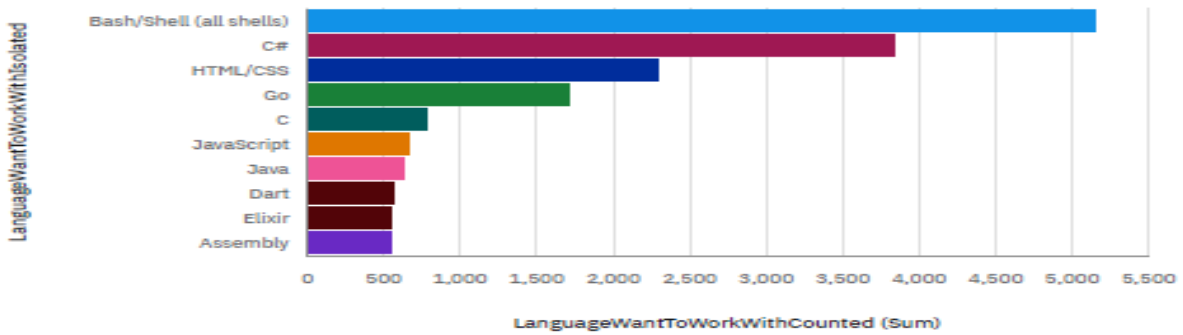
Top Ten Platforms Respondents Worked With

Top Ten Web Frames Respondents Worked With

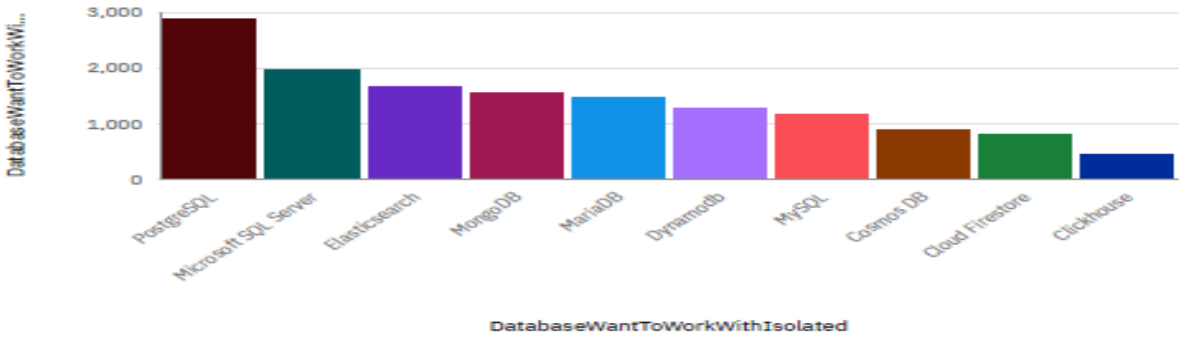
Future Technology Trends Dashboard

Future Technology Trend

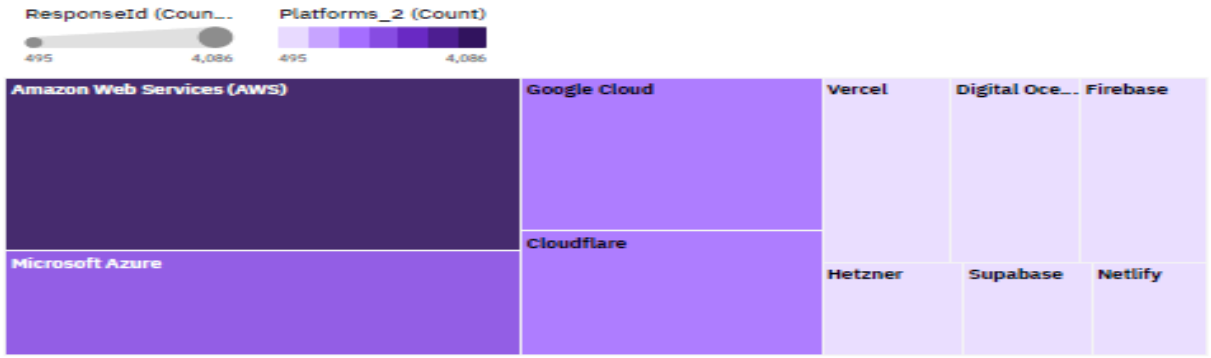
Top Ten Languages Respondents Want to Work With



