

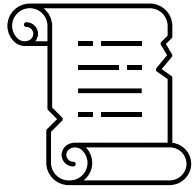
2019 STACK OVERFLOW DEVELOPER SURVEY

DANIEL DAGADU

10/05/2014



OUTLINE



Executive Summary

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- Visualization - Charts
- Dashboard

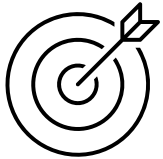
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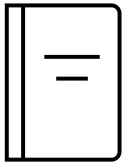
EXECUTIVE SUMMARY



- Several relevant skills are in-demand in the Tech space and this demand has increased over the years.
- Due to this growing demand, it is important to always analyze alongside the current trend, the likely future trend of those skills.
- This is to enable Tech Industries spot relevant opportunities and make informed decisions as it relates to cost and budget inclusions.
- Survey of the demographics for different technologies.
- Age and Gender bias in the technology sector.

INTRODUCTION

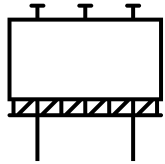
- This presentation is aimed at gaining insights on the future skill requirements and platforms in the technology space and their impact on the growing competitive trend.



- The presentation is also targeted at Global IT Industry Leaders, Programmers, and Students, to enable them spot the possible relevant skills which will help them make informed decisions on budget, learning/training cost, and personnel management.

- The analysis will cut across various aspects of the Tech Space, and positive conclusions will be drawn afterwards.

METHODOLOGY



Data Collection(Web-Scraping)

- Stack Overflow developer 2019 survey
- GitHub Job Postings
- Programming Languages Annual Salary

Data Wrangling

- Checking data quality
- Data Cleaning

Exploratory Data Analysis

- Summary Statistics and distribution of dataset
- Handling Outliers
- Correlation

Data Visualization (Tools)

