



Analytics demographics and programming skills: current and future trends

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EXECUTIVE SUMMARY



- Used (jobs postings, training portals, and surveys) to identify top programming skills and demographic characteristics of responders
 - Languages
 - Databases
 - IDE (platforms and web frames)
- Methodology involved webscapping, data wrangling, processing, and analyses using various tools
 - Including Excel, Jupiter, python, and Cognos Analytics
- The following tools were identified among top2-3 for both current and future learning:
 - JavaScript for programing
 - PostgreSQL for databases
 - React.js for IDE/web frame
- Males and age group of 23-31 years old were the most common responders in the survey

INTRODUCTION



- Awareness of current changing technologies and trends key for business competitiveness
- Examine sources and trends for emerging skills
- Identify top programming skills from:
 - Job postings
 - Training portals
 - Surveys
- Key Questions:
 - What are the top programming languages in demand?
 - What are the top database skills in demand?
 - What are the popular IDEs?

METHODOLOGY



- Scrap internet websites using APIs to collect data
 - Formats: .csv files, excel sheets, and databases.
- Process and analyze data
 - Apply data wrangling Techniques
 - Perform data analyses using appropriate statistical techniques
 - Jupiter Notebooks, excel, and SQL searches
 - Create dashboards using IBM Cognos Analytics