Top Ten Databases Respondents Want to Work With



Top Ten Platforms Respondents Want to Work With



Top Ten Web Platforms Respondents Want to Work With

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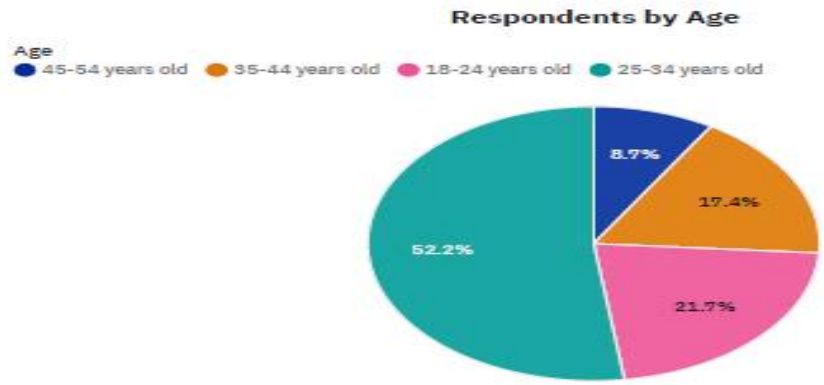
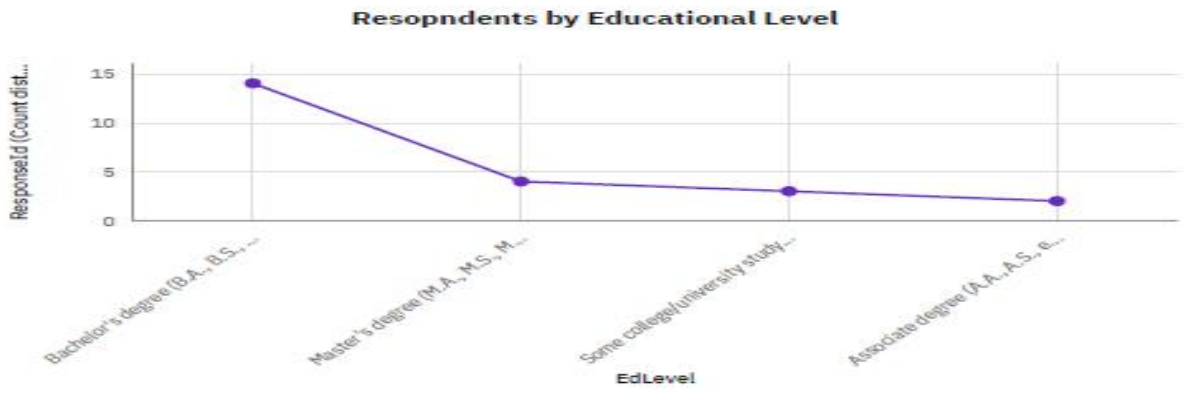
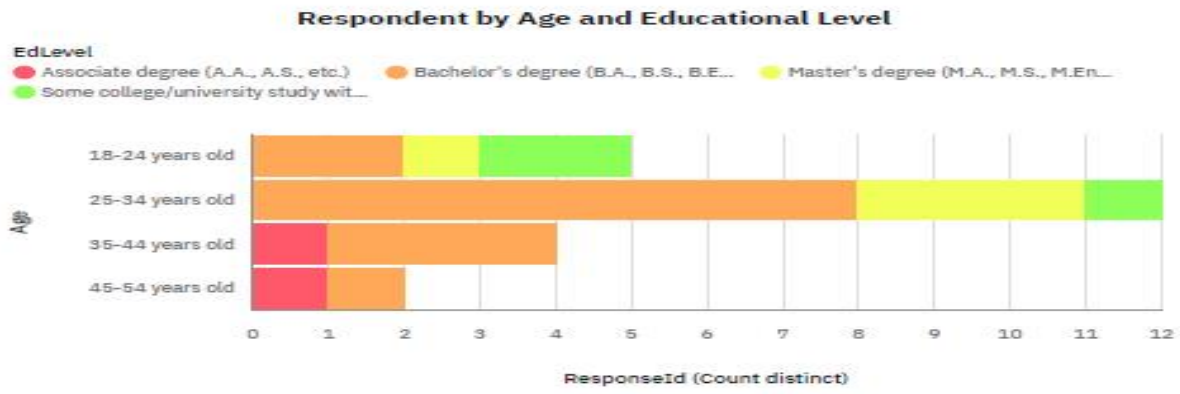
Demographics Dashboard

Demographics







DISCUSSION

- Survey respondents are using Bash, Microsoft SQL Server, PostgreSQL, Amazon Web Services (AWS), Node.js and React.
- The technologies users want to learn are Bash, C#, PostgreSQL, Amazon Web Services (AWS), React and Node.js
- The highest number of IT workers are in the 25-34-year-old age group
- Respondents are from all over the world
- Most IT workers have Bachelor's degrees
- AI is being used in various ways in the IT field

OVERALL FINDINGS & IMPLICATIONS

Findings

- Scripting languages are widely used
- There aren’t any dominating databases
- The IT workforce is mostly in the 25-34-year-old age group
- AI is widely used for a variety of tasks

Implications

- IT is a youth driven field that creates constant turnover
- AI is creating an environment where workers not trained in IT can succeed
- Databases are almost equal in their capabilities
- Scripting languages and C# are the only languages needed for coding