- Python Matplotlib & Seaborn
- IBM Cognos Analytics

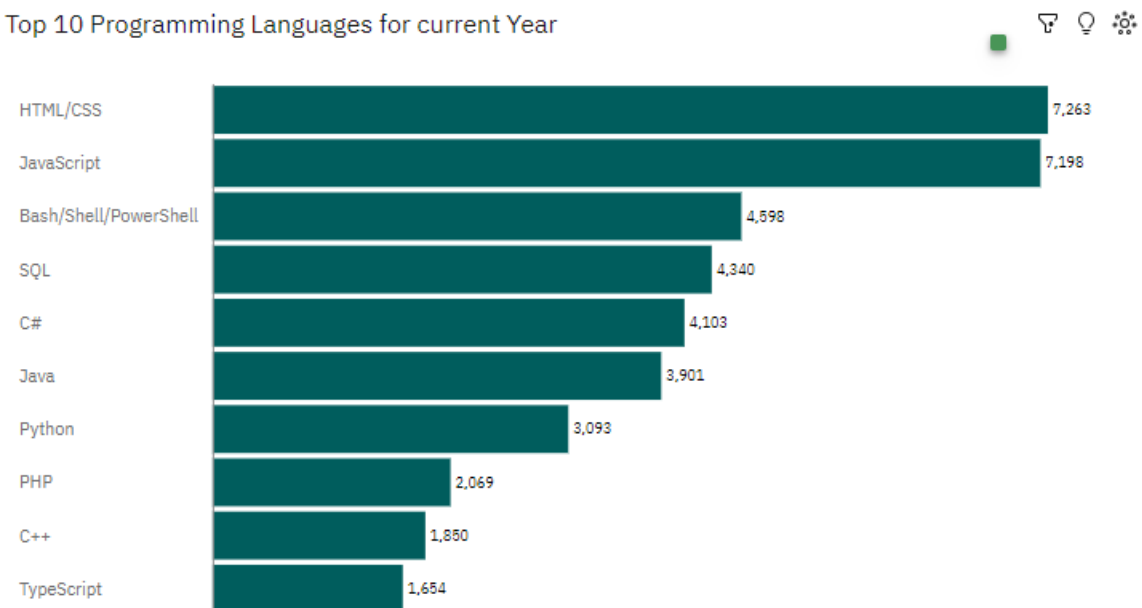
Result Presentation

RESULTS

PROGRAMMING LANGUAGE TRENDS

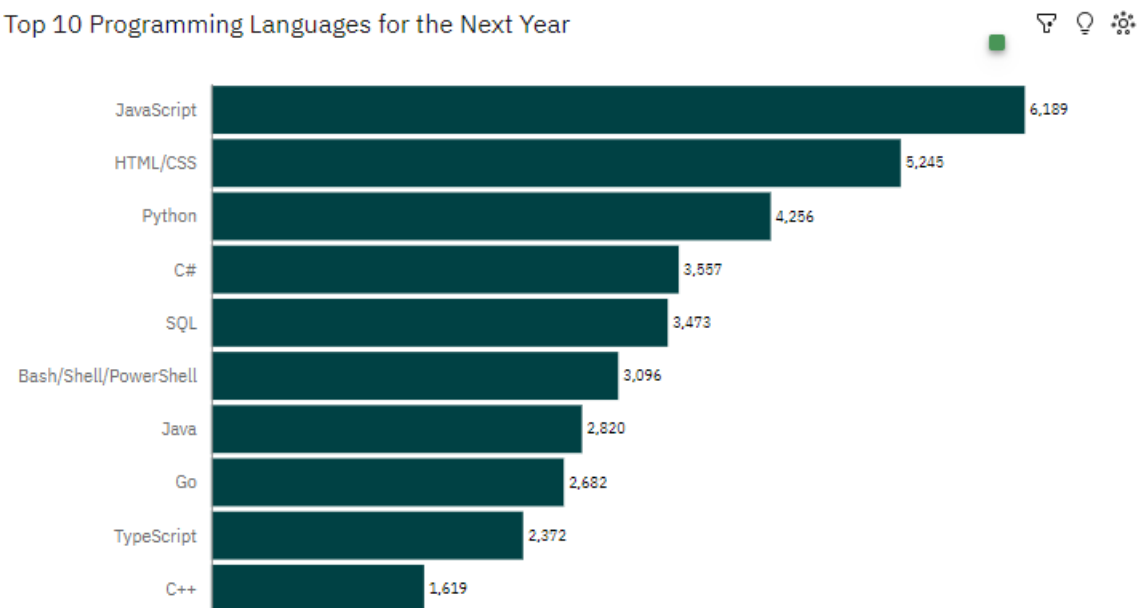
Current Year

Top 10 Programming Languages for current Year



Next Year

Top 10 Programming Languages for the Next Year



RESULTS

PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

FINDINGS

- JavaScript and HTML/CSS are the most popular programming languages. This means that Web development is still in high demand.
- Python gained more popularity over time. This could be due to more interest in Data Science and Artificial Intelligence
- The demand for SQL dropped significantly.

IMPLICATIONS

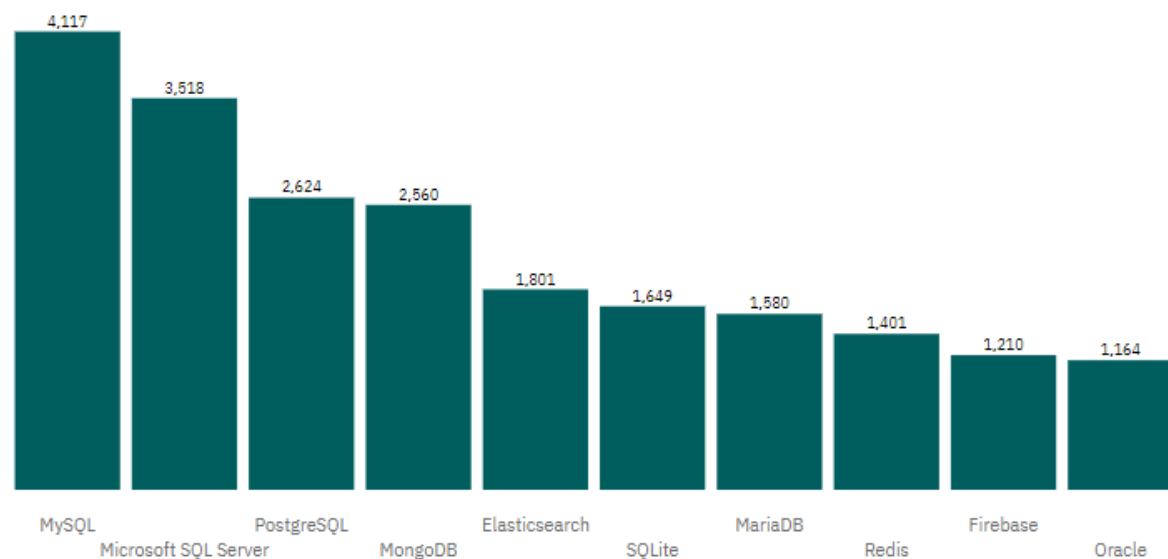
- Due to the high demand in Web Development, more personnel should be hired for the JavaScript and HTML/CSS skills
- The growing interest in AI and Machine Learning suggests that Python will gain more significance and popularity in the coming years.

