

IT SECTOR TRENDS



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OUTLINE



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- Discussion
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EXECUTIVE SUMMARY

Current Trends & Emerging Skills in IT

○ Data Sources:

Job postings, Training portals, Surveys

○ Trending:

- ✓ Language: JavaScript
- ✓ Database: MicrosoftSQL
- ✓ Platform: Linux
- ✓ Web Frame: jQuery

○ Emerging Kills:

- ✓ Language: JavaScript
- ✓ Database: PostgreSQL
- ✓ Platform: Linux
- ✓ Web Frame: ReactJS

Education:

Bachelor's Degree is most prominent
Degree

Gender Disparity In IT:

Only 7% workforce is women and remaining occupied by men.



INTRODUCTION



- Collected Data through various sources to check IT trends and skills
- Analysed the data and identified insights and trends as following:
 - ✓ Top Programming languages, Databases, Platforms and Education fields.
 - ✓ Top future Programming languages, Databases, Platforms and Education fields.
 - ✓ Gender, Education ,Age, Nationality etc. Diversity present in workforce.
- In order to keep pace with changing technologies and remain competitive for the benefit of the organization this data can be used.

METHODOLOGY

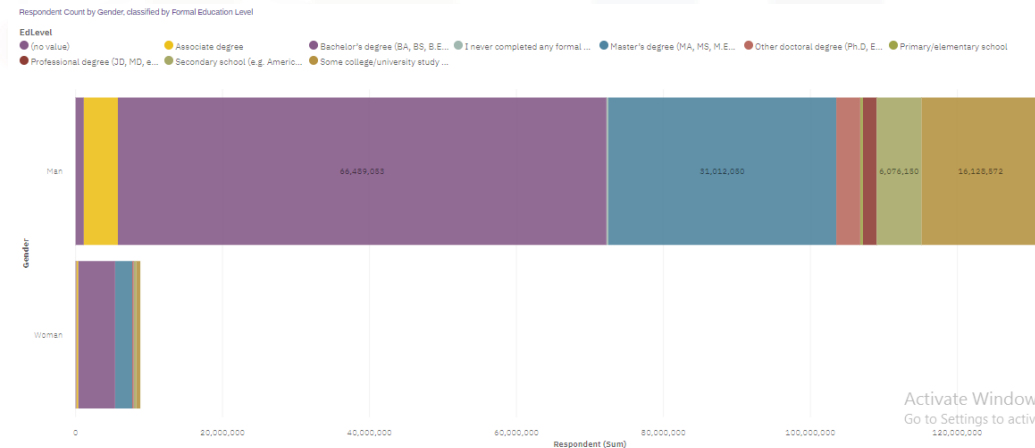
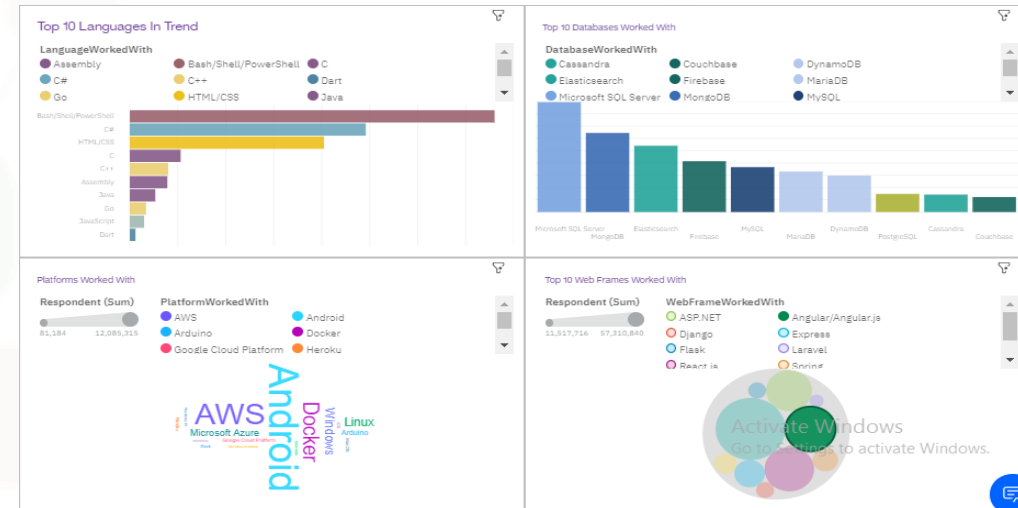


- Data sources used where Job postings, Training portals, Surveys
- Data extraction, cleaning and wrangling is performed.
- Data normalization and managing the outliers is done by normalization methods such as z-score normalization.
- Regression methods were used for analysis.
- Relationships and comparisons checked in data by visualizations such as scatter plots, pie charts etc.
- Dashboards are created for easier understanding using IBM Cognos.

RESULTS -1

- Currently Trending:
 - ✓ **Language:** PowerShell, c#, HTML/CSS
 - ✓ **Database:** MicrosoftSQL, PostgreSQL, ElasticSearch
 - ✓ **Platform:** Linux, Windows, Docker
 - ✓ **Web Frame:** jQuery, Angular, ReactJS
- Trending Education :

People with **Bachelor's Degree** make up the most of the workforce.



RESULTS - 2

Emerging in Future:

