



Developer Survey Results for 2019

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OUTLINE



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EXECUTIVE SUMMARY



- In 2019 nearly 90,000 developers took the Stack Overflow Developer Survey.
- Participants' answers gave us clues about the technology world's now and future.
- The results are about their technology and demographics background.
- Exploratory data analysis with Python was the main approach driving key results.
- The key results are about:
 - Current technology usage
 - Future Technology trend
 - Demographics

INTRODUCTION



- This report includes an analysis of the dataset used in the research was The 2019 Stack Overflow Developer Survey Results.
- Current technologies and future trends are examined.
- The survey data was cleaned, organized, and analyzed with python in order to reach the result from the answers given by the developers.
- The results obtained from the data were visualized with Python. IBM Watson Studio was used to create the dashboards.

INTRODUCTION



- The results were analyzed under the following headings:
 - A **Current Technology Usage** tab containing:
 - A **Future Technology Trends** tab containing:
 - A **Demographics** tab containing:

METHODOLOGY



- The 2019 Stack Overflow Developer Survey Results were taken and modified. Nearly 90,000 developers took the survey.
- Prepared for analysis with data wrangling. Outliers detected.
- Distributions and relations between gender, location, age, languages, platforms, databases, web frameworks were examined.
- The current technologies and future trends, as well as the characteristics of those who use them, were determined.

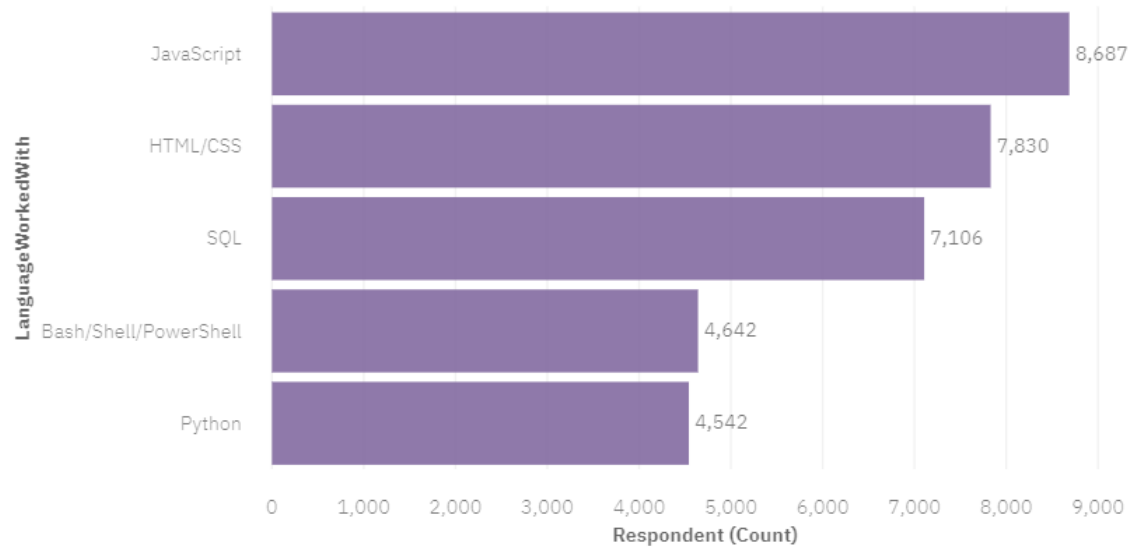
RESULTS

- PROGRAMMING LANGUAGE TRENDS
 - Findings and implications
- DATABASE TRENDS
 - Findings and implications