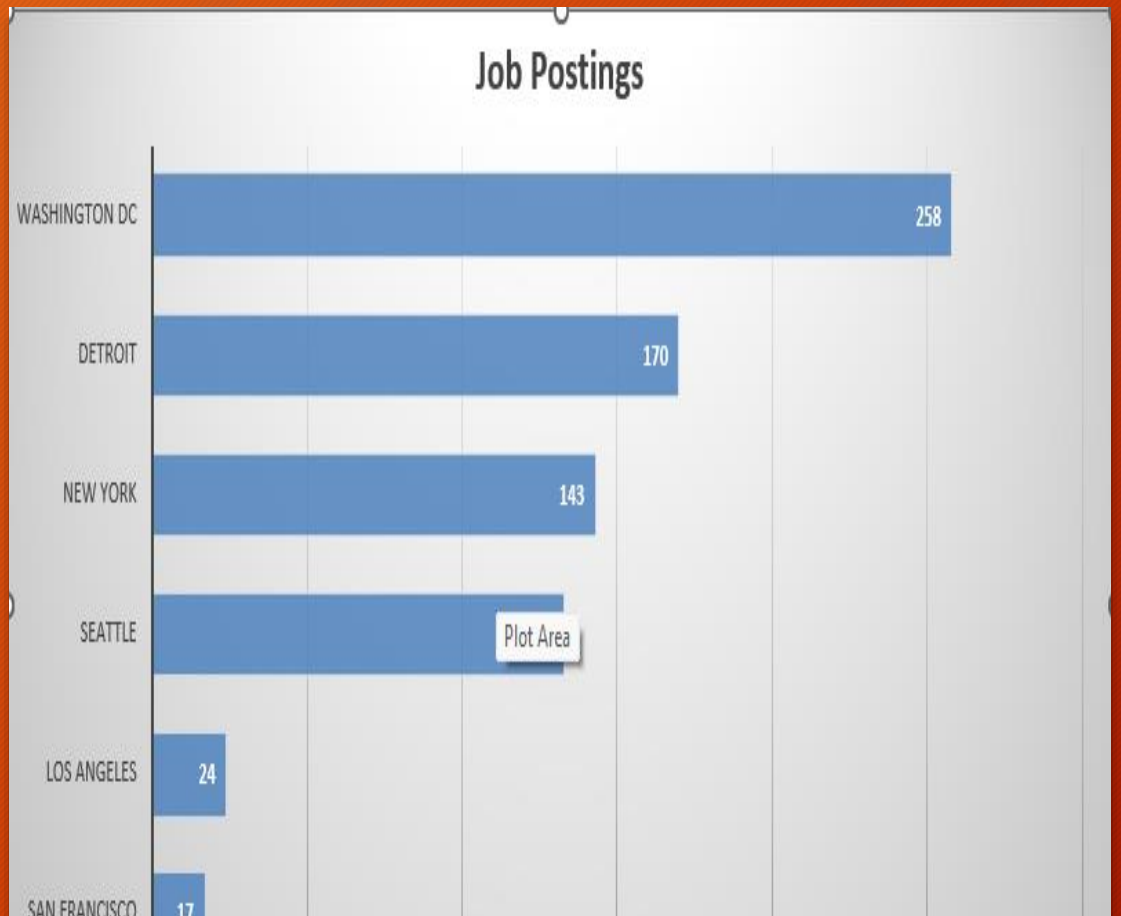
CONCLUSION

- The IT workforce is young, college educated, and works with multiple languages, databases, web platforms and web frames.
- IT worker numbers decline after age 30 creating opportunities for new employees
- AI is being used more frequently by IT workers
- It is important to stay updated with the latest technologies and trends

APPENDIX

- Include any relevant additional charts, or tables that you may have created during the analysis phase.

JOB POSTINGS



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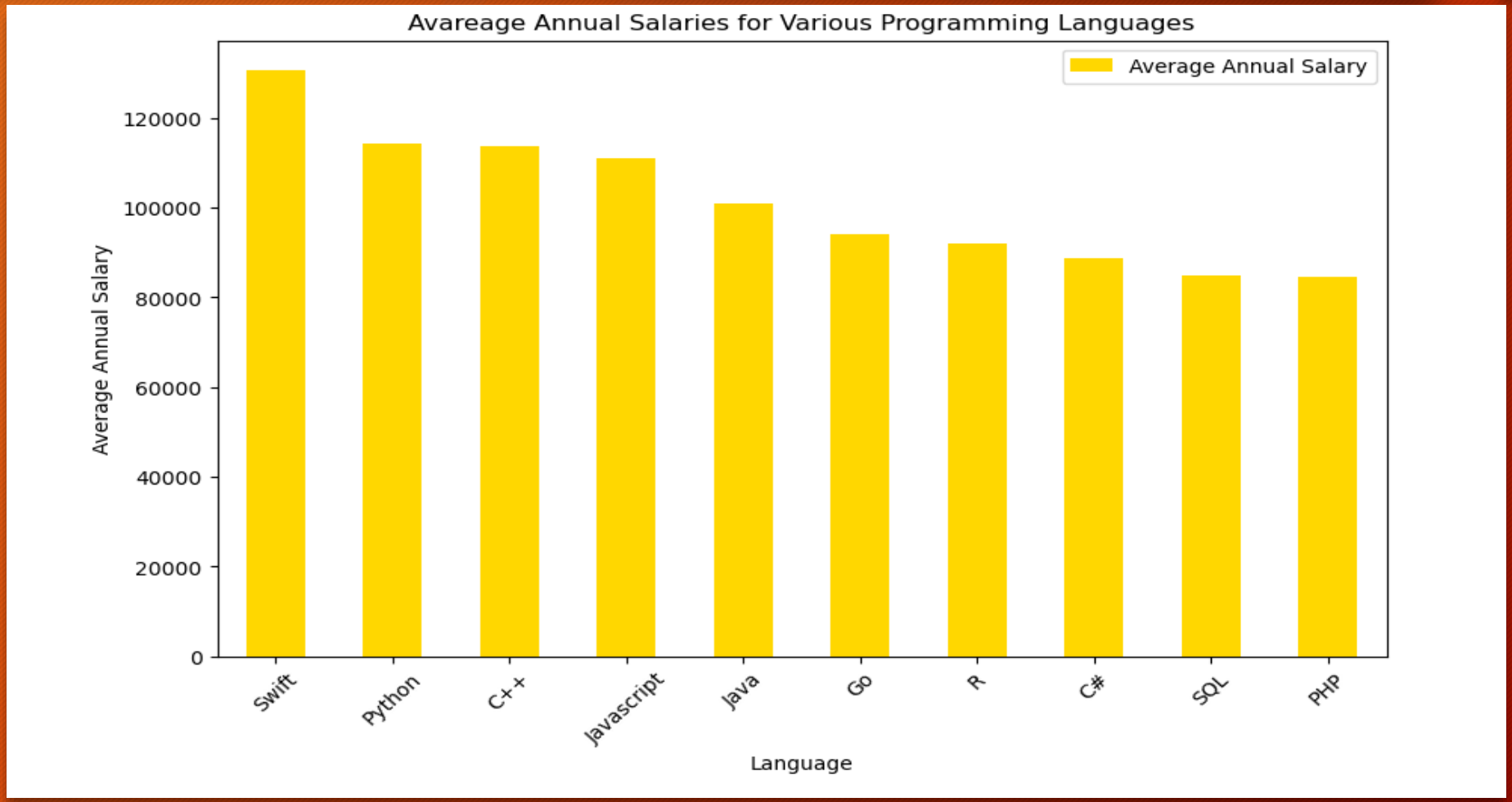
POPULAR LANGUAGES