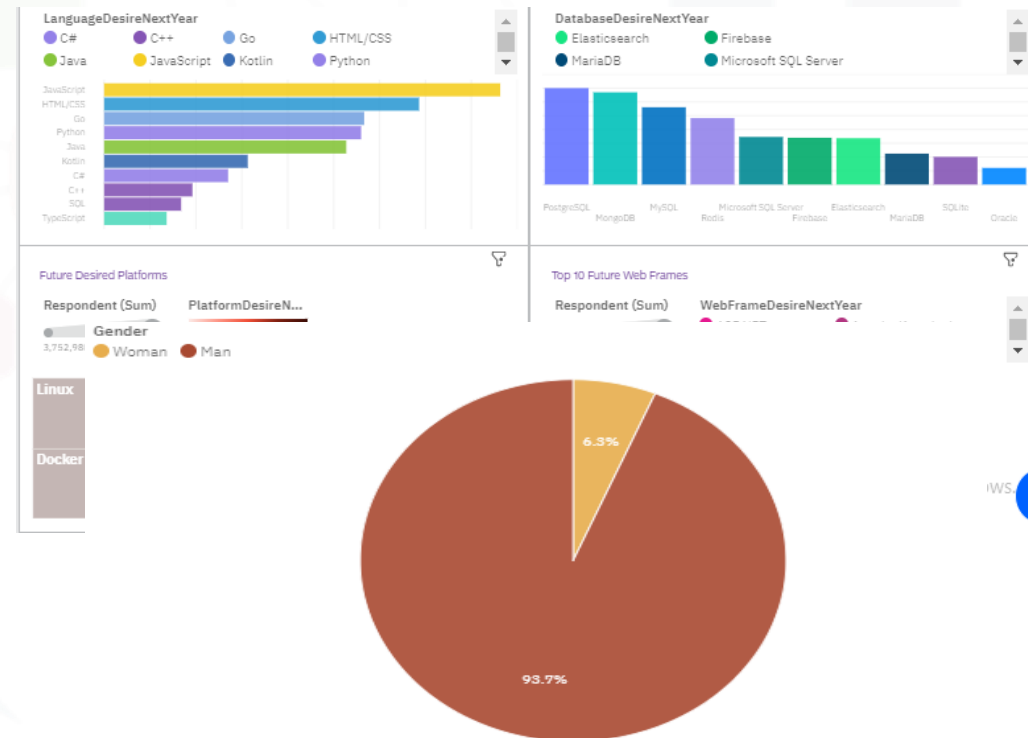
- ✓ **Language:** JavaScript, HTML/CSS, Go
- ✓ **Database:** PostgreSQL, MongoDB, MySQL
- ✓ **Platform:** Linux, Docker, AWS
- ✓ **Web Frame:** ReactJS, Vue.js, jQuery

Diversity:

Gender: 7% Women & 93% Men

Top Nationalities: USA, India

Age: Most of the workforce belongs to age group of 20 to 34



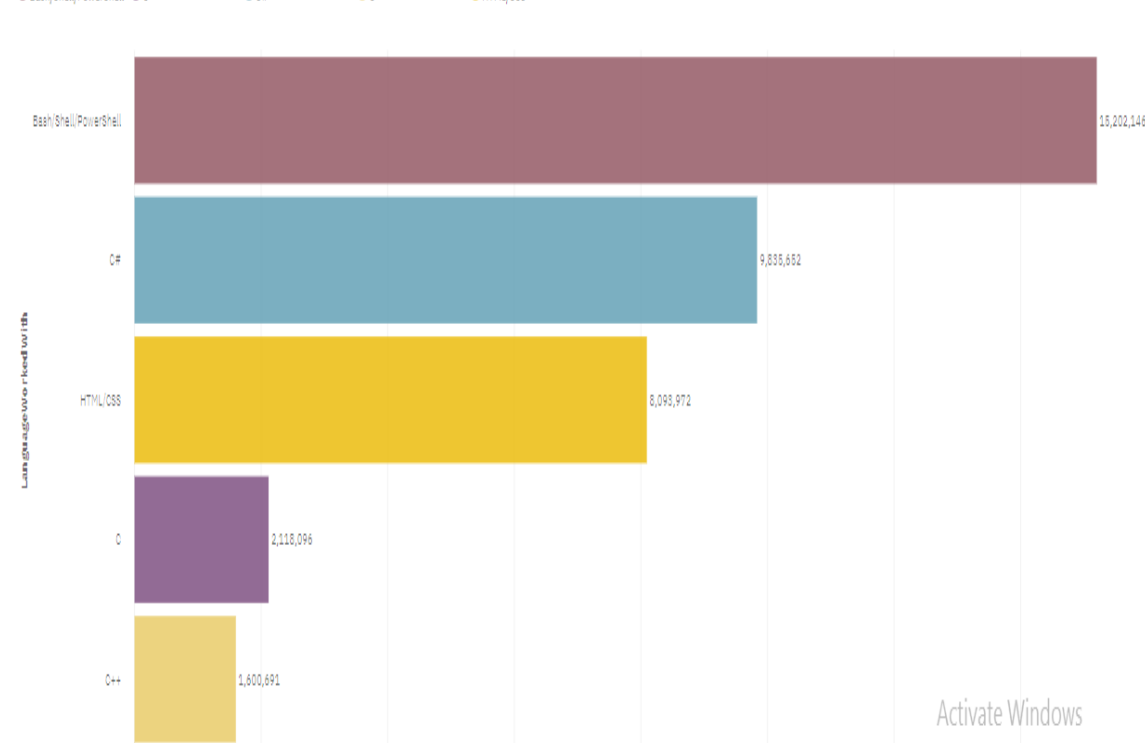
PROGRAMMING LANGUAGE TRENDS

Current Year

Top 10 Languages In Trend

LanguageWorkedWith

● Bash/Shell/PowerShell ● C# ● C++ ● HTML/CSS

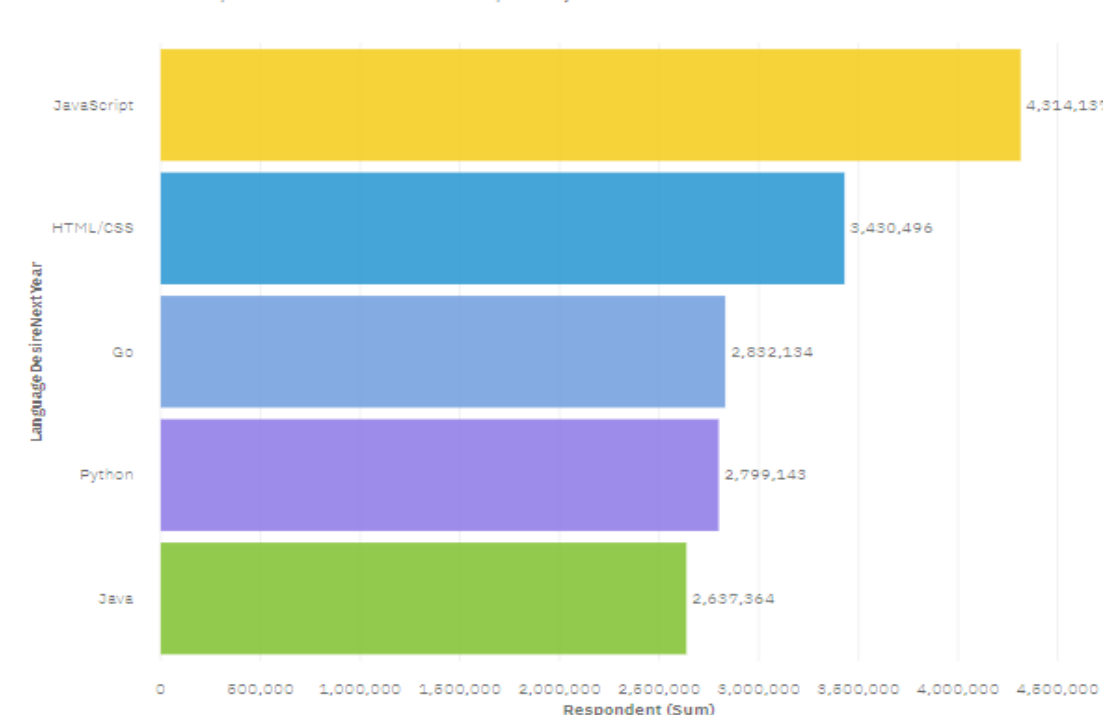


Next Year

Top 10 Future Desired Languages

LanguageDesireNextYear

● Go ● HTML/CSS ● Java ● JavaScript ● Python



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- ✓ Currently Power Shell and c# are most used languages
- ✓ Next year most used languages will be JavaScript and HTML/CSS.
- ✓ Python and Go are drastically gaining fame in small time span
- ✓ Power Shell is drastically losing its momentum

Implications

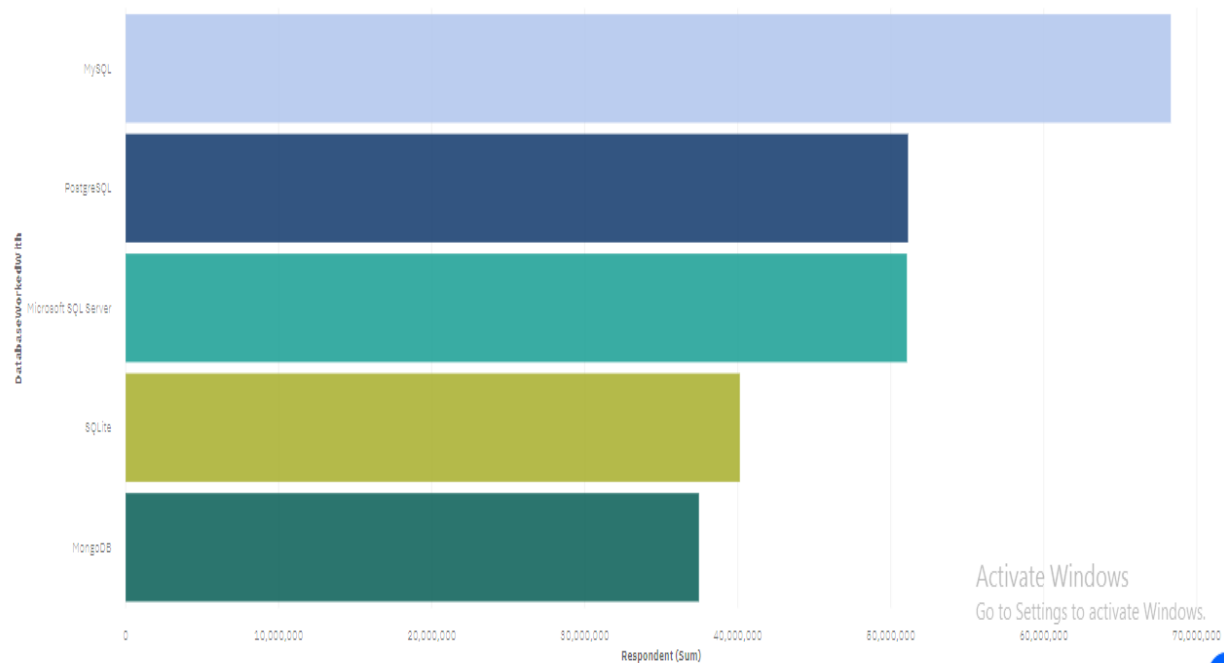
- ✓ New employees hired should have the knowledge of Python, Go & JavaScript.
- ✓ Training should be given for emerging languages such as Python & java to the current employees & college students.
- ✓ New Projects/ Applications development should consider using new emerging languages.

DATABASE TRENDS

Current Year

Current Top Databases

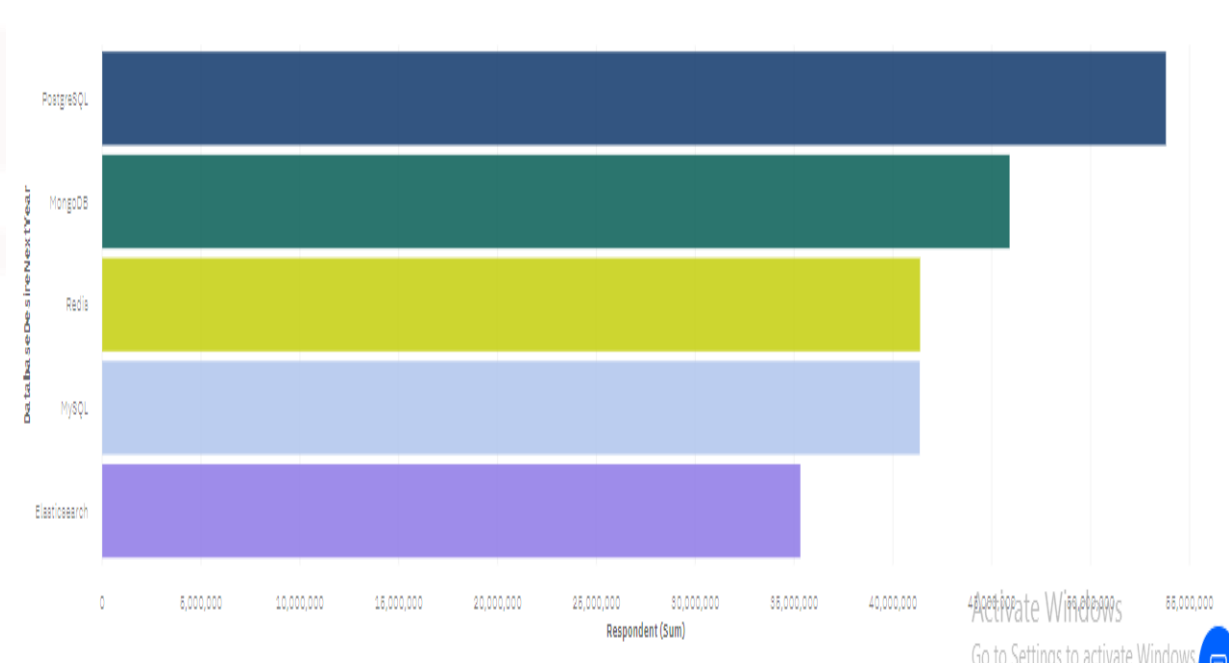
DatabaseWorkedWith
Microsoft SQL Server MongoDB MySQL PostgreSQL SQLite



