



Developer Survey Analysis

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OUTLINE



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

EXECUTIVE SUMMARY



- JavaScript, HTML/CSS, SQL, Python etc are the some programming languages most of the peoples worked with.
- Gender gap in the IT industry.
 - Male = 92%
 - Female = 7%
- JavaScript, Python, HTML/CSS, SQL, etc are the most desirable languages for next year.
- PostgreSQL, MongoDB, Redis, MySQL are most desirable databases for next year.
- Most of the developers in the Age range between 25-34 Yrs.
- You can learn and start programming professionally at any age. You're likely to have a long and fulfilling career if you also enjoy programming as a hobby.

INTRODUCTION



- Stack Overflow, a popular website for developers, conducted a survey amongst developers from around the world about technology trends in 2021.
 - Programming Languages
 - Databases
 - Demographics
- Target audience:
 - IT Professionals
 - Anyone interested in the IT field

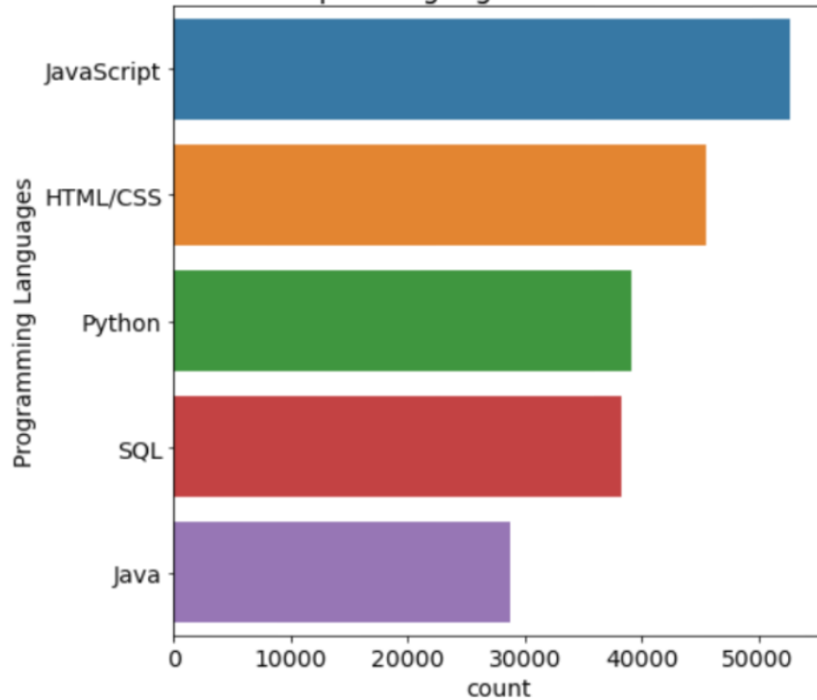
METHODOLOGY



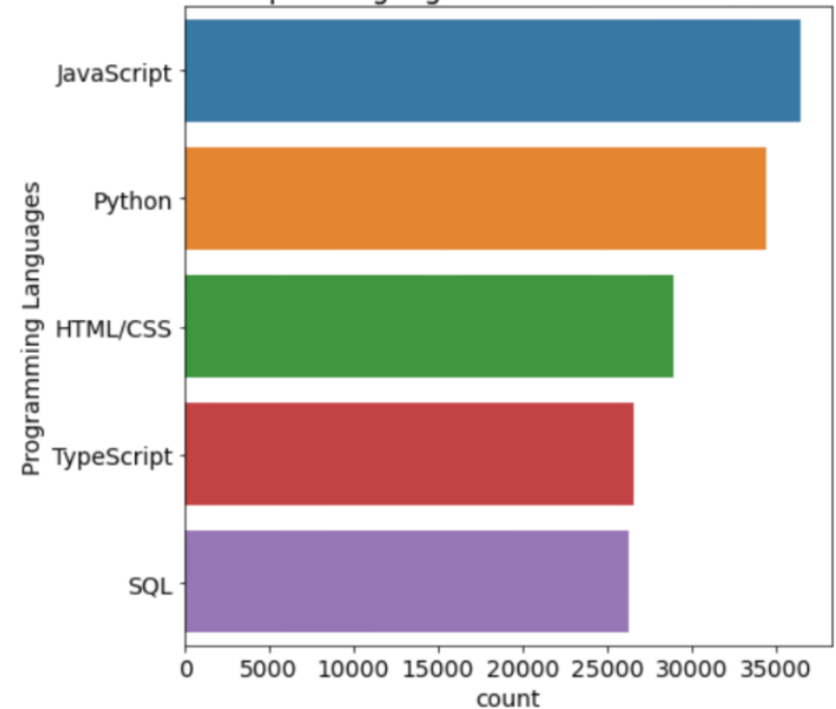
- Data Sources:
 - Stack Overflow Developers Survey 2021.
 - Programming Language Annual Salary.
- Data Exploration and Cleaning
 - Python
 - SQL
 - Excel
- Exploratory Data Analysis
 - Python
 - SQL
- Data Visualization
 - Python
 - PowerBi
- Presentation