RESULTS

DATABASE TRENDS

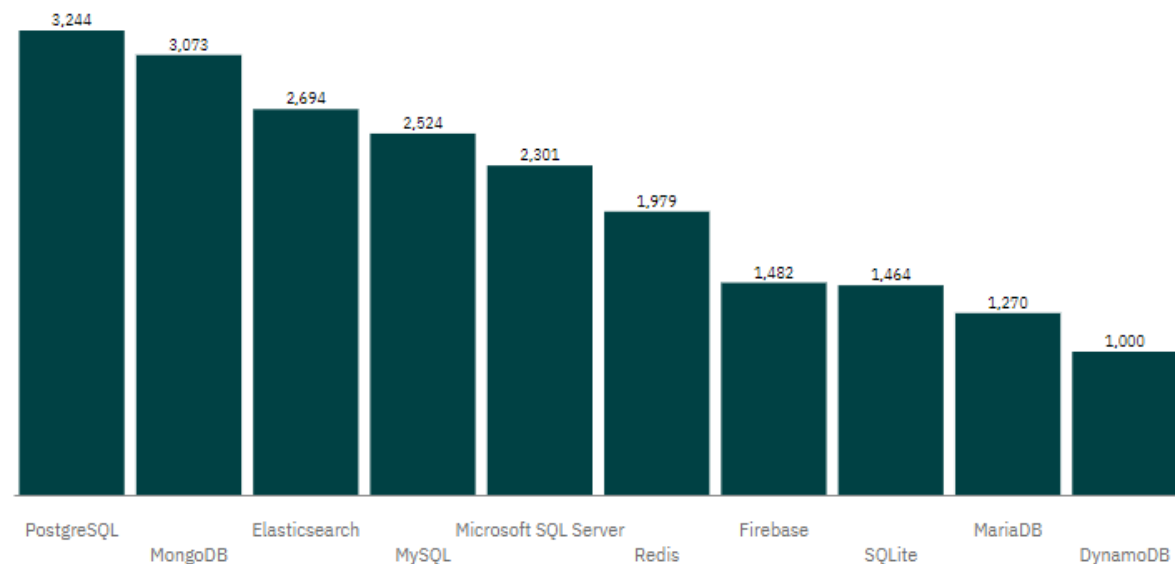
Current Year

Top 10 Databases For Current Year



Next Year

Top 10 Databases for Next Year



RESULTS

DATABASE TRENDS - FINDINGS & IMPLICATIONS

FINDINGS

- There was a significant drop in the popularity of MySQL.
- PostgreSQL gained a very significant popularity and has become the most widely used Database too, followed by MongoDB.
- The demand for SQL dropped significantly.

IMPLICATIONS

- The vast advantages of Non - Relational Database Systems have contributed to the popularity of MongoDB and Redis.
- PostgreSQL has gained more popularity due to its open-source platform.

