Unveiling the Future: Key Programming Skills Shaping Tomorrow's Tech Landscape

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IBM Developer

SKILLS NETWORK

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EXECUTIVE SUMMARY

Objective: Assess in-demand programming skills, database competencies, and IDEs.

Data Collection: Sourced from job postings, training portals, and surveys using web scraping, API access, and data downloads.

Data Preparation: Cleaned and organized data.

Data Analysis: Identified trends with statistical methods.

Data Visualization: Created dashboards with IBM Cognos Analytics and presented trends through graphs and charts.

Results: Identified key programming languages, database skills, and IDEs.

Discussion: Analyzed trends and their impact on skill development.

Conclusions: Provided actionable insights for aligning workforce development with technology trends.

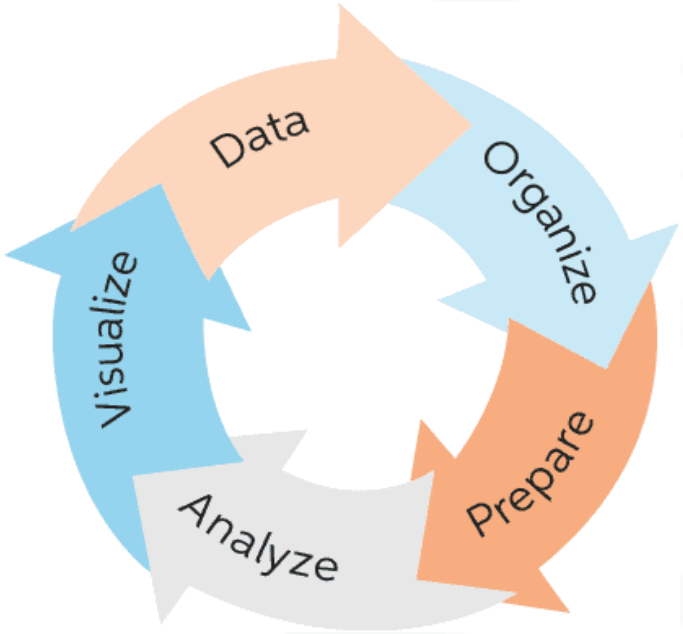
INTRODUCTION

- **Challenge**: Anticipate and adapt to evolving technology trends.
- **Context**: Global IT consulting firm with expertise in IT solutions and experienced consultants.
- **Objective**:

❖Identify emerging demands for programming skills, database competencies, and development tools.

- **Data Sources**: Job postings, training portals, industry surveys.
- **Goal**: Provide insights to align workforce development with future technology needs.

METHODOLOGY

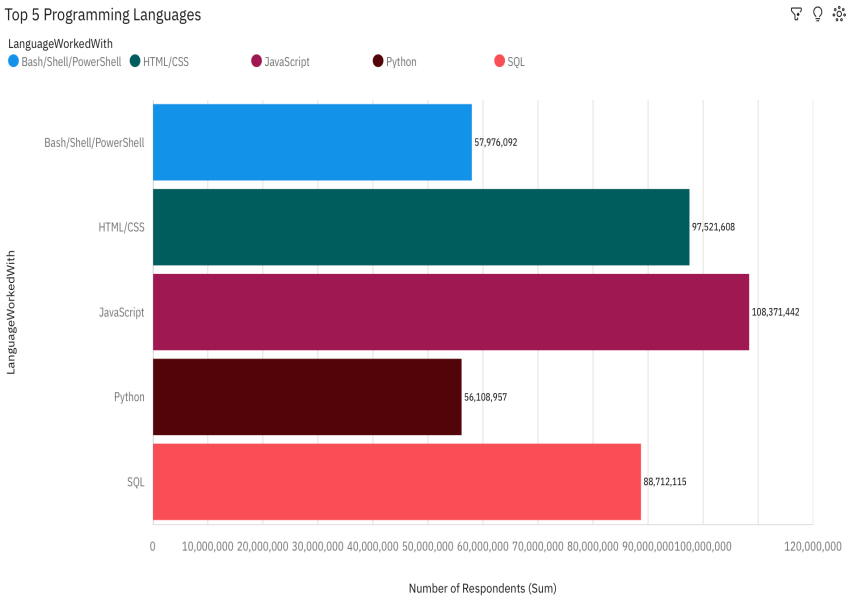


- **Data Collection**:
  - Sources: Job postings, training portals, surveys.
  - Methods: Web scraping, APIs, direct downloads.
- **Data Preparation**:
  - Clean and organize data.
- **Data Analysis**:
  - Identify trends using statistical methods.
- **Data Visualization**:
  - Create dashboards with IBM Cognos Analytics.
- **Results Presentation**:
  - Present findings with visual support.