Next Year

Top Emerging Databases

DatabaseDesireNextYear
Elasticsearch MongoDB MySQL PostgreSQL Redis



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- ✓ Currently MicrosoftSQL & PostgreSQL are most used databases.
- ✓ Next year most used languages will be PostgreSQL & MongoDB.
- ✓ PostgreSQL will be drastically gaining fame in small time span
- ✓ MicrosoftSQL is drastically losing its momentum

Implications

- ✓ More employees should be hired with the knowledge of PostgreSQL & MongoDB.
- ✓ Training should be given for emerging databases such as PostgreSQL & MySQL to the current employees & college students.
- ✓ New Projects/ Applications development should consider using new emerging databases.

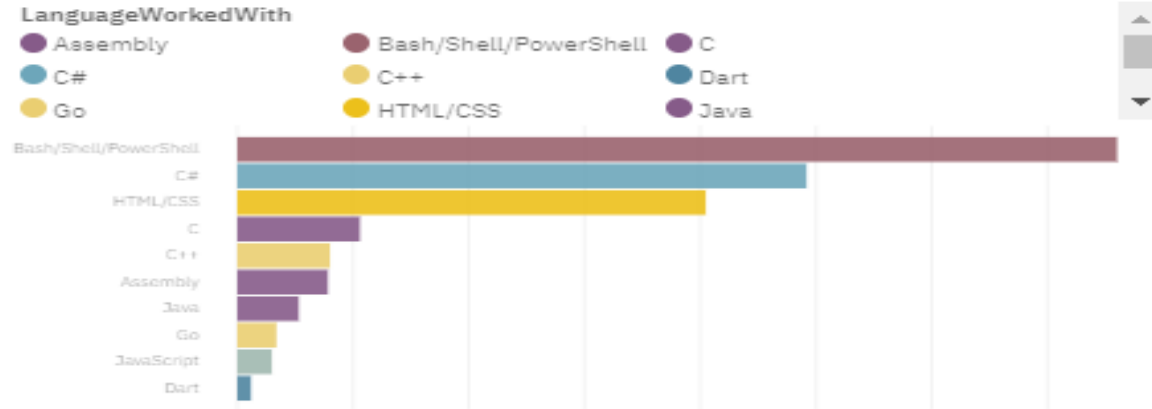
DASHBOARD



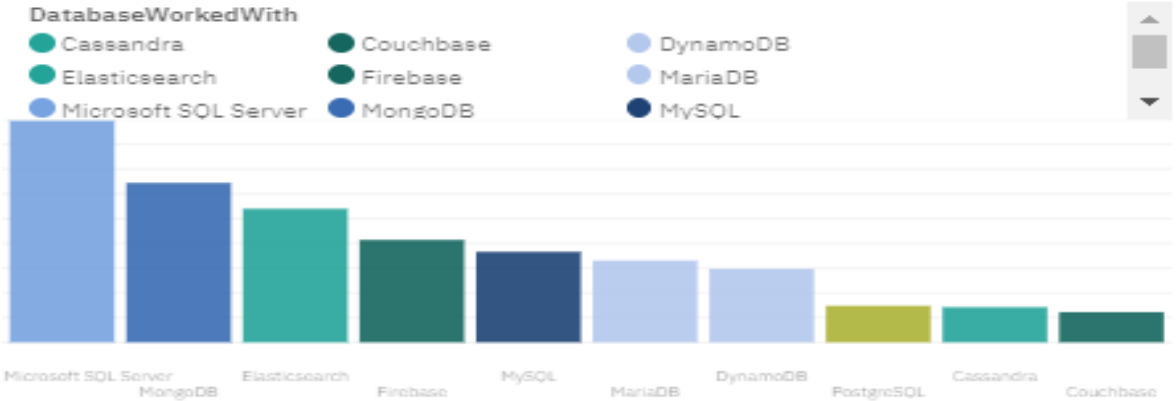
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DASHBOARD TAB 1