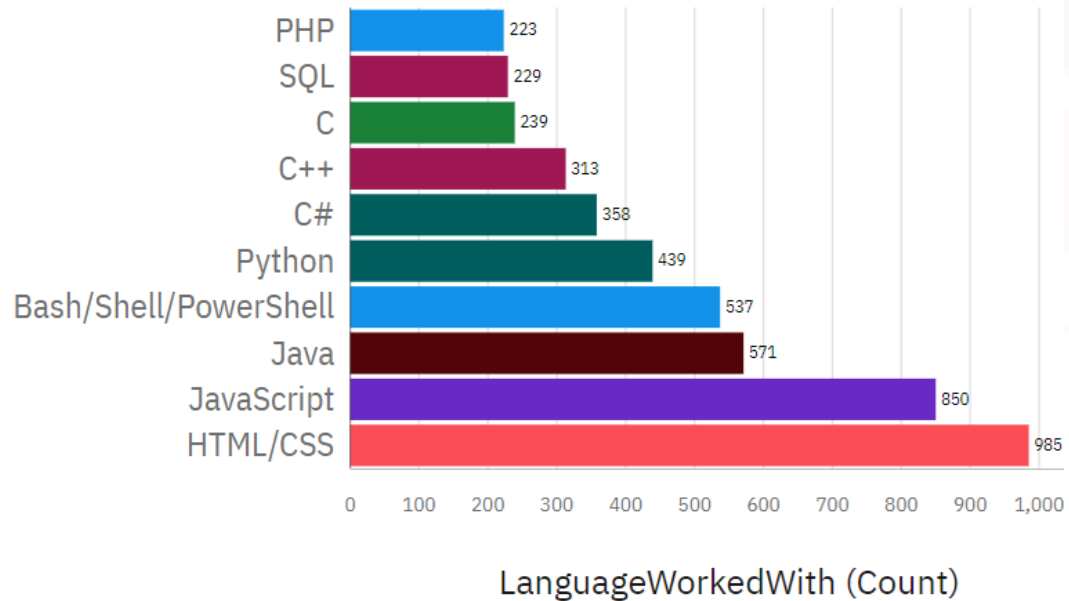
RESULTS

- Programming language trends
- Database trends
- Dashboard

PROGRAMMING LANGUAGE TRENDS

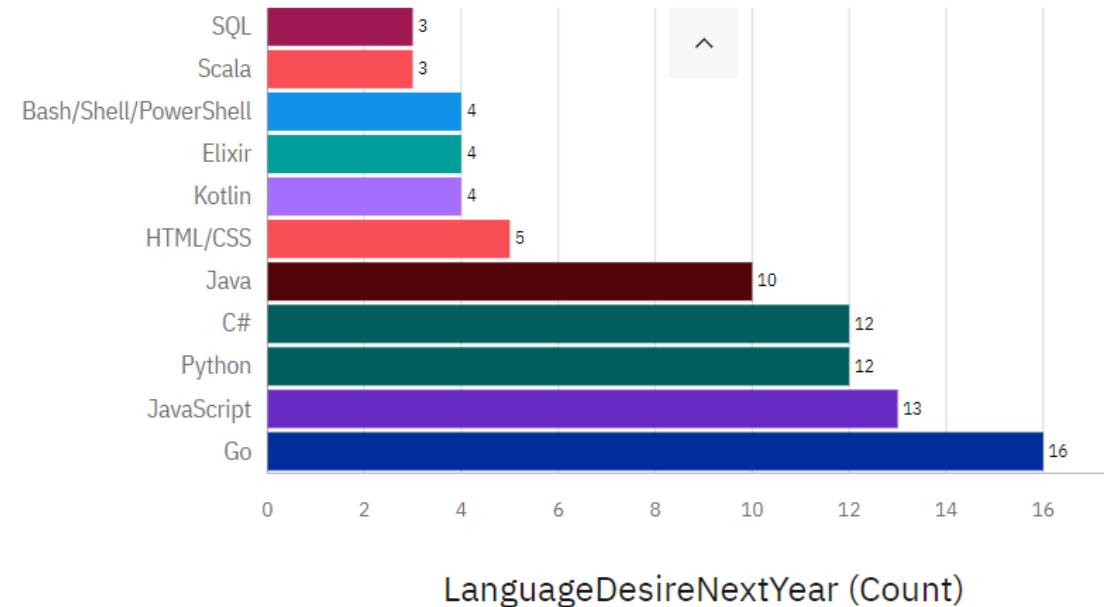
Current Year

Top10 Languages



Next Year

Top10 Languages For Next Year Learning



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- HTML/CSS, JavaScript, and Java are the three most popular languages
- Go, JavaScript, Python/C# are most wanted for future learning
- Python remains as one of the popular languages at present and for future learning

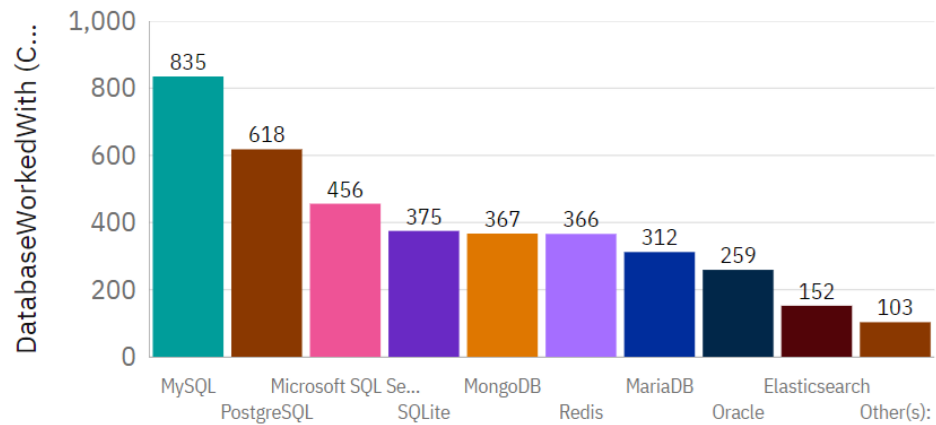
Implications

- Look for current expertise with HTML/CSS, JavaScript, and Java
- Provide/identify training opportunities for Go, JavaScript, and Python/C#
- Continue investing in expanding python expertise

DATABASE TRENDS

Current Year

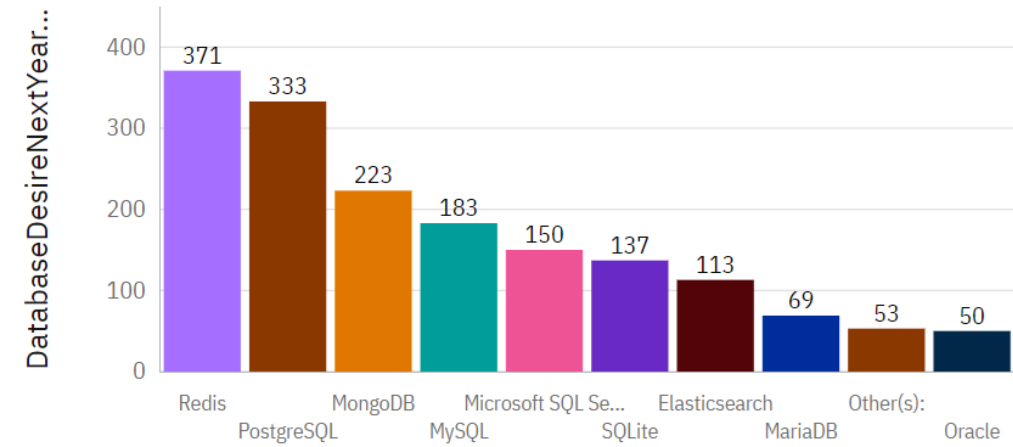
Top 10 Databases



DatabaseWorkedWith

Next Year

Top 10 Databases for Next Year Learning



DatabaseDesireNextYear

DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MqSQL, PostgreSQL, and Microsoft SQL are most popular current databases
- Redis, PostgreSQL, MongoDB and most desired for future learning
- Oracle ranks as #8 as current database and #10 for future learning