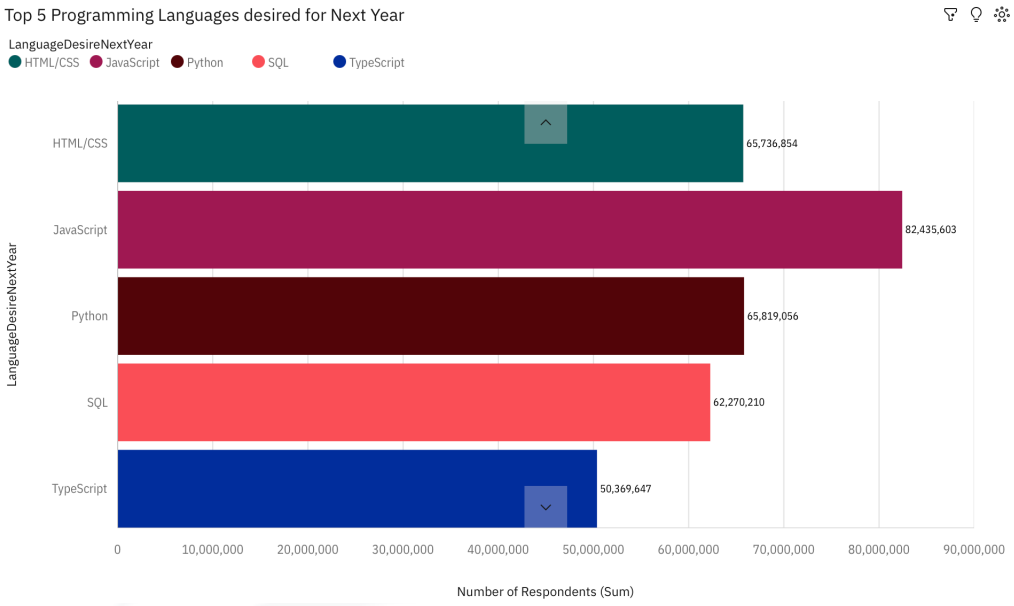
RESULTS

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



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PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings:

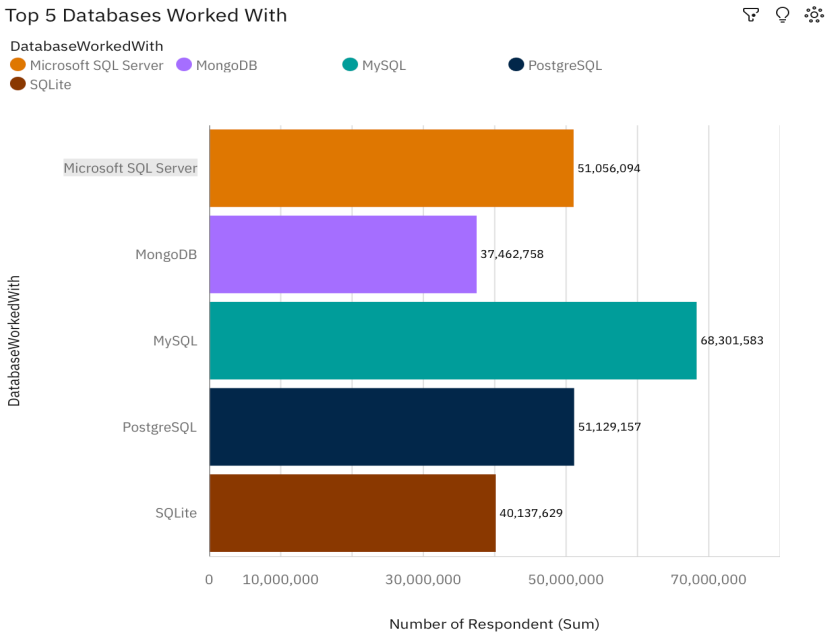
- JavaScript seems to keep as leading language.
- Python fastest-growing.
- Great interest in TypeScript