PROGRAMMING LANGUAGE TRENDS

Top 5 Languages Worked with



Top 5 Languages Desired for Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

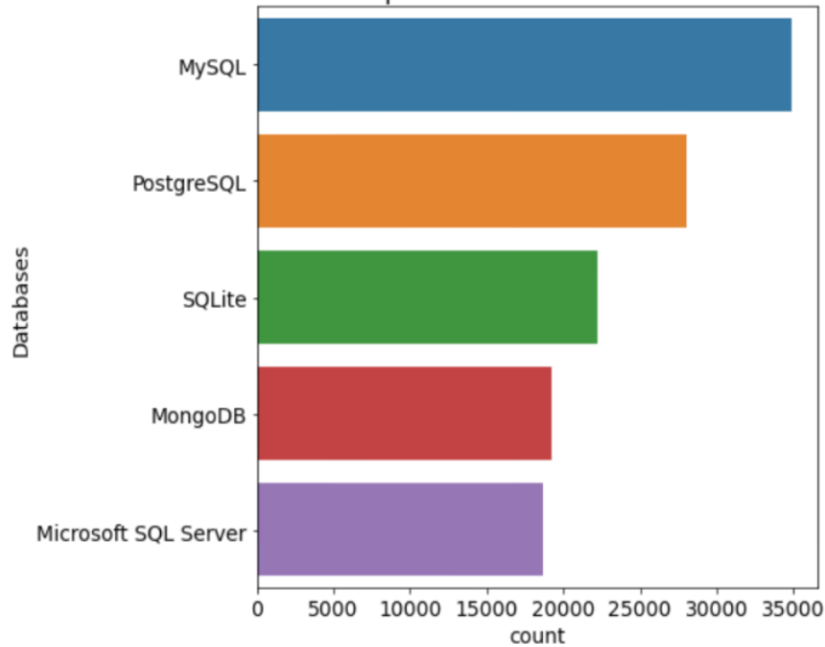
- JavaScript is the most in demand programming language.
- Python, HTML/CSS, and SQL are other in demand programming languages.
- Skills in TypeScript is more desirable than Bash/Shell/PowerShell for next year.
- Most of the developer want to learn Python and want to work with Python.

Implications

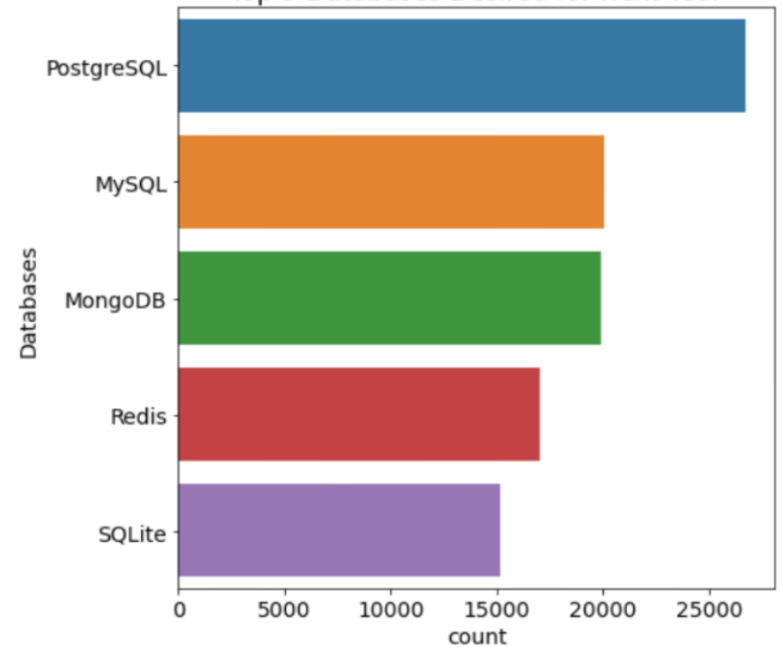
- Python's increase in demand may overtake JavaScript in the future.
- JavaScript, Python, HTML/CSS, and SQL are consistently in demand.
- Web development remains in high demand.
- Only few Programming languages with more than 95% developer work.