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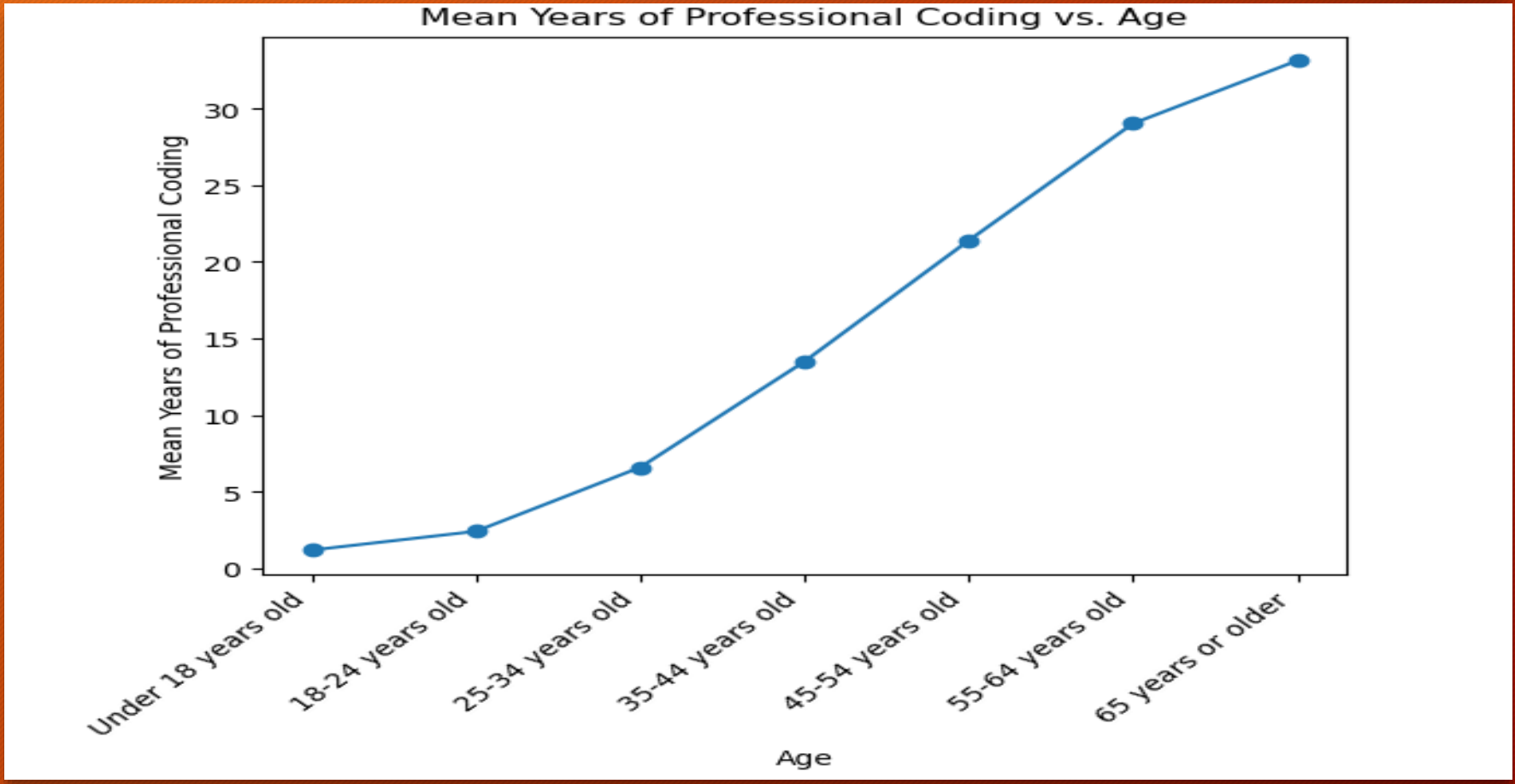
Mean Years of Professional Coding vs Age



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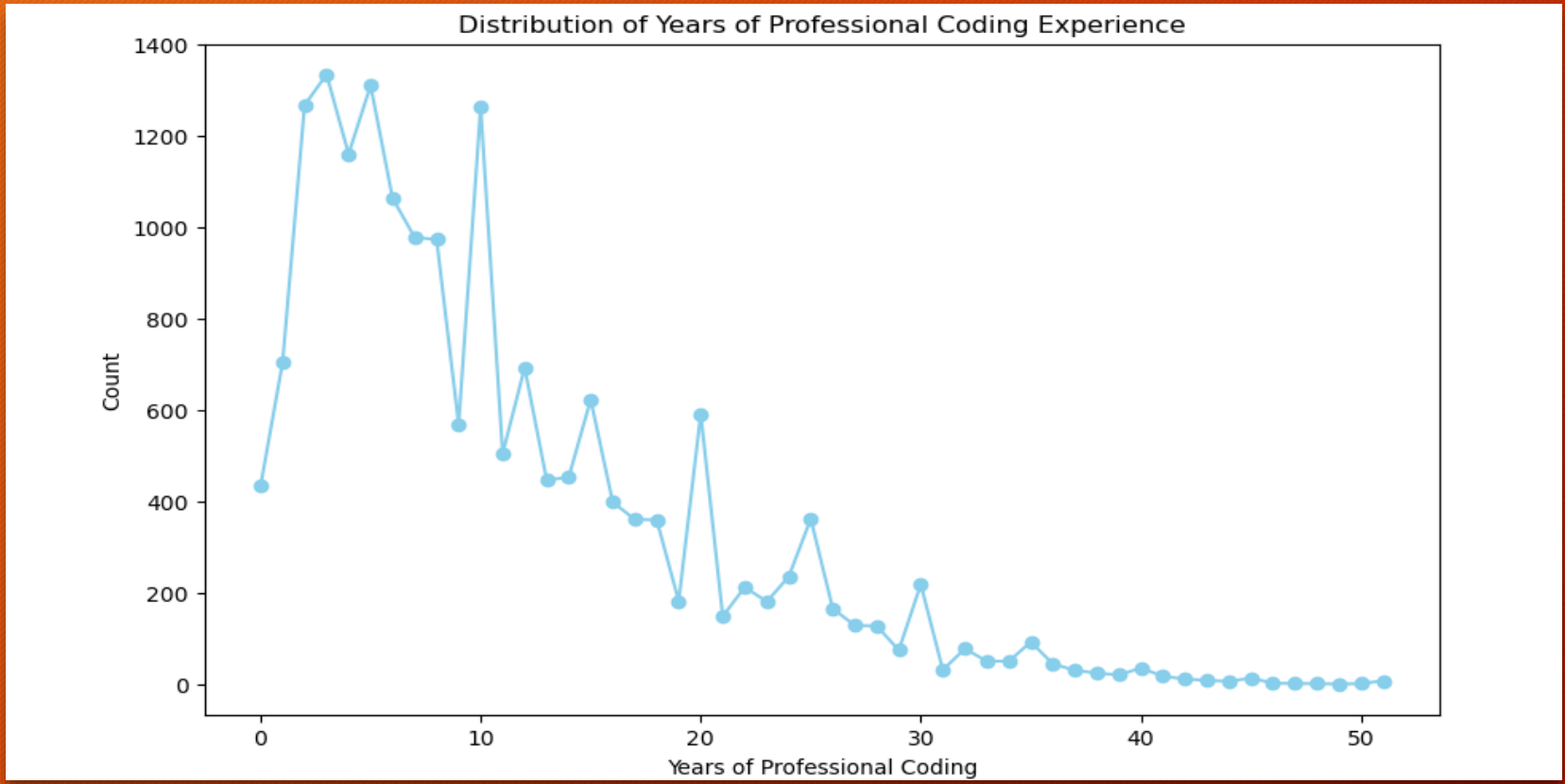
Distribution of Years of Professional Coding Experience