Implications:

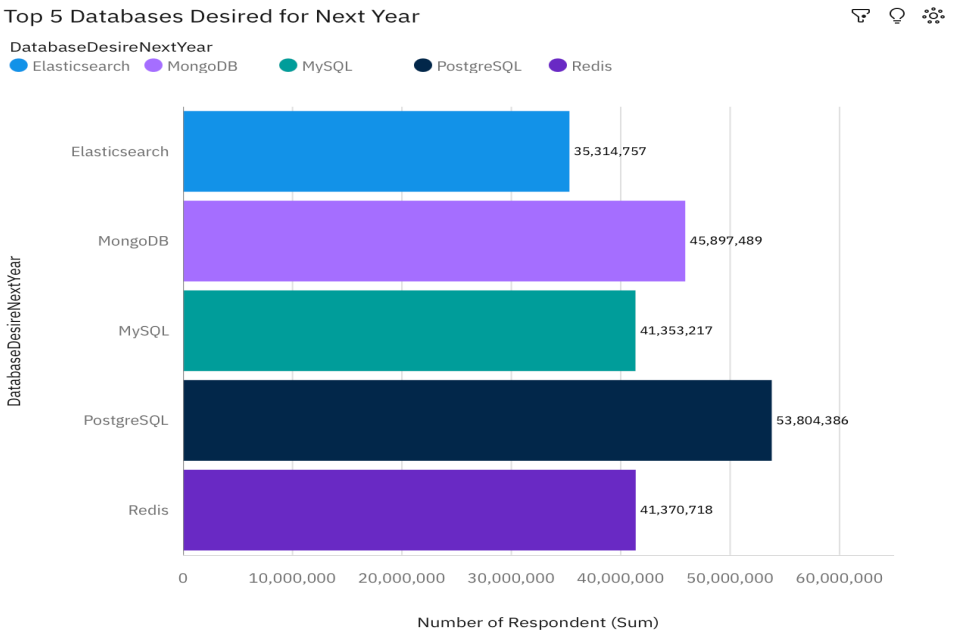
- Possible developers migration from JavaScript to TypeScript.

DATABASE TRENDS

Current Year



Next Year



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DATABASE TRENDS - FINDINGS & IMPLICATIONS

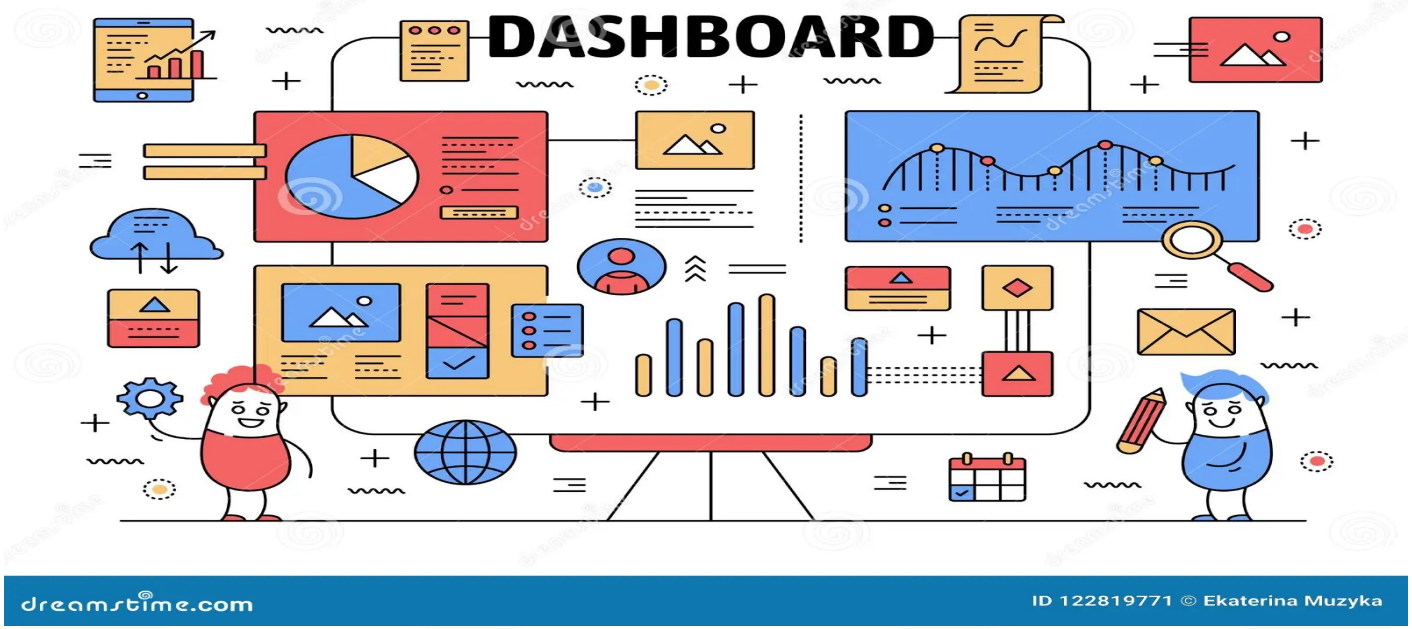
Findings:

- MySQL as most used database.
- Lack of interest in Microsoft SQL Server and SQLite.
- Increasing interest in PostgreSQL and MongoDB.

Implications:

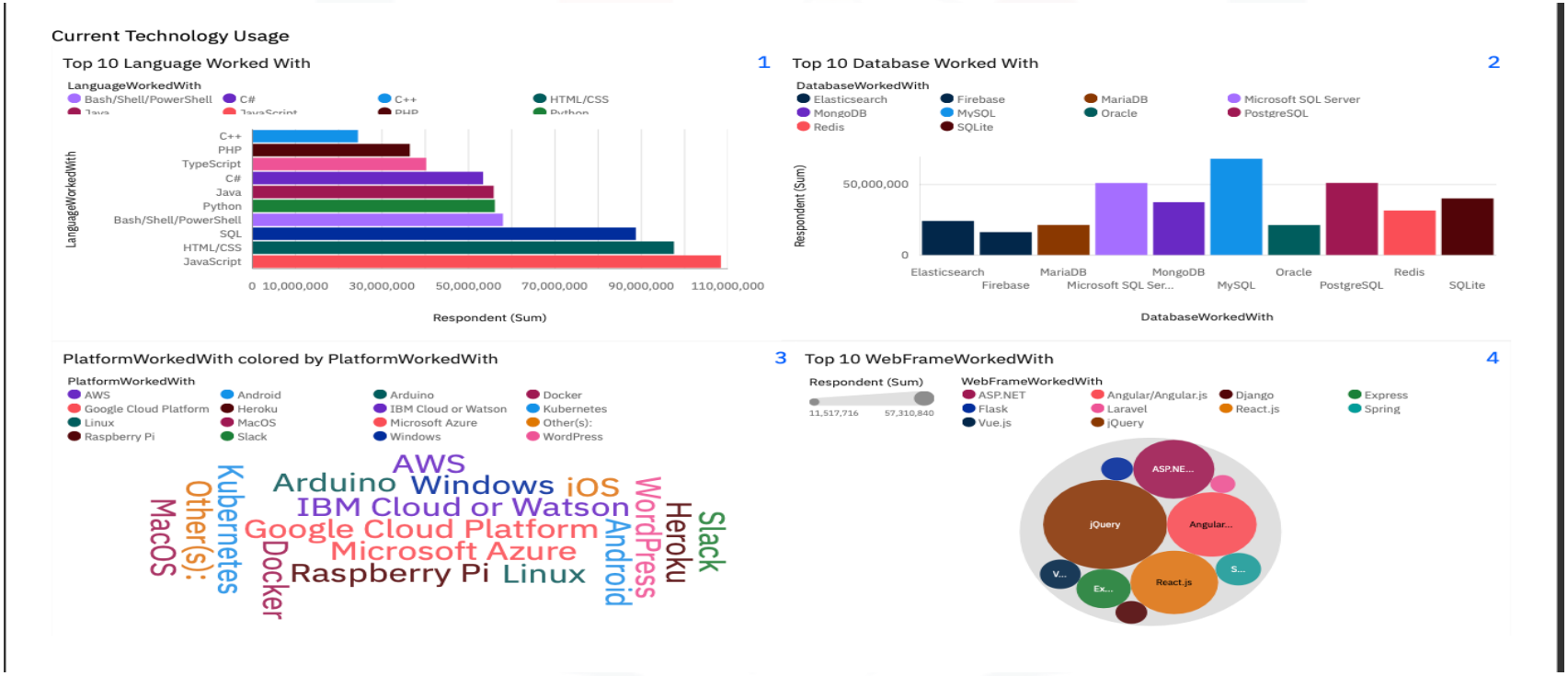
- Microsoft SQL Server and SQLite losing ground in the market.
- PostgreSQL and MongoDB establishment in the market.