Implications

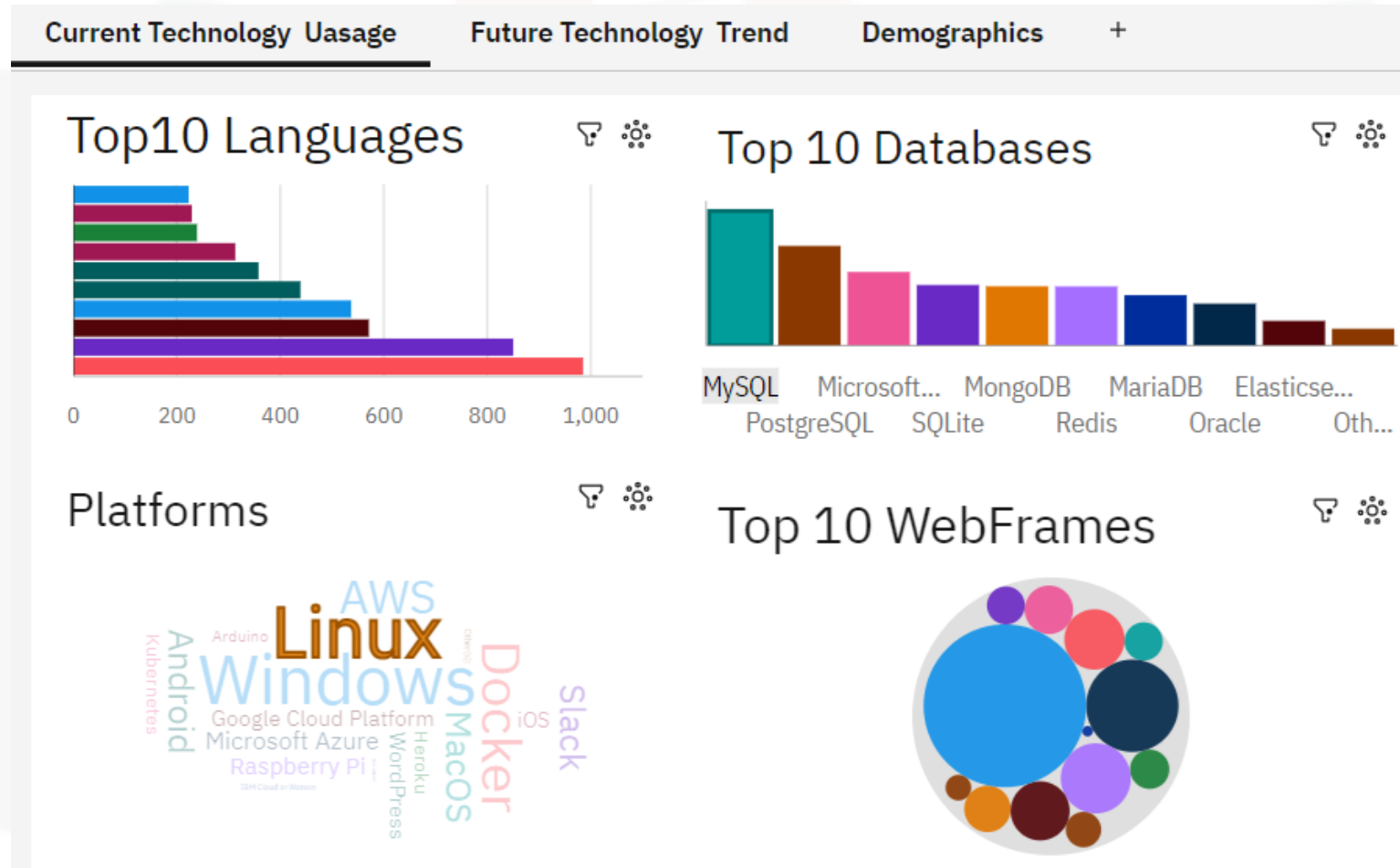
- Invest in PostgreSQL and MqSQL for current and future learning
- Be mindful of Redis as a future trend in databases
- Oracle is not as popular as other databases and its popularity could be decreasing in future