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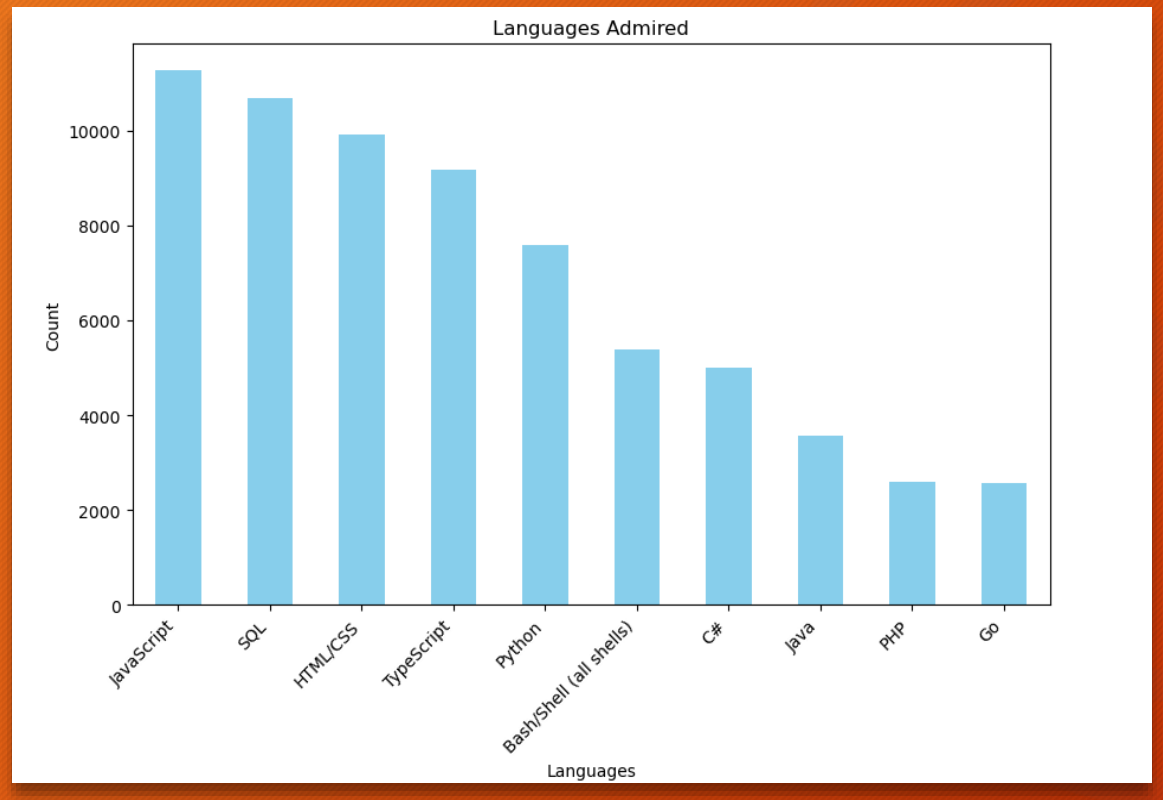
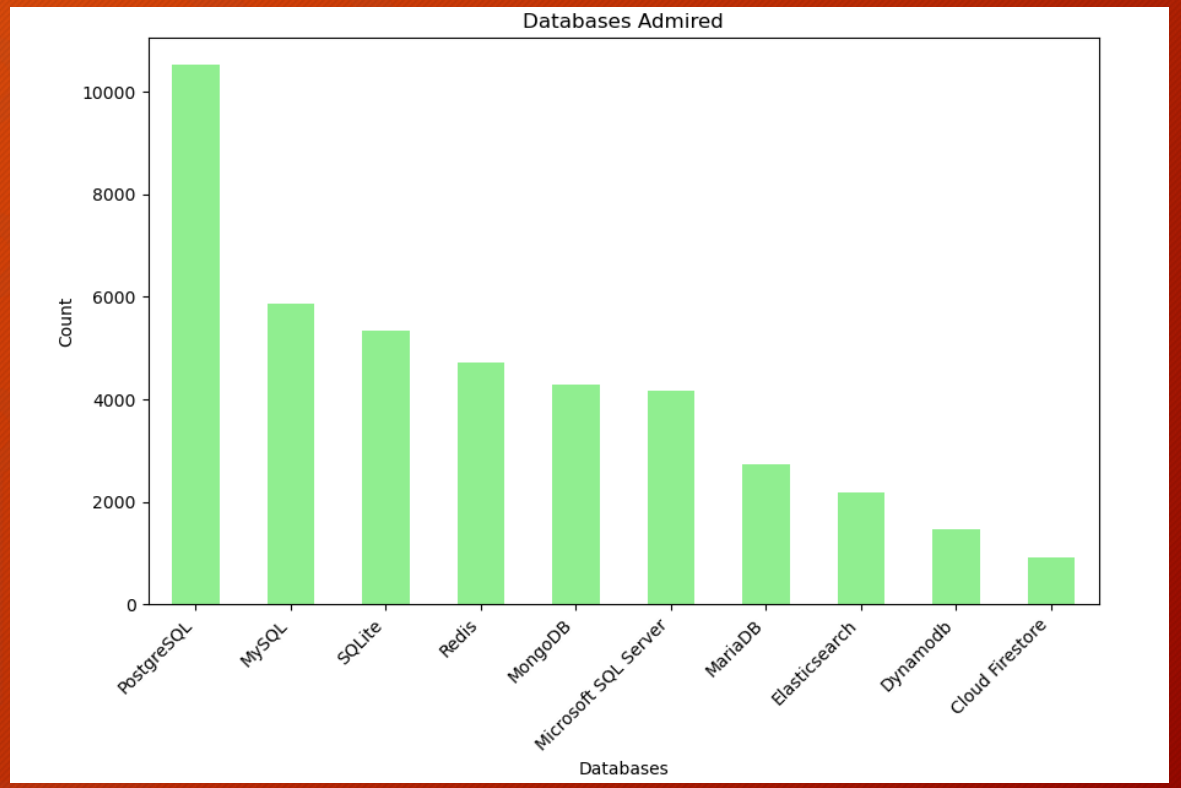
Admired Languages and Databases