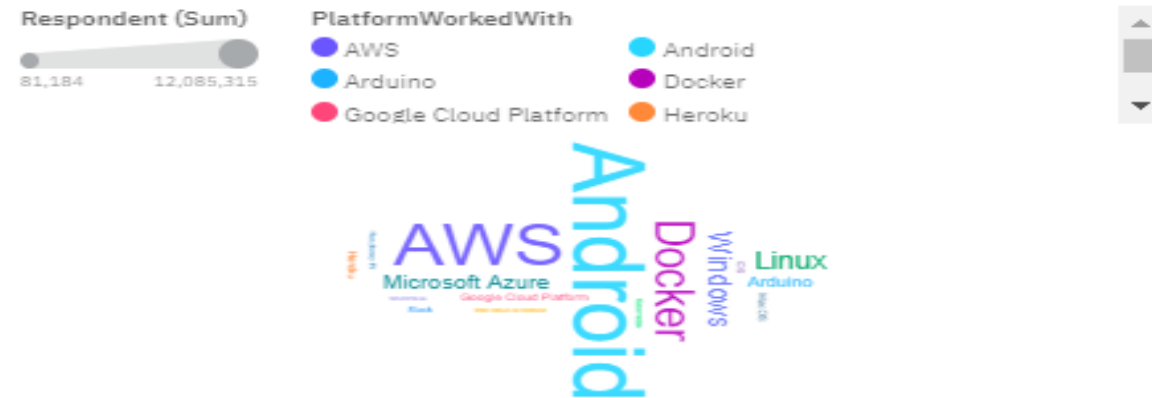
Top 10 Languages In Trend



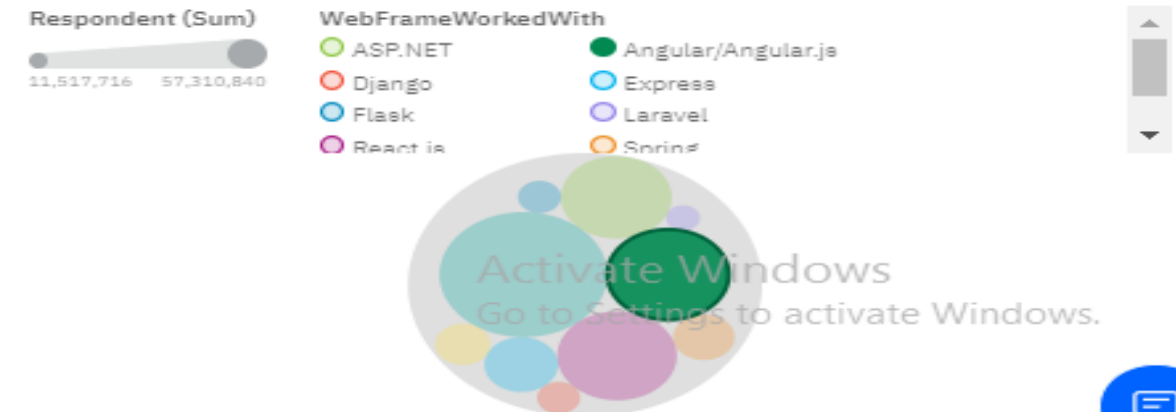
Top 10 Databases Worked With



Platforms Worked With



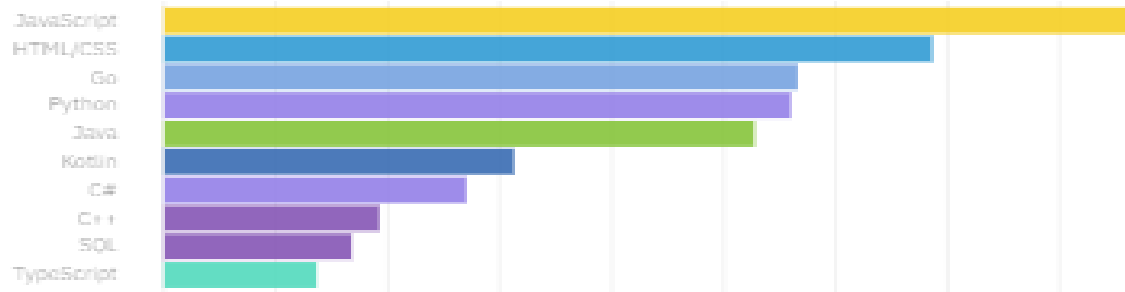
Top 10 Web Frames Worked With



DASHBOARD TAB 2

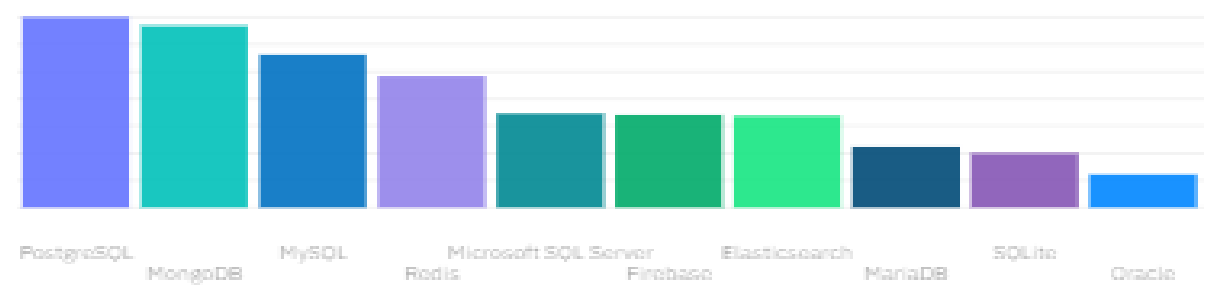
LanguageDesireNextYear

Legend: C# (Purple), C++ (Dark Purple), Go (Blue), HTML/CSS (Light Blue), Java (Green), JavaScript (Yellow), Kotlin (Dark Blue), Python (Light Purple)



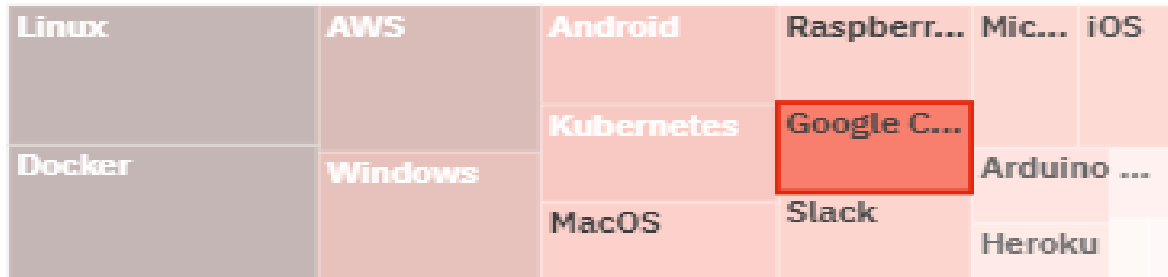
DatabaseDesireNextYear

Legend: Elasticsearch (Green), Firebase (Dark Green), MariaDB (Dark Blue), Microsoft SQL Server (Teal)