RESULTS

DASHBOARD

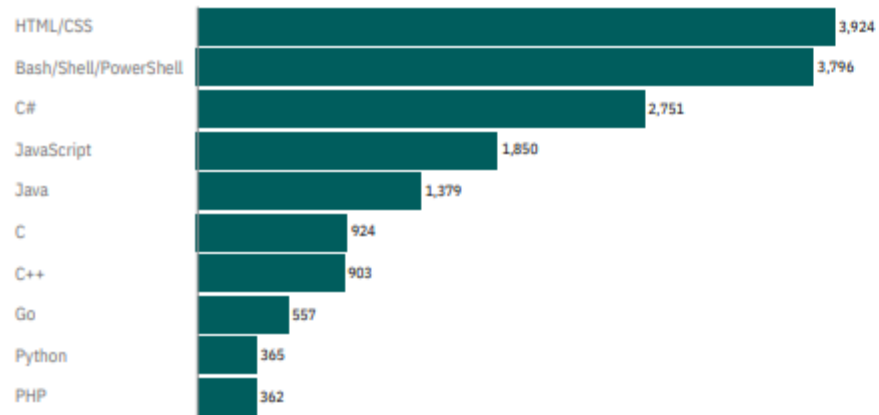
Interact With the Dashboard via the link below

[https://us3.ca.analytics.ibm.com/bi/?perspective=dashboard
&pathRef=.my_folders%2FCurrent%2BTechnology%2BUsage
&action=view&mode=dashboard&subView=model000001
8f5c5d2978_00000000](https://us3.ca.analytics.ibm.com/bi/?perspective=dashboard&pathRef=.my_folders%2FCurrent%2BTechnology%2BUsage&action=view&mode=dashboard&subView=model0000018f5c5d2978_00000000)