DATABASE TRENDS

Top 5 Databases Worked with



Top 5 Databases Desired for Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

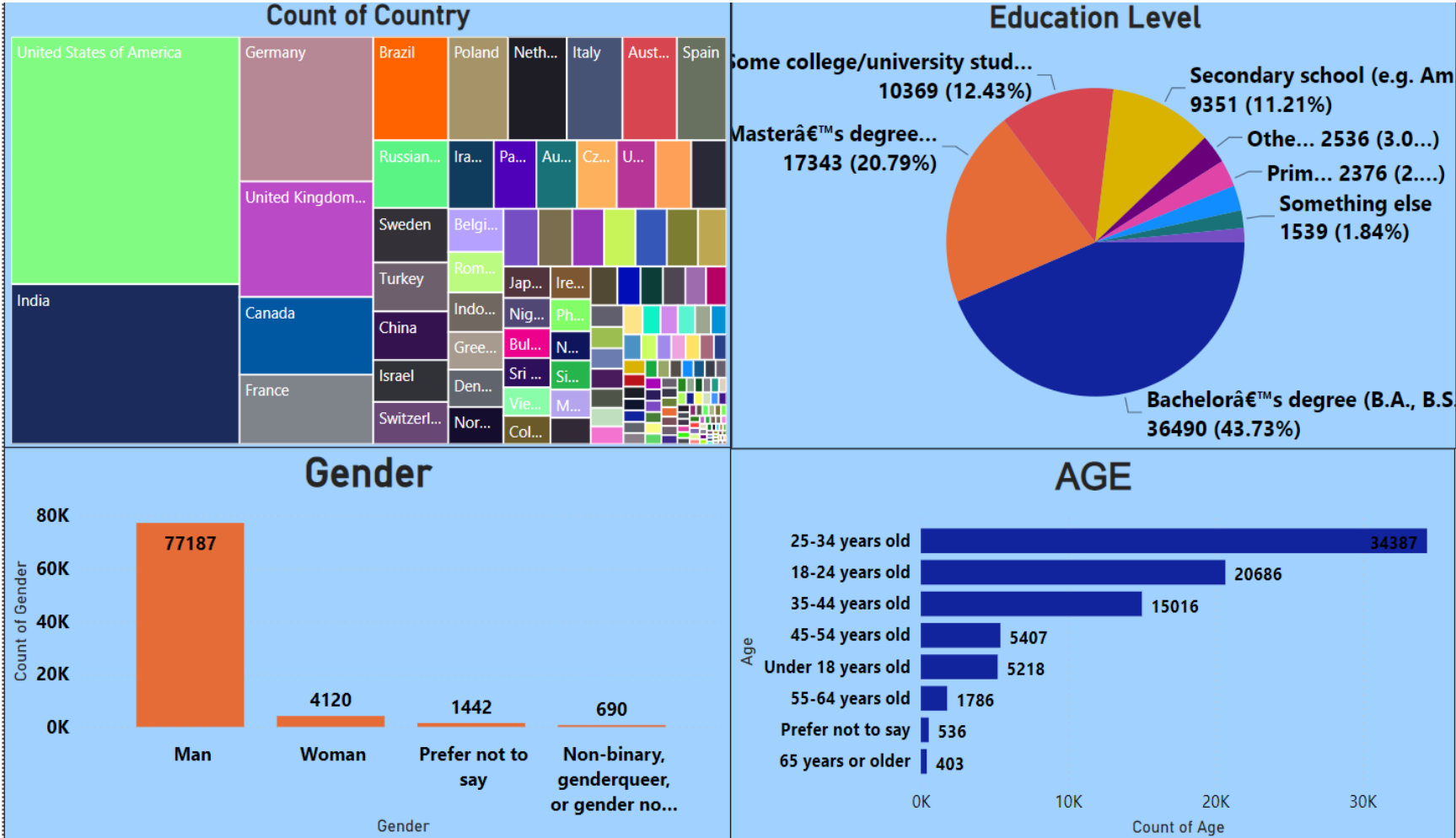
Findings

- PostgreSQL and MongoDB have an increase in demand.
- MySQL has a decrease in demand for next year.
- Skills in Redis and ElasticSearch are more desirable than Microsoft SQL Server and SQLite for next year.