Future Desired Platforms

Respondent (Sum): 3,752,980 to 73,486,491
PlatformDesireNextYear: 307 to 5,865



Top 10 Future Web Frames

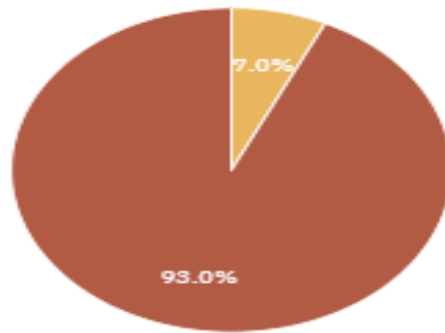
Respondent (Sum): 616,976 to 3,641,246
WebFrameDesireNextYear: ASP.NET (Pink), Angular/Angular.js (Dark Pink), Django (Blue), Express (Light Blue)



DASHBOARD TAB 3

Respondent sclassified by Gender

Gender
● Woman ● Man



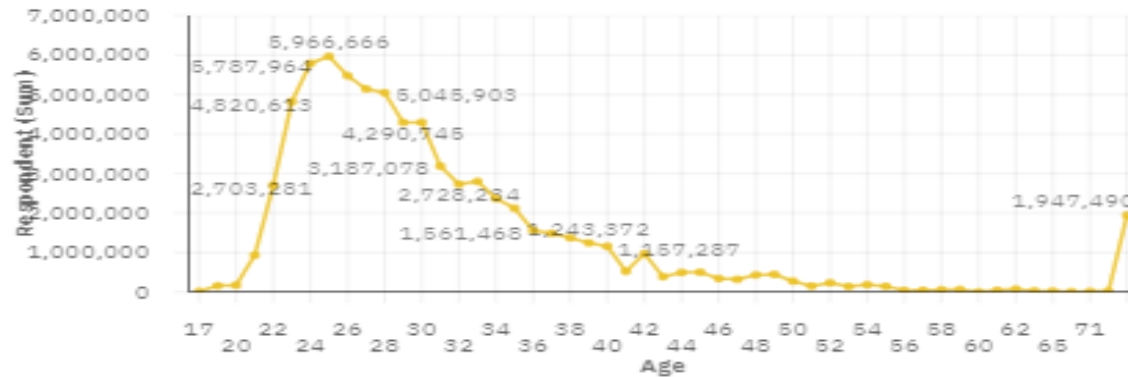
Respondent Count for Countries

Respondent (Sum)

749 23,402,984



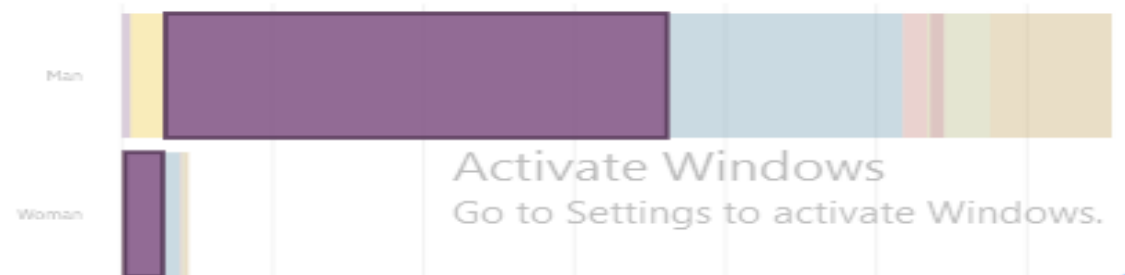
Respondent Count by Age



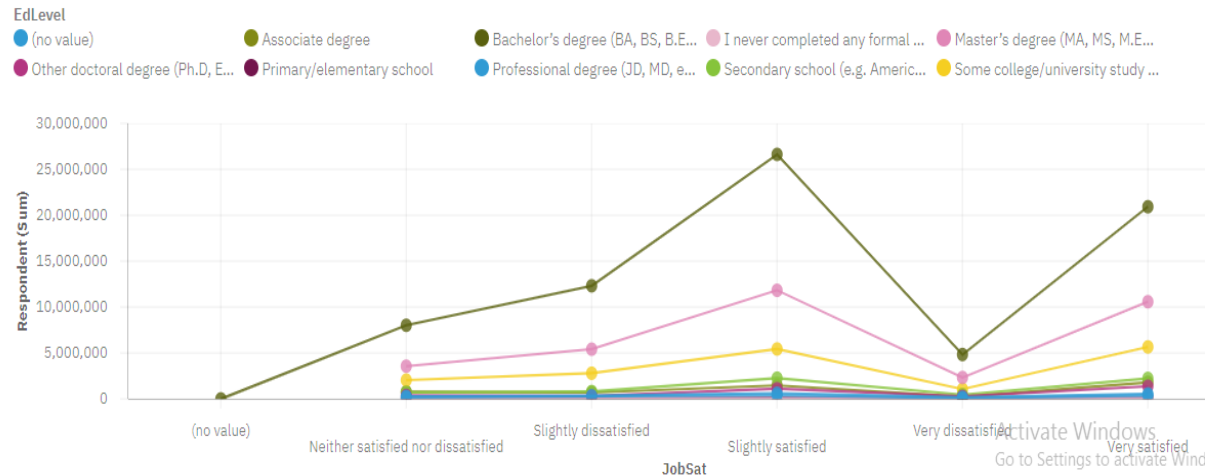
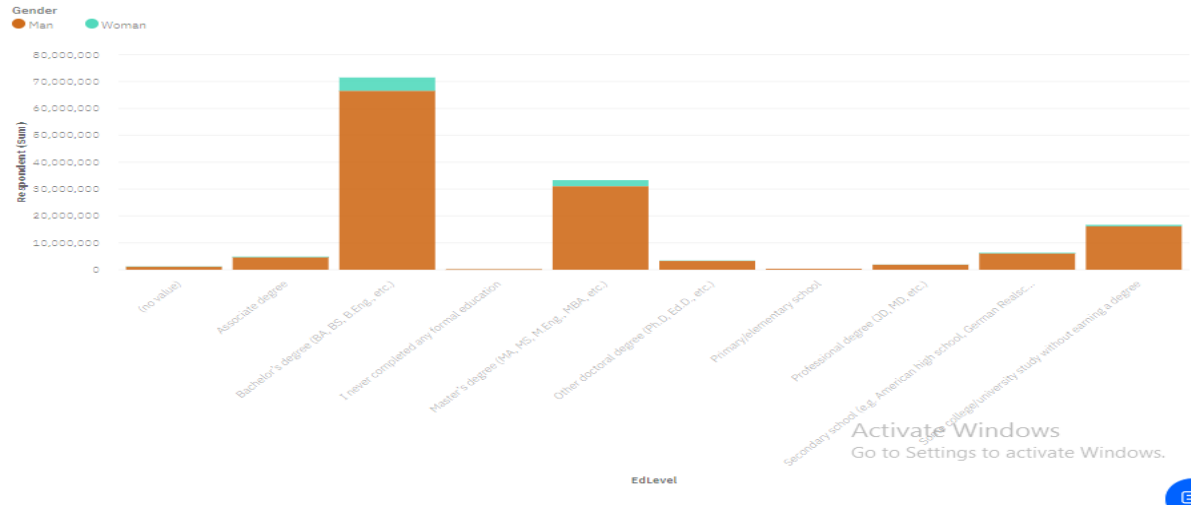
Respondent Count by Gender, classified by Formal Education Level