DASHBOARD

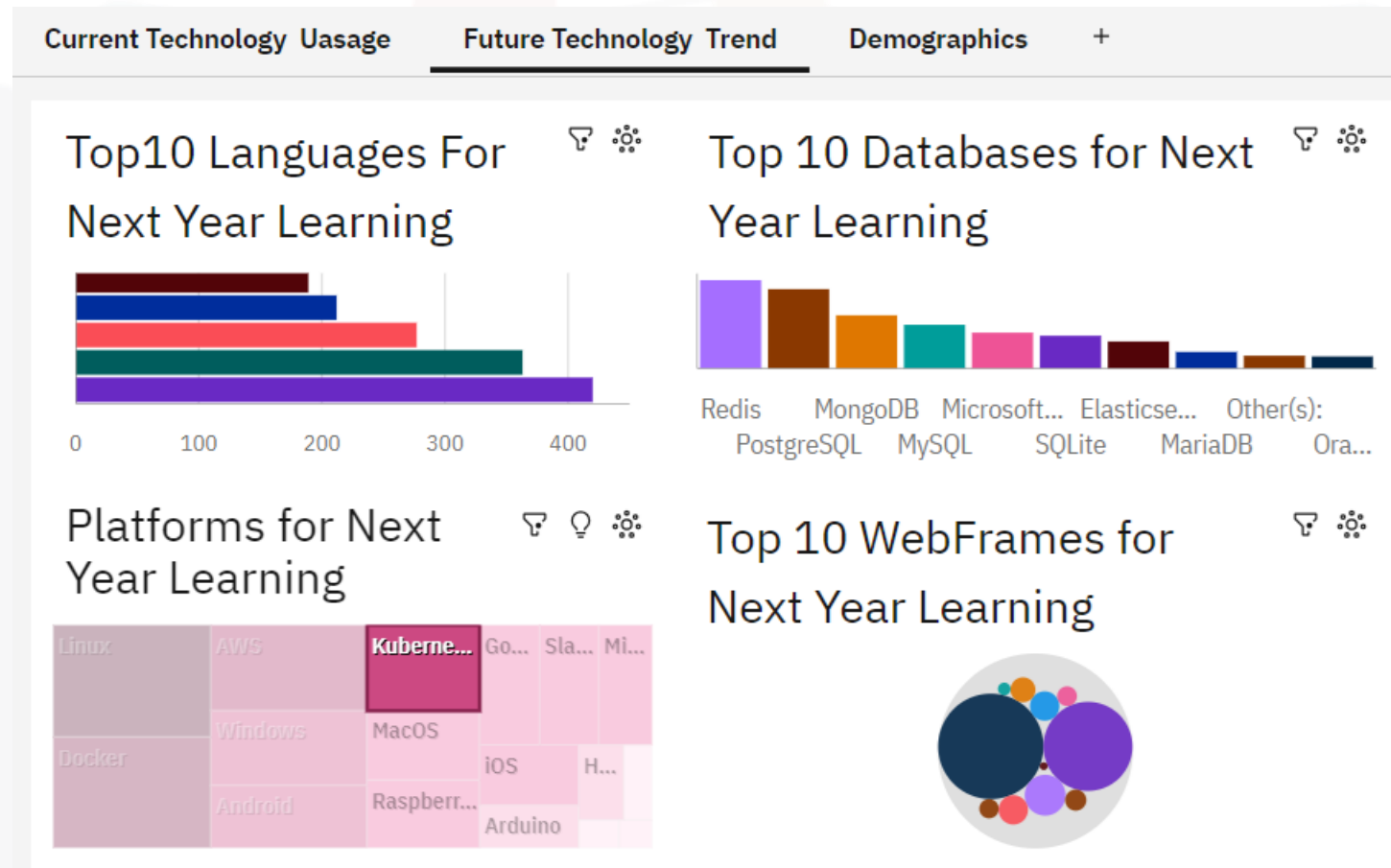


https://github.com/jmal89436/Capstone_Analyst-Project_IBM.git

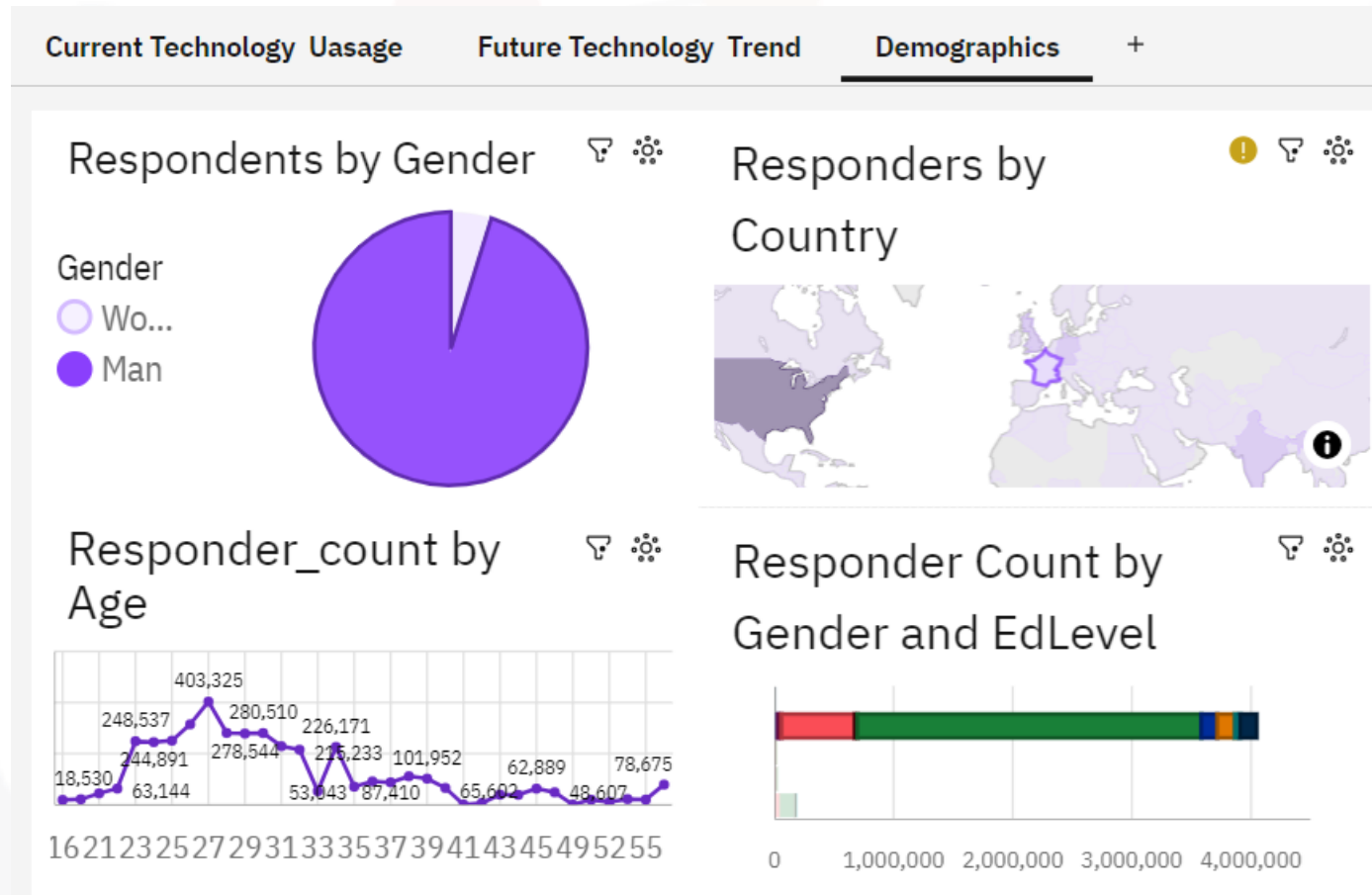
DASHBOARD TAB 1



DASHBOARD TAB 2



DASHBOARD TAB 3



DISCUSSION



- Presentation of top10 languages, databases, OS platforms and webframes
- Survey demographics responses highlighted by gender, country, age, and responder count by gender and educational level

OVERALL FINDINGS & IMPLICATIONS

Findings

- Linux and Docker are two of the top 3 for most popular current platforms for current and future learning
- jQuery, React.js and Spring are viewed as most popular current Webframes, but only React.js is indicated as wanted for future learning in top 3
- Males and age group between 23-35 were most common responders; USA was most presented by responders

Implications

- Linux and Docker are the key current platforms at present and will be the key drivers in the future
- React.js will continue be one of the most important webframe tools in the future
- In the future, more females will be most likely entering the data analytics field, and USA will continue to drive the field.