DASHBOARD



Cognos Analytics Dashboard

DASHBOARD TAB 1



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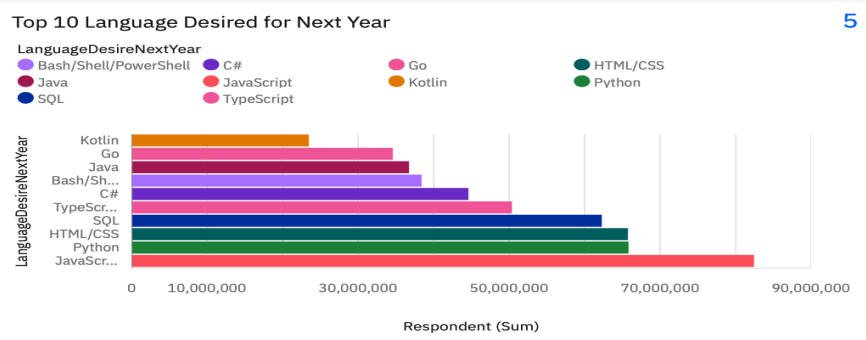
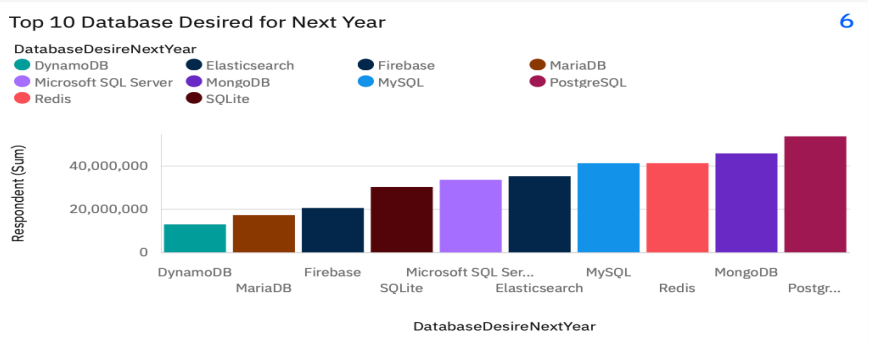
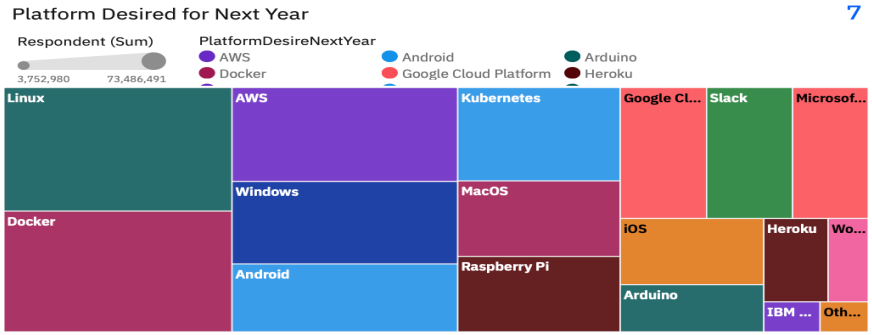
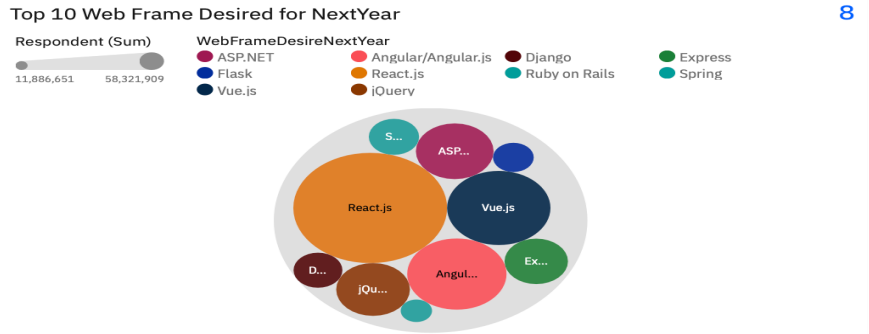
DASHBOARD TAB 2