EdLevel

(no value) 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...



DISCUSSION



- Based on the gender chart, we can see that IT sector is dominantly run by men.
- This could be because of the fact that less number of women getting education in IT or any other field.
- Based on Education plot, we can infer that Bachelors and Masters is more preferred in education.
- There are chances that this level of education has more chances of getting employed.
- Also You can see in the plot that people are with Bachelors and Masters are most satisfied with their jobs.

OVERALL FINDINGS & IMPLICATIONS

Findings

- ✓ Changes in languages is volatile.
- ✓ Free source environments like Linux & Docker are gaining more momentum. Than private ones like iOS and Microsoft.
- ✓ More people with Bachelor's and Masters are employable and satisfied with their jobs✓
- ✓ Number of women are very less in Workforce.
- ✓ With increasing age less people are employed.

Implications

- ✓ Free source environments should be given more importance now on, it is necessary to make current employees educated with this environment and also while hiring new once to check if they are comfortable with this.
- ✓ While hiring more priority should be given to ones with Bachelor's and Masters in related field.
- ✓ People with different age groups should be hired to maintain diversity. Aged employees are more useful with their domain experience

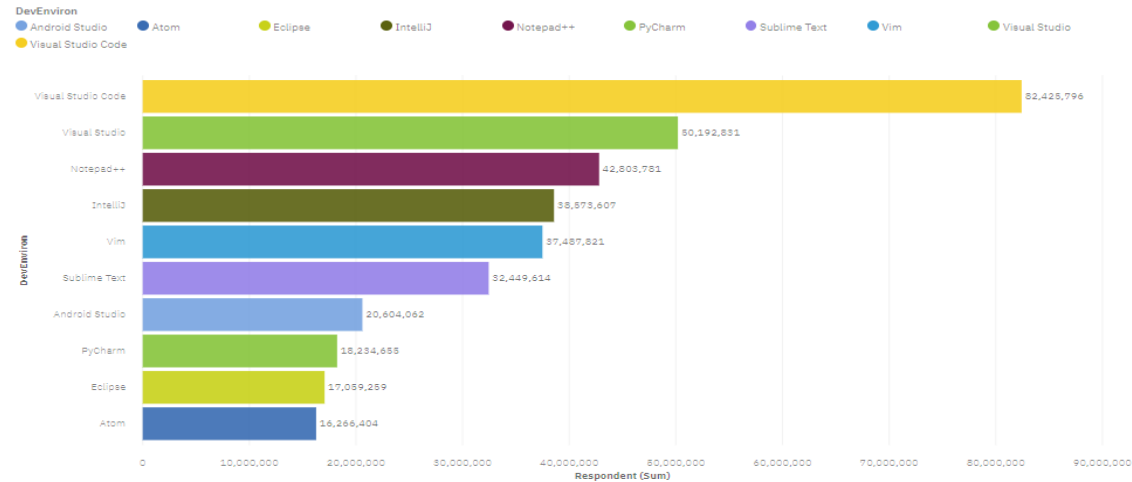
CONCLUSION



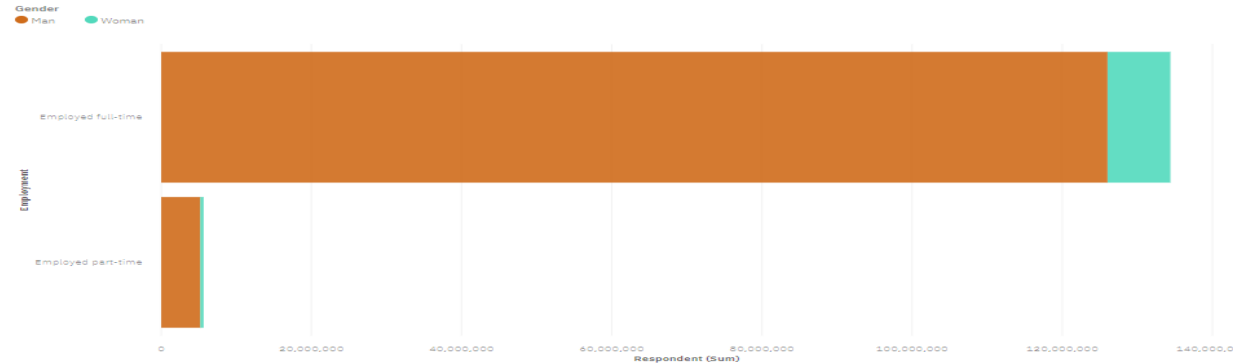
- More update trainings and hiring should be done in organization according to emerging technologies & languages such as JavaScript, PostgreSQL etc.
- More investment should be done in free source environments.
- More women empowering environment should be created to encourage them for working.
- All diverse age groups should be hired.
- Degrees should be one of the priorities while hiring.