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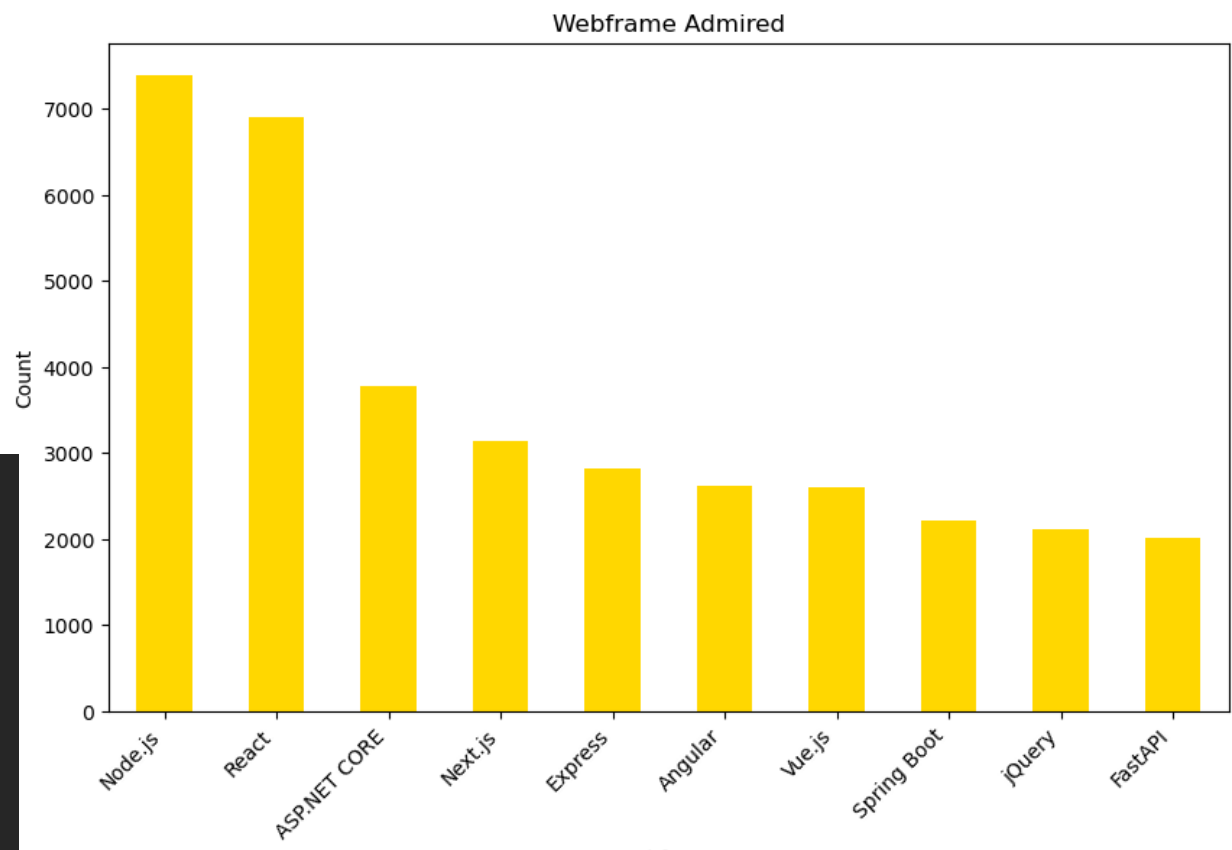
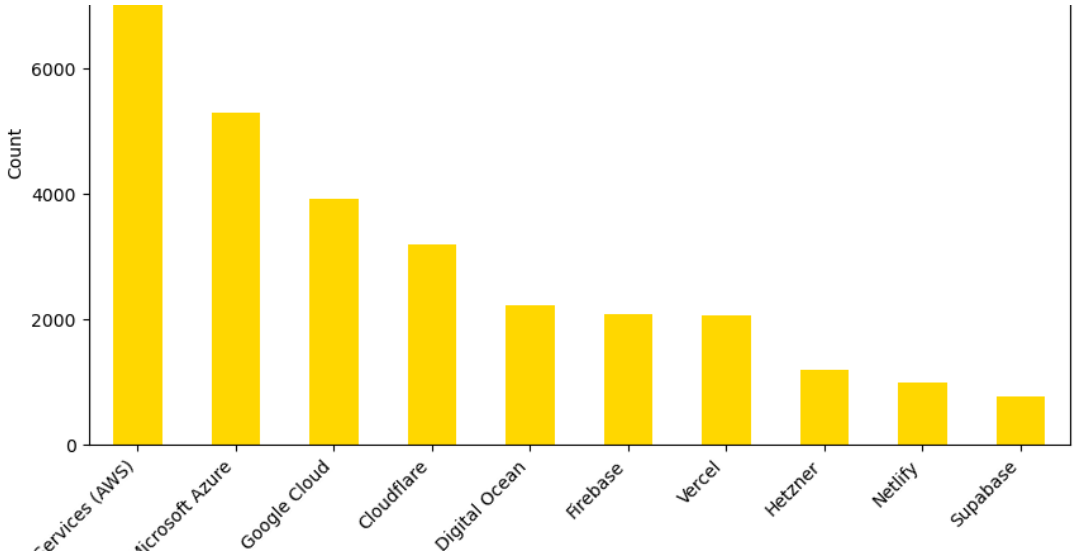
Admired Platforms and Web Frames