Future technology trend









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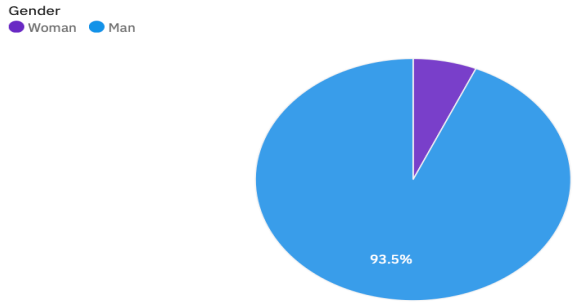
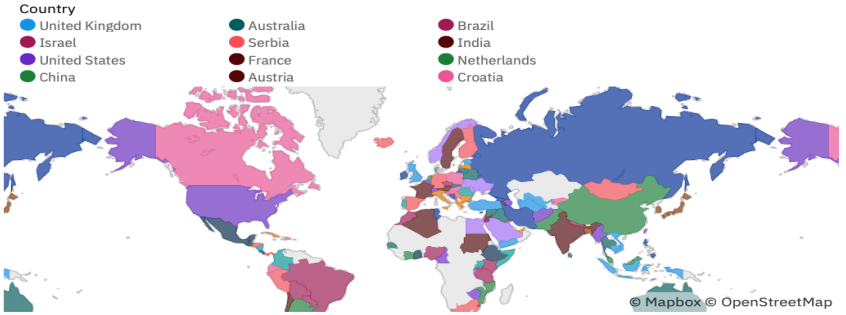
DASHBOARD TAB 3

Demographics

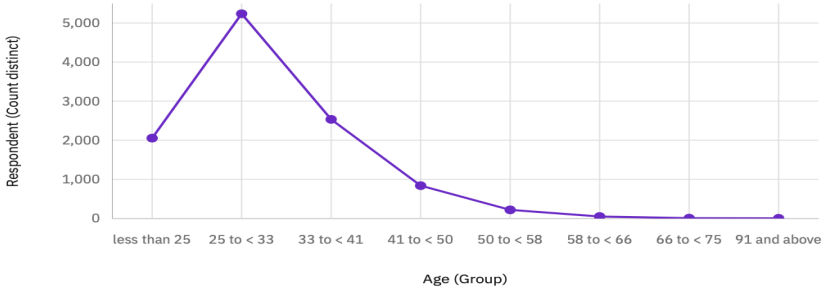
Respondent classified by Gender 9



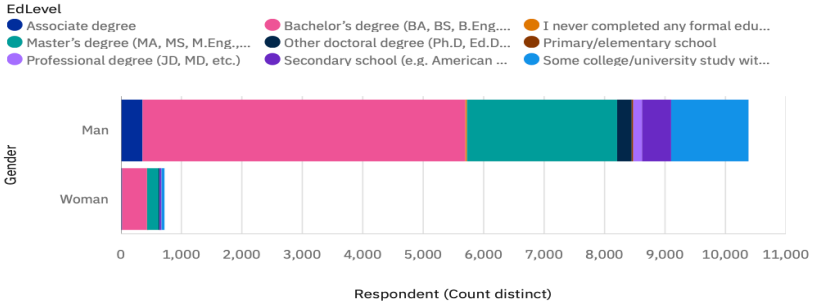
Respondent Count for Countries. 10



Respondent Count by Age 11



Respondent Count by Gender, classified by Formal Education Level. 12



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DISCUSSION

OVERALL FINDINGS & IMPLICATIONS

Findings:

- JavaScript widely used and TypeScript getting popular.
- Over 90% young male developers.
- Developers mostly located in developed countries

Implications:

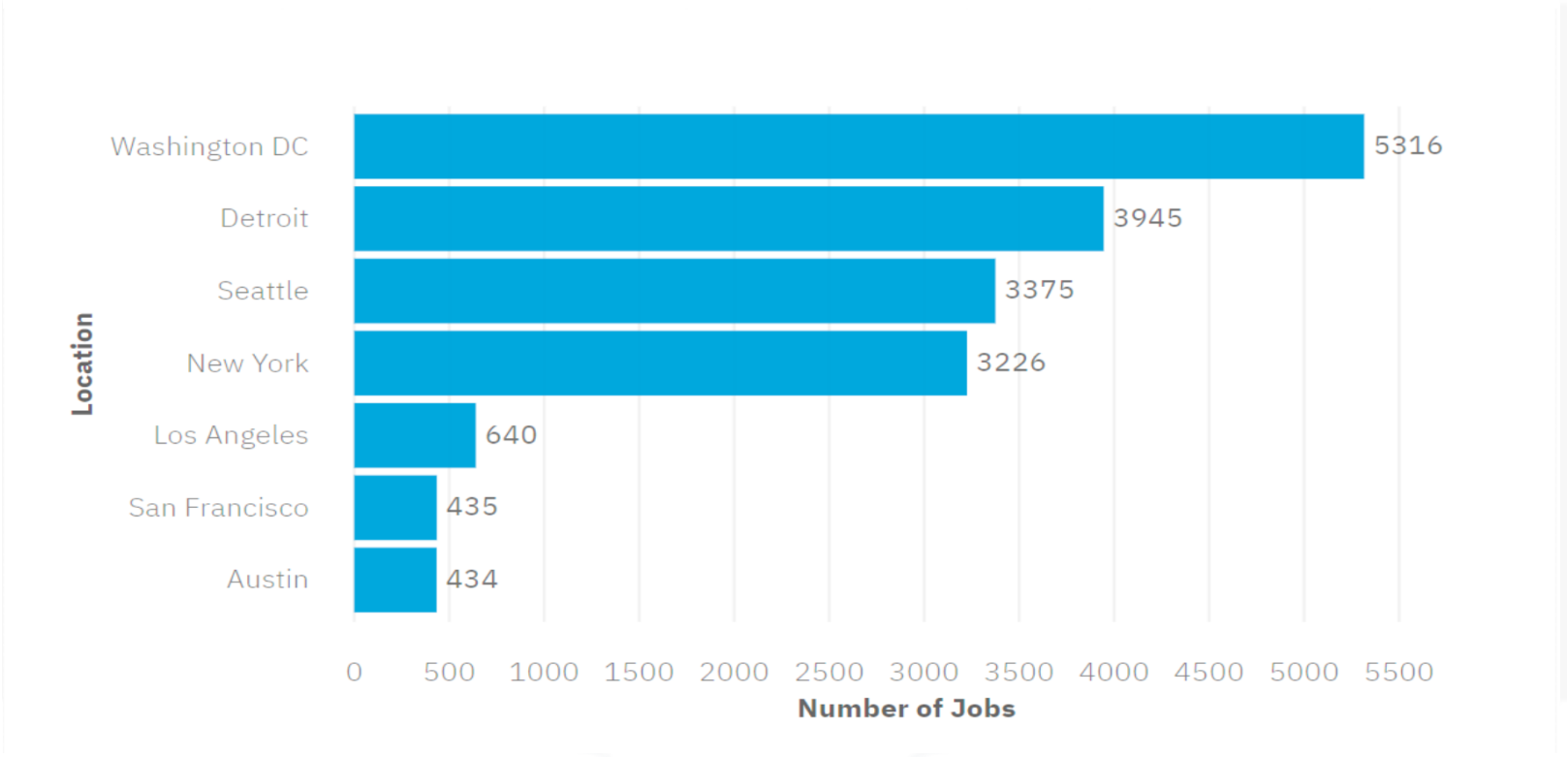
- JavaScript and TypeScript web frames gaining followers.
- Global polarization of developers location and gender.
- Young developers without postgrad studies on its majority.

CONCLUSION

- **Developer Traits**: Developers have unique and identifiable characteristics.
- **Trend Insights**: Analyzing trends in tools, platforms, and languages reveals popular technologies.
- **Global Access**: There is a need to improve job market accessibility for developers in developing countries.

APPENDIX

JOB POSTINGS



POPULAR LANGUAGES