PROGRAMMING LANGUAGE TRENDS

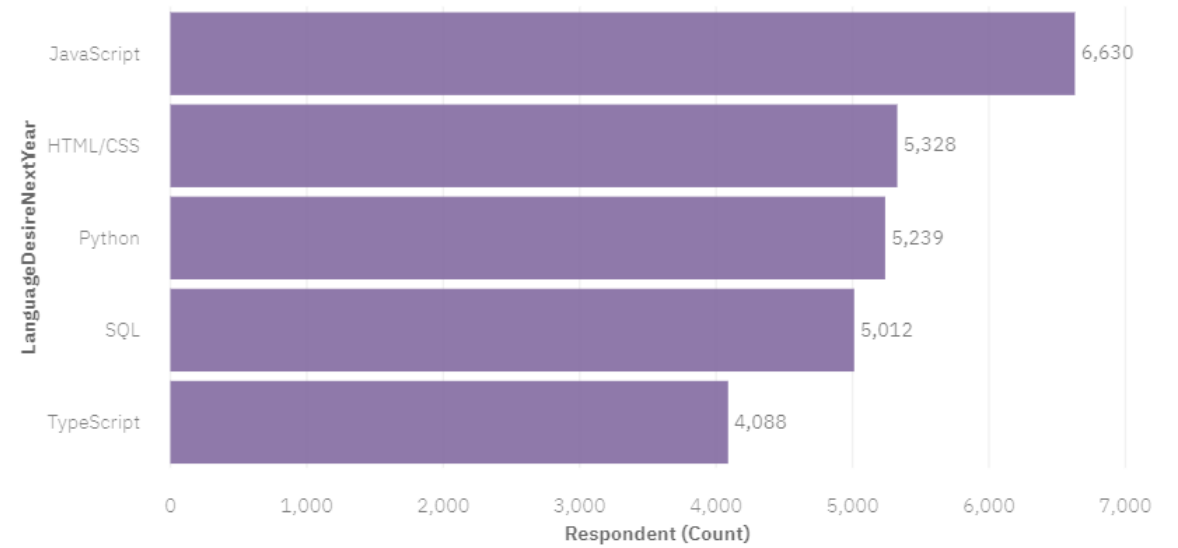
Current Year

Top 5 LanguageWorkedWith



Next Year

Top 5 LanguageDesireNextYear



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Javascript, HTML/CSS, SQL, and Python are popular languages right now and will continue to be next year.
- Bash/Shell/PowerShell is currently in use, but next year there will be fewer people who want to learn.
- Typescript is not popular right now, but next year the number of people who want to learn is increasing.

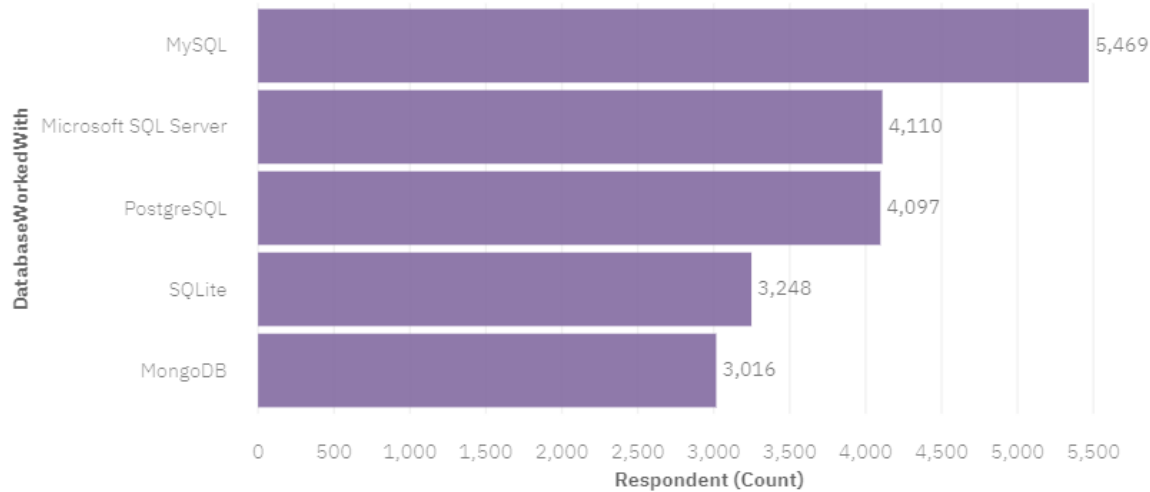
Implications

- Javascript, HTML/CSS, SQL and Python are languages worth learning.
- Bash/Shell/PowerShell may be out of date in the future.
- Typescript could be more popular than now.