APPENDIX

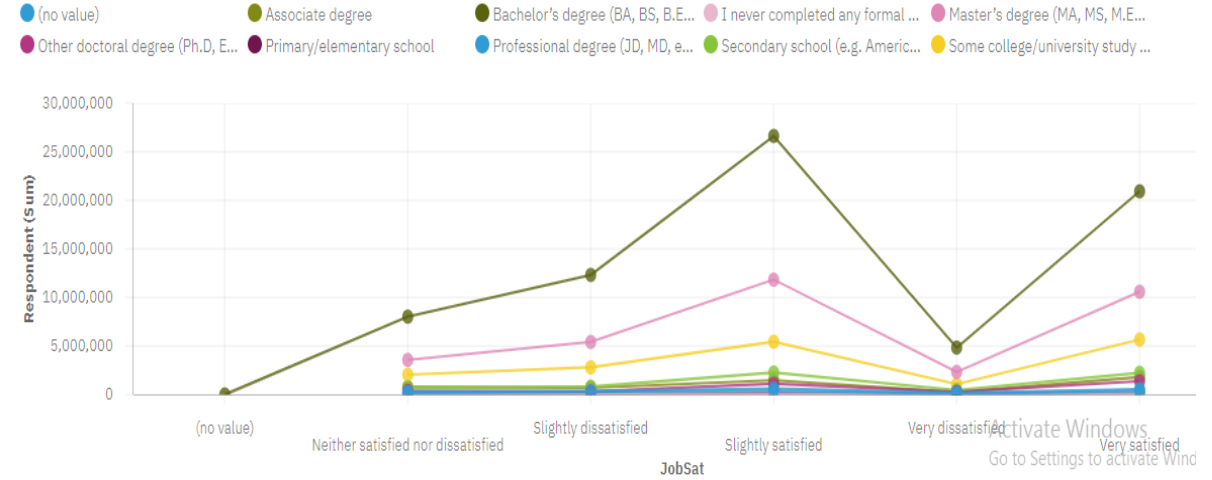
Top 10 Development Environments



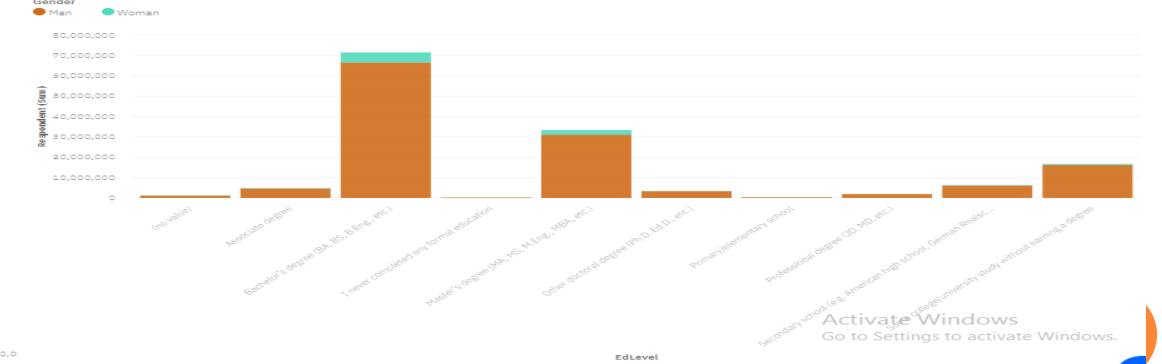
Employment type for genders



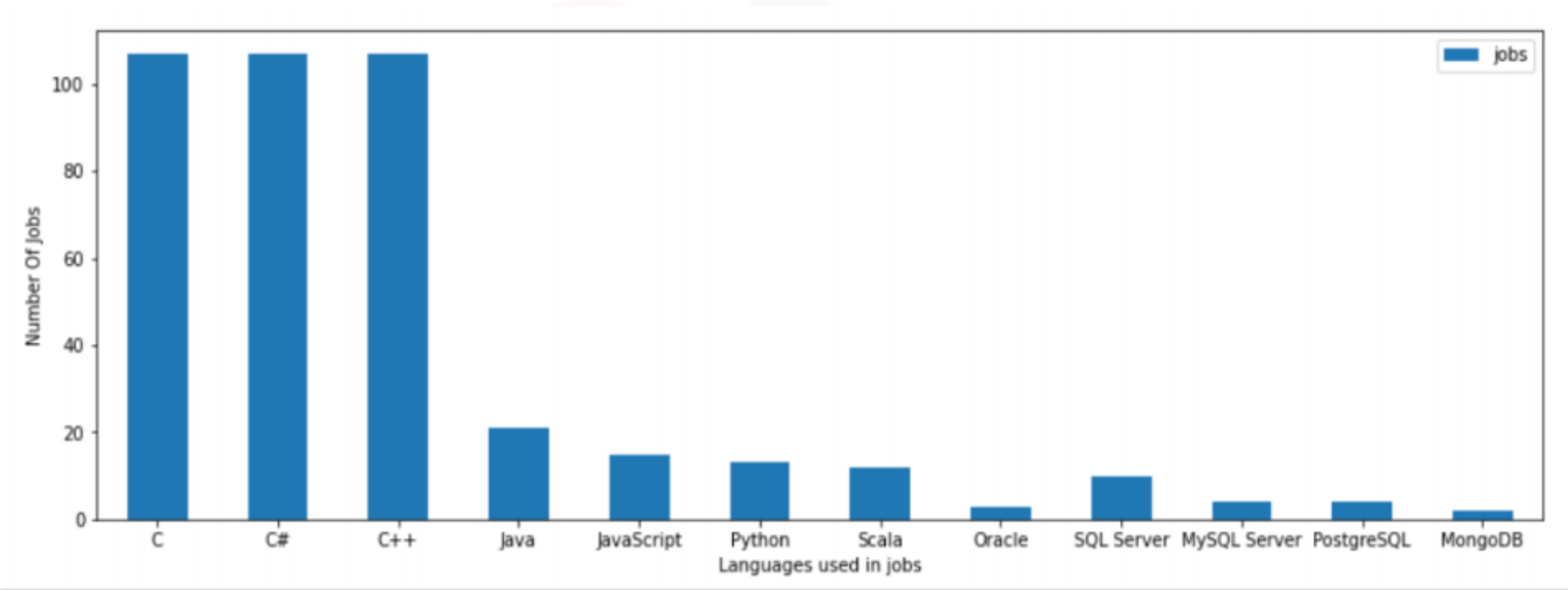
EdLevel



Gender



GITHUB JOB POSTINGS



POPULAR LANGUAGES