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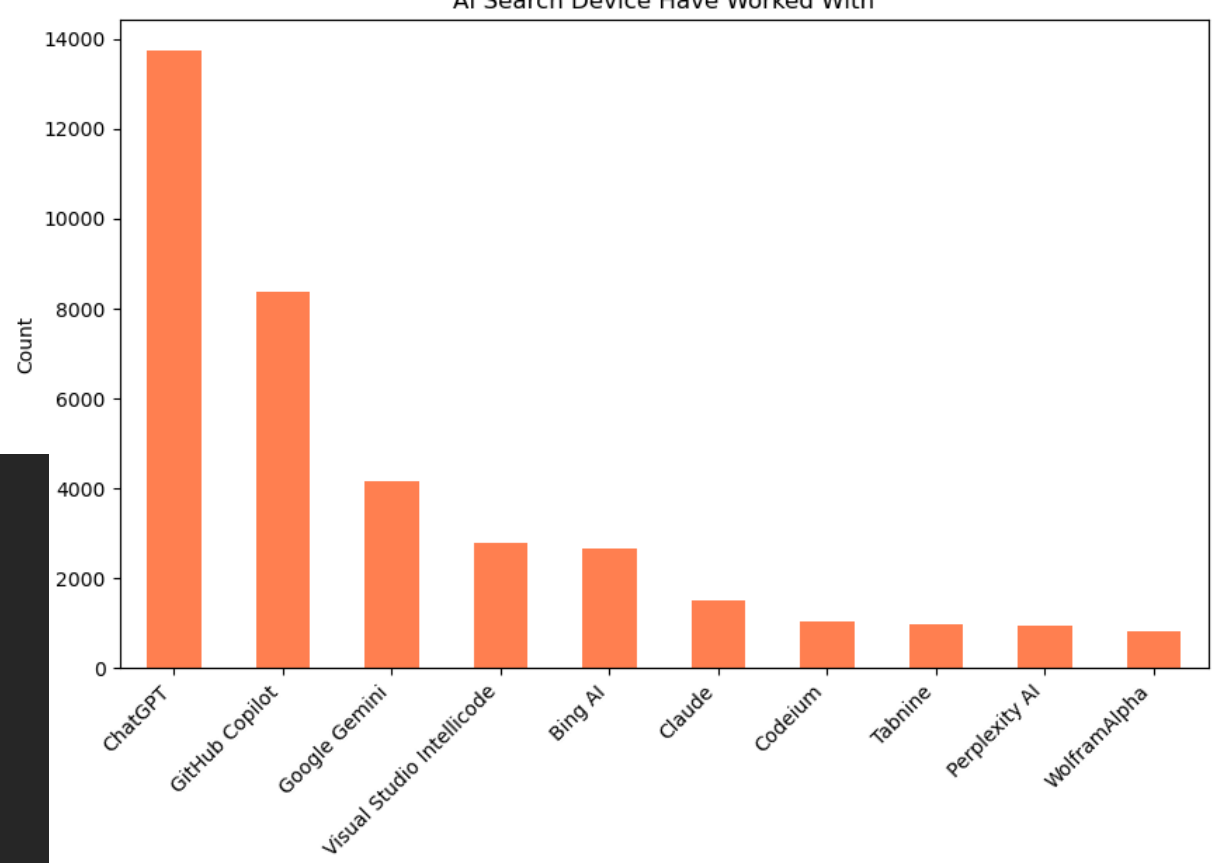
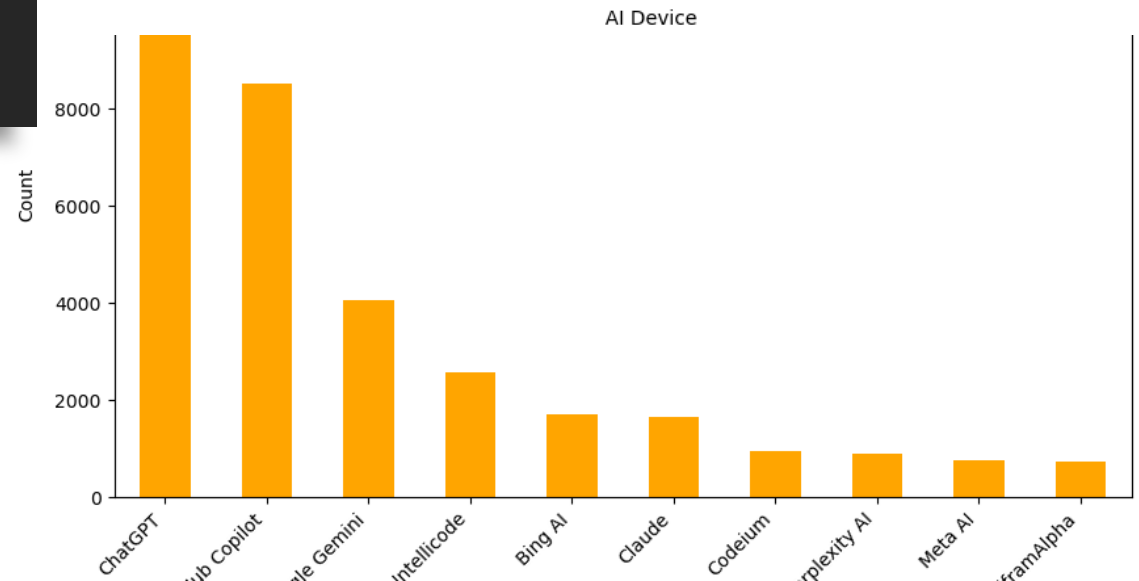
AI Tools in Use and Tools Users Want to Learn