DATABASE TRENDS

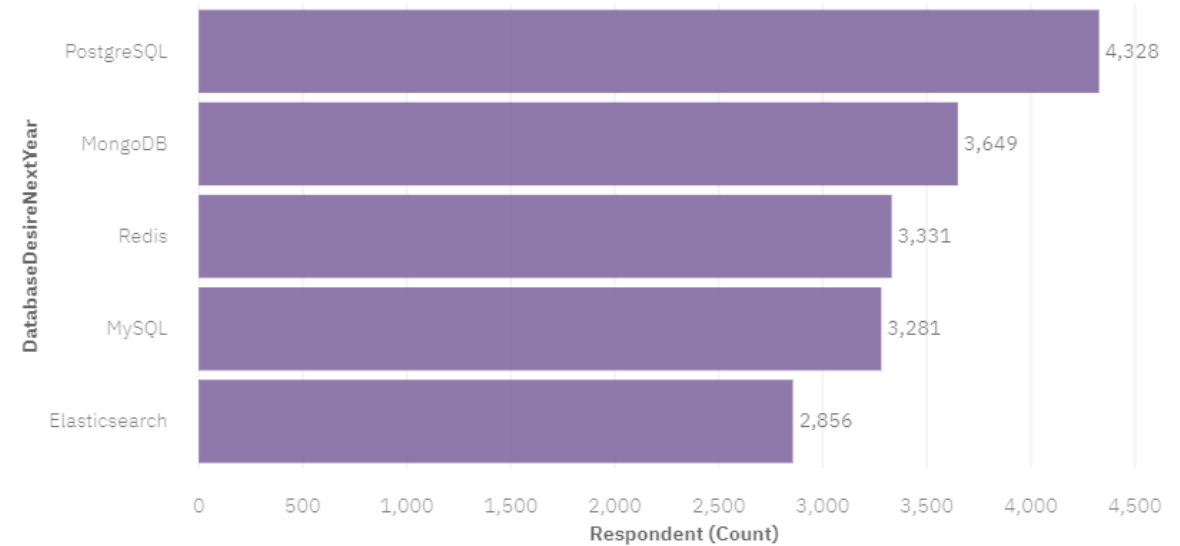
Current Year

Top 5 DatabaseWorkedWith



Next Year

Top 5 DatabaseDesireNextYear



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MongoDB and PostgreSQL are popular right now and the number of people who want to use them is increasing.
- Although MySQL is currently the most used, PostgreSQL will be the most learned next year.
- Although Redis and ElasticSearch are not widely used now, there are many who want to learn in the coming years.

Implications

- We can continue to see MongoDB and PostgreSQL in future.
- MySQL may be losing its popularity over time.
- We can see Redis and ElasticSearch in future more than now.

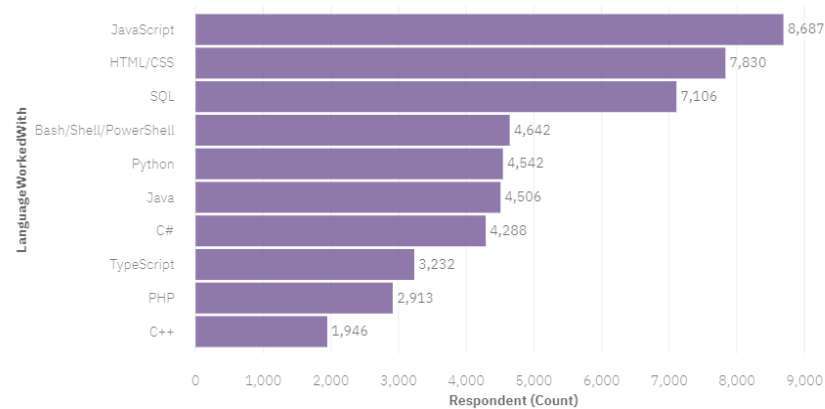
DASHBOARD



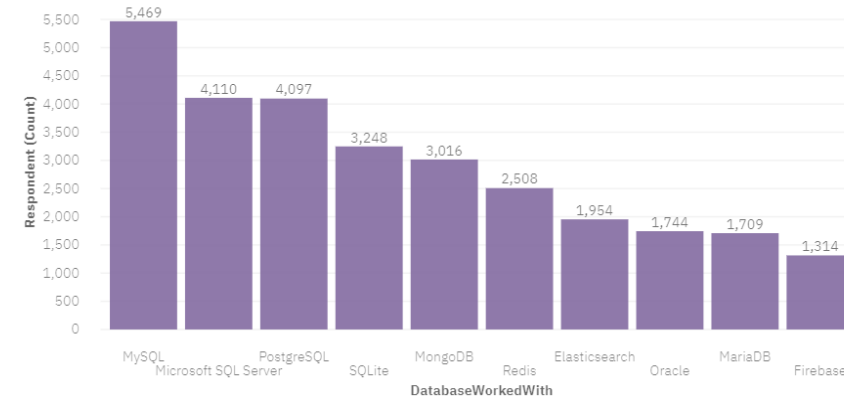
[Dashboard Link](#)