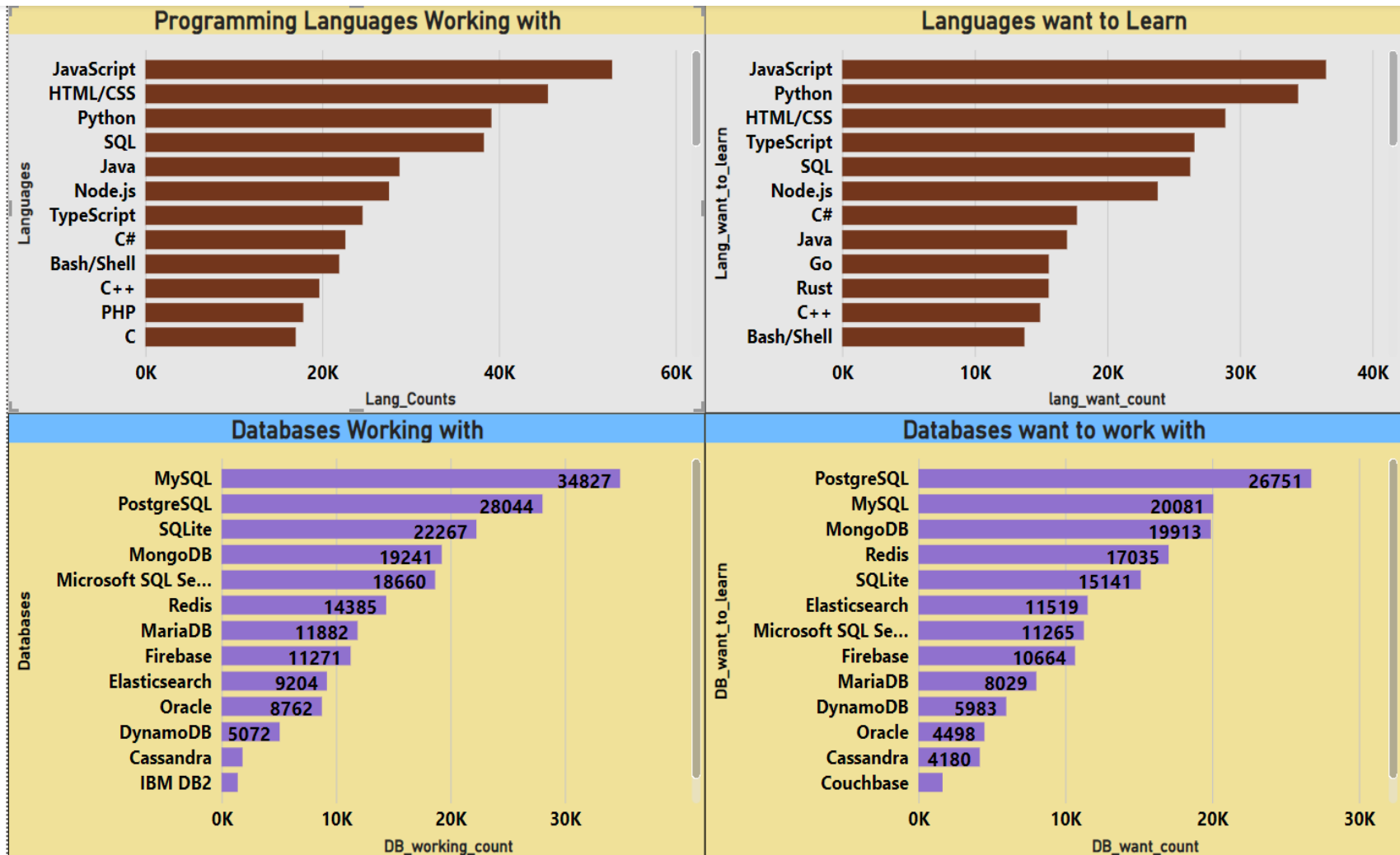
Implications

- PostgreSQL and MongoDB are the most consistent in demand databases.
- Open source databases are preferred.
- Demand is volatile

DASHBOARD (DEMOGRAPHICS)



DASHBOARD (TECHNOLOGIES)



DISCUSSION



- New technology constantly emerges leading to changes in demand.
- The IT industry needs to diversify in order to eliminate gender gap.

OVERALL FINDINGS & IMPLICATIONS

Findings

- Trends and demands fluctuate based on new technologies.
- JavaScript and Python are the most popular programming languages.
- PostgreSQL is the most popular database.
- Gender gap in the IT field.
- A significant percentage of programmers either work part-time or as freelancers, which can be a great way to break into the field, especially when you're just getting started.

Implications

- IT professionals and companies have to learn and adapt to new demands.
- Having skills that are high in demand leads to more job opportunities.
- Gender gap will affect job hiring trend.

CONCLUSIONS



- New technology leads to different trends and demands.
- JavaScript and Python are the most popular programming languages.
- PostgreSQL is the most popular database.
- The IT industry needs to diversify.
- Although most programmers hold a college degree, a reasonably large percentage did not have computer science as their college major. Hence, a computer science degree isn't compulsory for learning to code or building a career in programming.
- Python is the language most people are interested in learning - since it is an easy-to-learn general-purpose programming language well suited for various domains.

REFERENCES

Stack Overflow Developer Survey: <https://insights.stackoverflow.com/survey>

Pandas user guide: https://pandas.pydata.org/docs/user_guide/index.html

Matplotlib user guide: <https://matplotlib.org/3.3.1/users/index.html>

Seaborn user guide & tutorial: <https://seaborn.pydata.org/tutorial.html>

Jupyter Notebooks & Project Code: <https://github.com/Akshay2909/Developer-Survey-Analysis>