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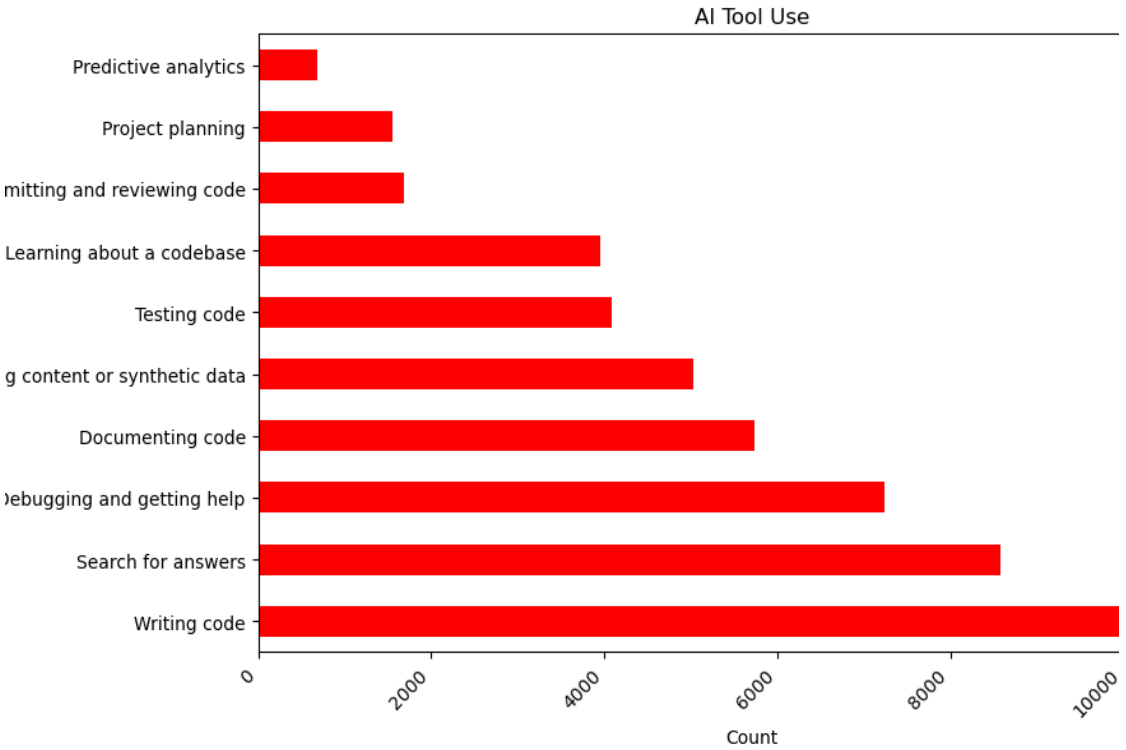

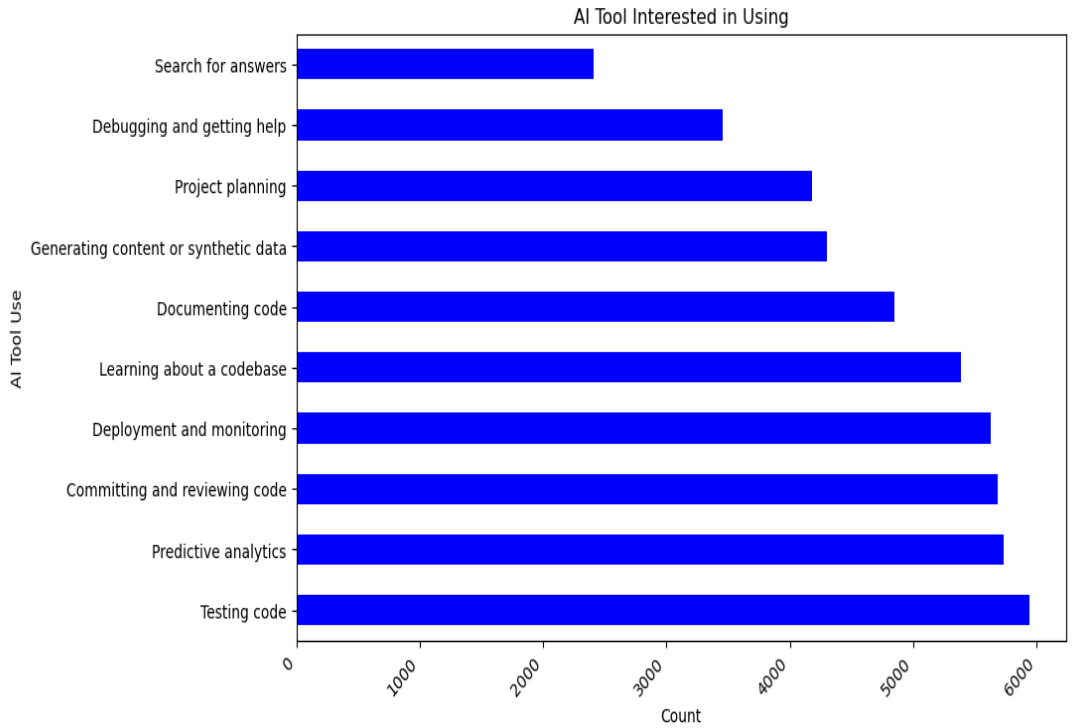

Ways AI Tools are Used and How Users Want to Use AI Tools