DASHBOARD TAB 1

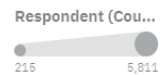
Top 10 LanguageWorkedWith



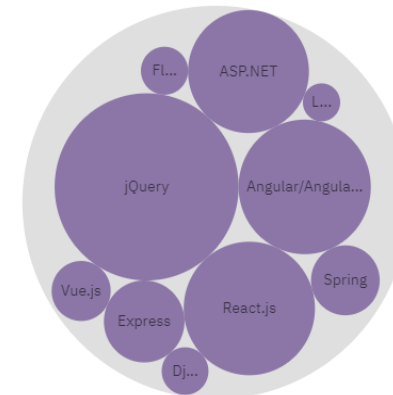
DatabaseWorkedWith



PlatformWorkedWith

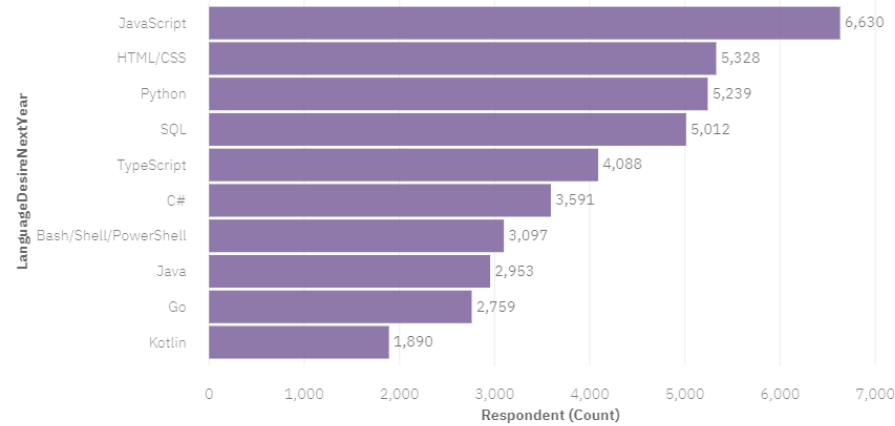


Top 10 WebFrameWorkedWith

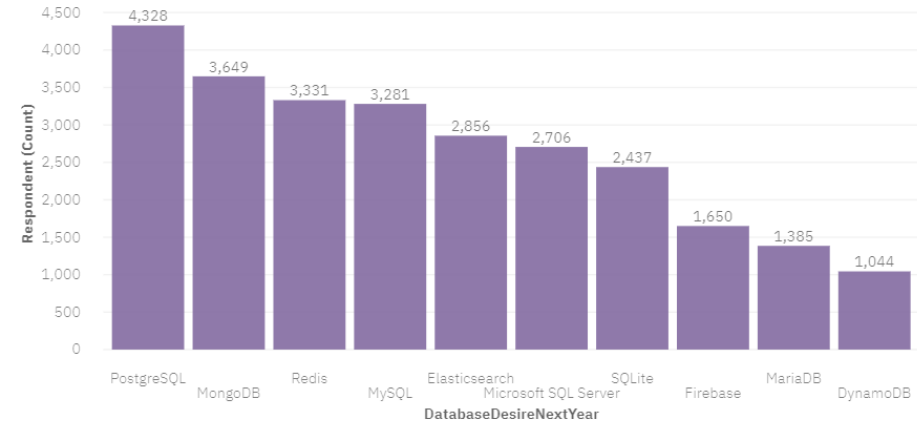


DASHBOARD TAB 2

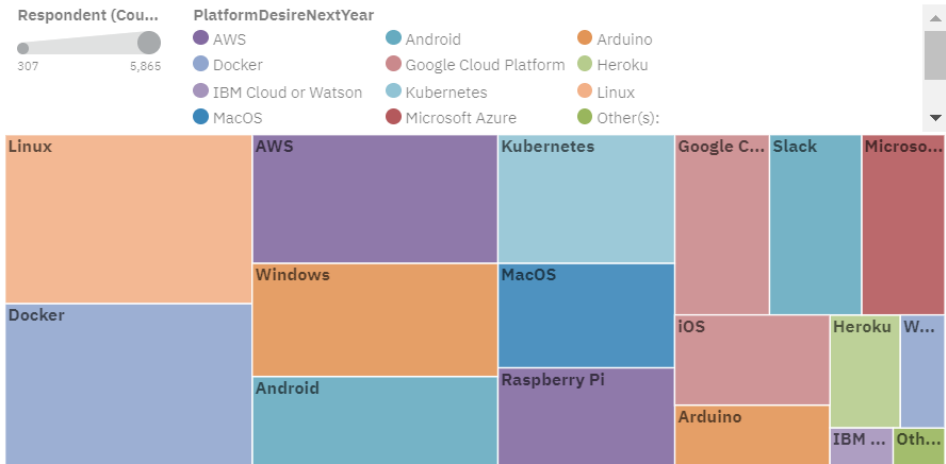
Top 10 LanguageDesireNextYear



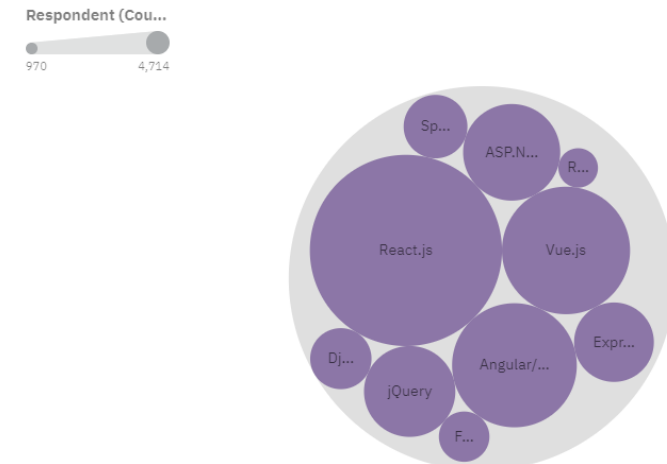
Top 10 DatabaseDesireNextYear



PlatformDesireNextYear



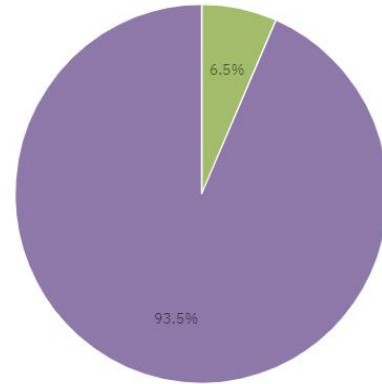
Top 10 WebFrameDesireNextYear



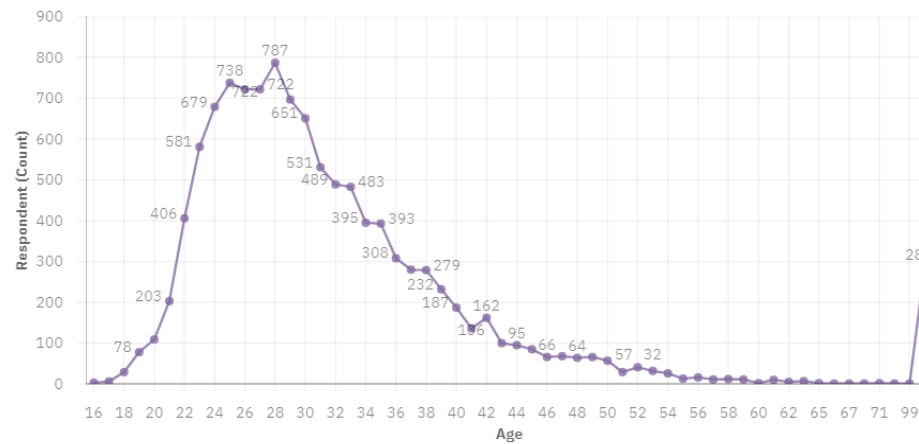
DASHBOARD TAB 3

Respondent classified by gender

Gender
● Woman ● Man

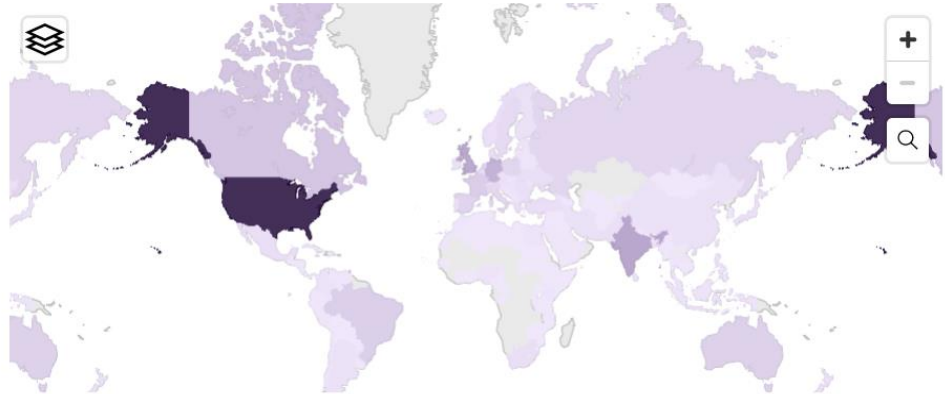


Respondent Count by Age



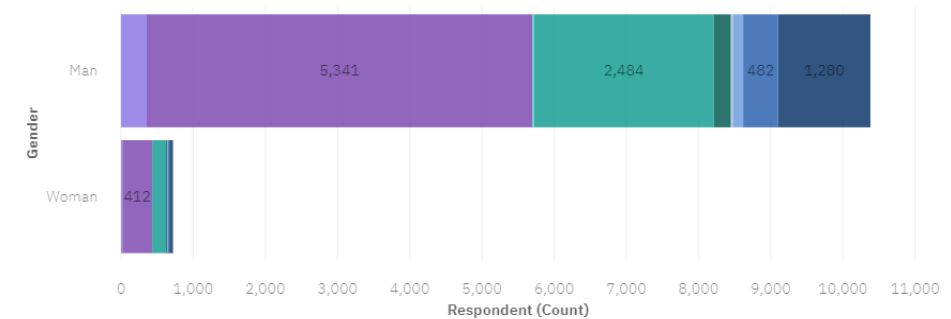
Respondent Count for Countries