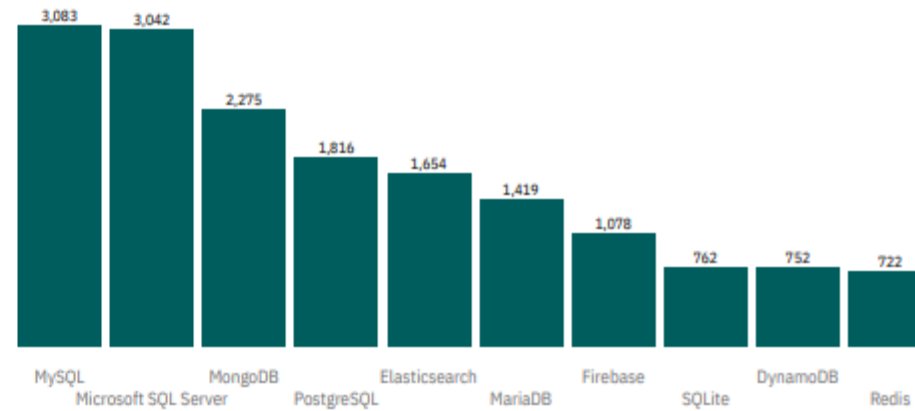
RESULTS

DASHBOARD – CURRENT TECHNOLOGY USAGE

Top 10 Programming Languages Worked With



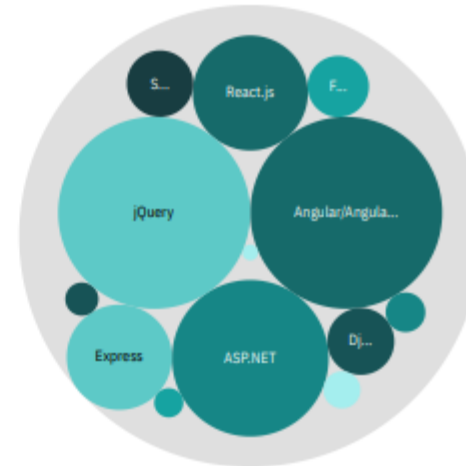
Top 10 Databases Worked With



Platforms Worked With



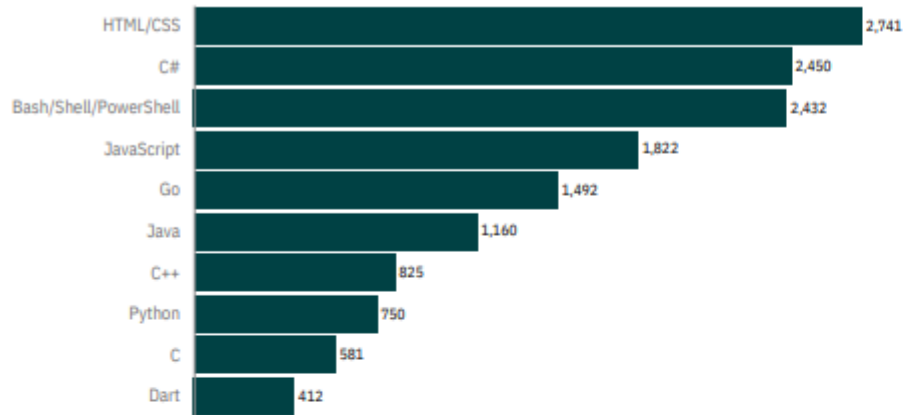
WebFrames Worked With



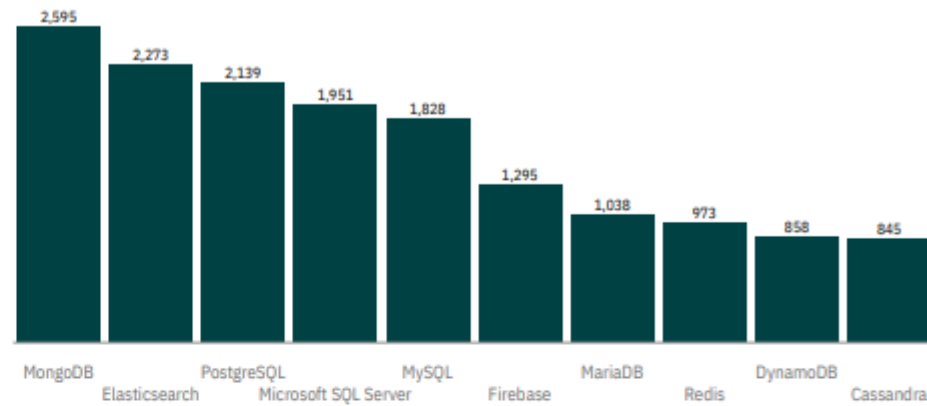
RESULTS

DASHBOARD – FUTURE TECHNOLOGY TRENDS

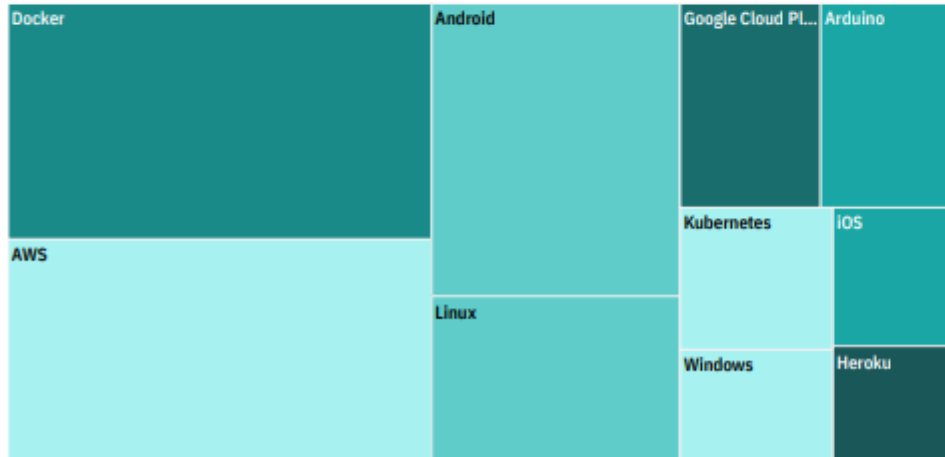
Top 10 Programming Languages for the Future Year's Needs