Respondent (Cou...
1 3,127



Respondent Count by Gender, classified by Formal Education Level

EdLevel
● Associate degree ● Bachelor's degree (BA, BS, B.E... ● I never completed any formal ...
● Master's degree (MA, MS, M.E... ● Other doctoral degree (Ph.D, E... ● Primary/elementary school
● Professional degree (JD, MD, e... ● Secondary school (e.g. Americ... ● Some college/university study ...



DISCUSSION

- 
- OVERALL FINDINGS & IMPLICATIONS

OVERALL FINDINGS & IMPLICATIONS

Findings

- Windows, Linux, Docker and AWS are dominant platforms, and will be in next year. Those who want to learn Windows are relatively less than others.
- The age of software developers is stacked in between 20 and 40.
- The number of women in the technology sector is small.

Implications

- We will see Windows, Linux, Docker and AWS as dominant platforms.
- People may stop coding as they get older, or they may stop contributing to platforms like Stack Overflow.
- There may be an inequality of opportunity between men and women.

CONCLUSION



- The technology industry is developing very fast. Alternatives to the technologies used are also in demand.
- Generally, young people contribute to the technology world.
- The proportion of women in the technology sector is much less than that of men.
- Windows, Linux, Docker and AWS are dominant platforms, and will be in next year.

APPENDIX

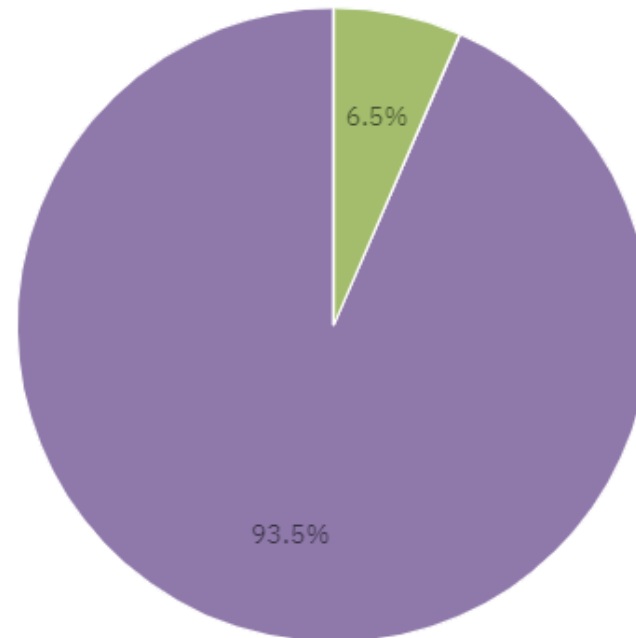
- The dataset we used in this project comes from the following source: <https://stackoverflow.blog/2019/04/09/the-2019-stackoverflow-developer-survey-results-are-in/> under a **ODbL: Open Database License**.

APPENDIX

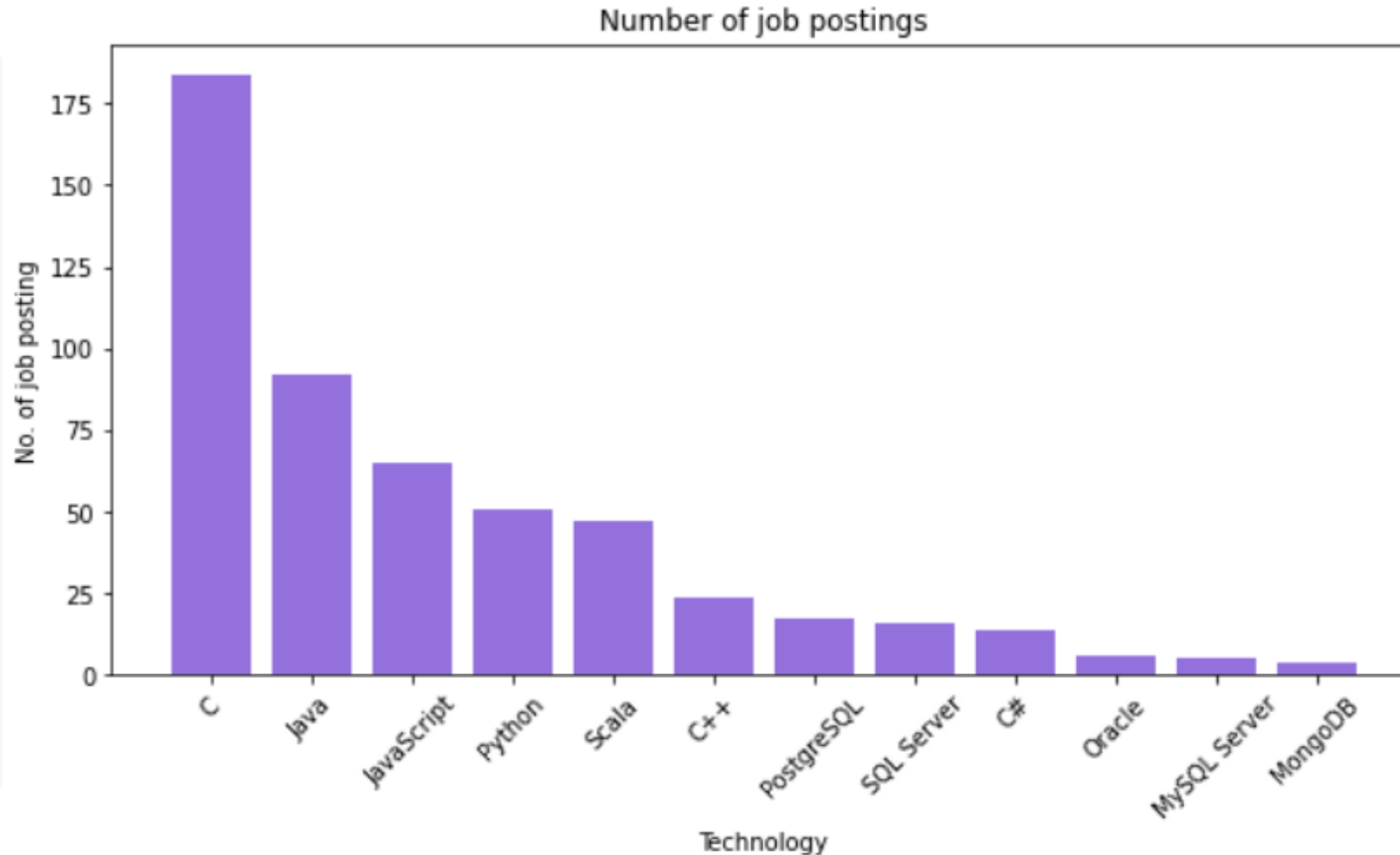
- At this point, I would like to add this sad chart. As a woman, I felt frustrated and disappointed.

Respondent classified by gender

Gender
● Woman ● Man



GITHUB JOB POSTINGS



POPULAR LANGUAGES