Top 10 Database Desires for Next Year



Top 10 Platform Desires for Next Year



WebFrame Desire Next Year

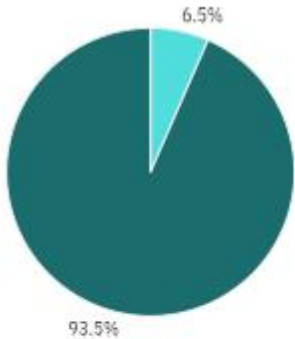


RESULTS

DASHBOARD – DEMOGRAPHICS

Respondent by Gender

Gender
Woman Man

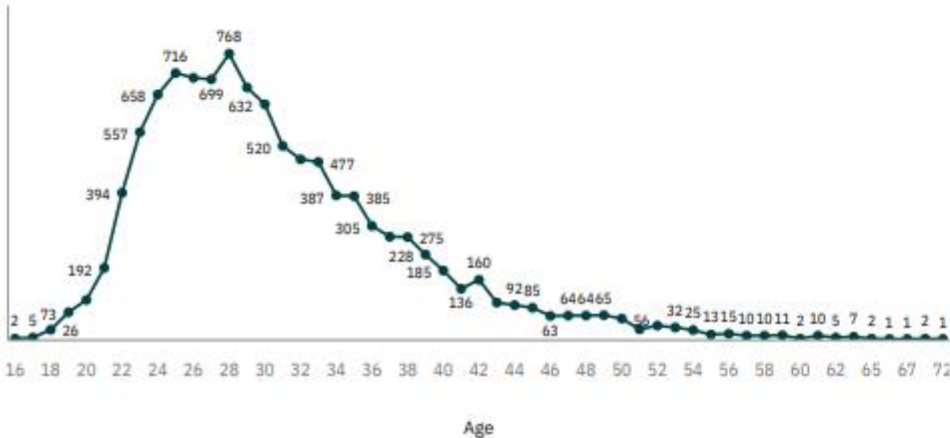


Respondent by Country

Respondent (Count)
1 2,974



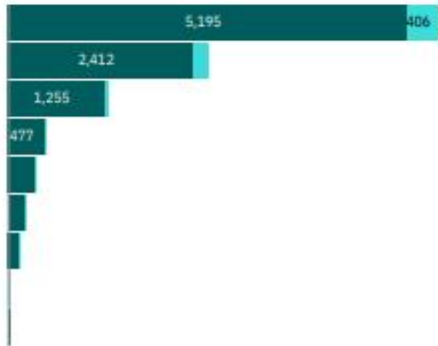
Respondent by Age



Respondent by EdLevel and Gender

Gender
Man Woman

Bachelor's degree (BA, BS, B.Eng., etc.)
Master's degree (MA, MS, M.Eng., MBA, etc.)
Some college/university study without earning a degree
Secondary school (e.g. American high school, German Re...
Associate degree
Other doctoral degree (Ph.D, Ed.D., etc.)
Professional degree (JD, MD, etc.)
I never completed any formal education
Primary/elementary school



DISCUSSION

OVERALL FINDINGS & IMPLICATIONS

FINDINGS
<ul style="list-style-type: none">• Platform – Linux and Windows remain the most desired platforms
<ul style="list-style-type: none">• Web Frameworks – React.js and Vue.js have increased in popularity while interests in jQuery have dropped significantly
<ul style="list-style-type: none">• JavaScript and PostgreSQL remain the most popular programming language and database tool respectively
More male than female are in the Tech Space.
<ul style="list-style-type: none">• USA ranks the highest in the Technology Space
<ul style="list-style-type: none">• Majority of the Tech experts fall within the age of 15 and 42 years

IMPLICATIONS
<ul style="list-style-type: none">• Equal opportunities should be given to both genders in the Tech space.
<ul style="list-style-type: none">• Age Shouldn't be a barrier when venturing into Tech
<ul style="list-style-type: none">• There should be thorough education on gaining tech skill in countries with a smaller number of respondents
<ul style="list-style-type: none">• Acquiring a tech skill should go beyond formal education. People with no formal education can pick up the task as well.
<ul style="list-style-type: none">• The female child needs to be taught tech skills to help increase the number of females in the tech space.

CONCLUSION

The trend in Technology is constantly changing. As a result, quality Personnel management is key to ensuring adequate upskilling for more demanding skills and growing trends.

The Tech Space should be accommodating regardless of Age, Gender, and Location.

Adequate Budgeting plan is vital in ensuring resources are channeled to the right skill for improved performance

APPENDIX

Number of Jobs by Location