CONCLUSION

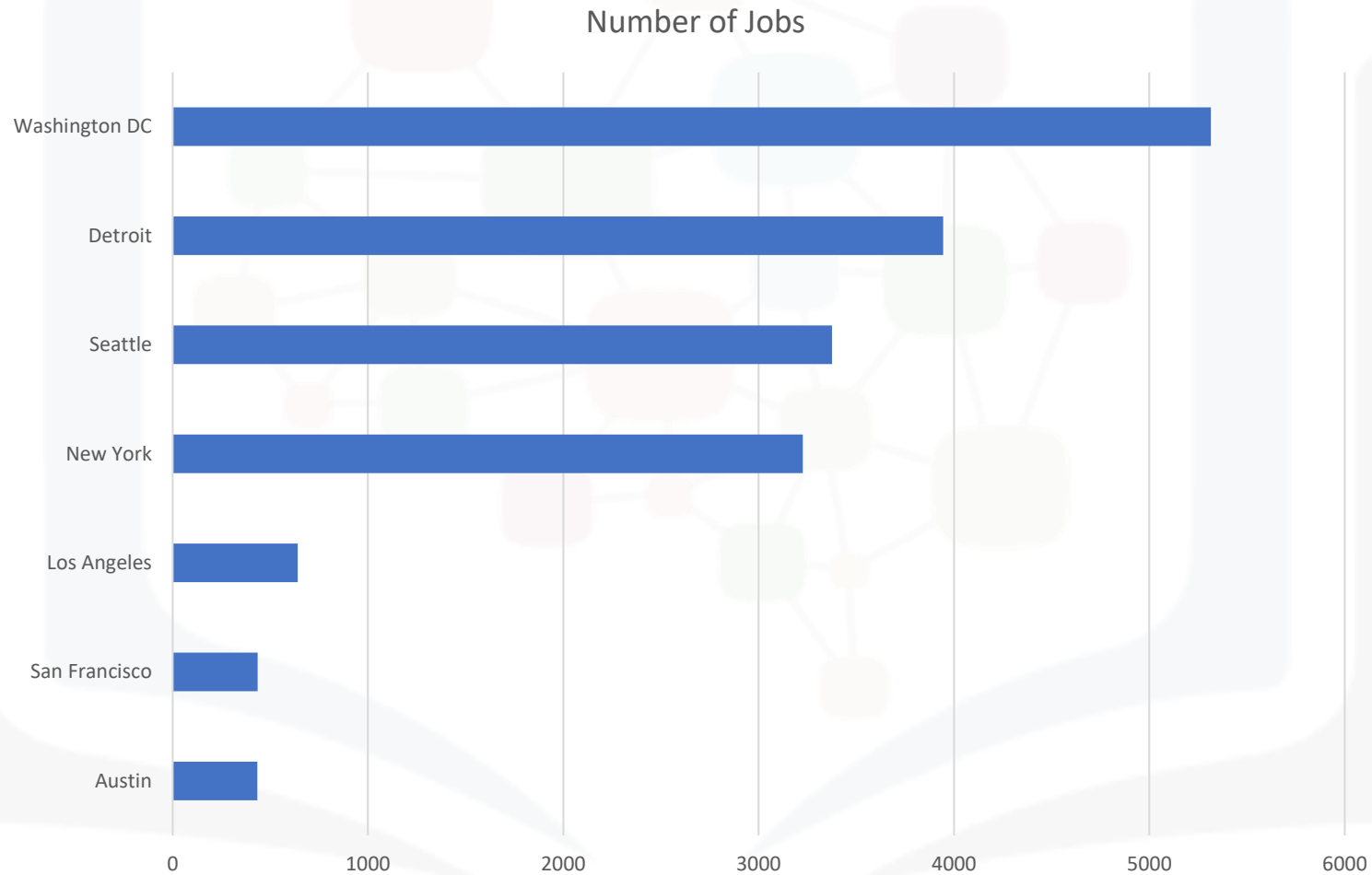


- JavaScript identified as top2 for both current and future programming language indicating its popularity; python is also highly regarded (#5 for current and #3 for future learning)
- Among databases, PostgreSQL was in the top 2 for both current and future indicators
- For demographics, most responders were males and age group of 23-35 likely reflecting the current field composition
- Comparison of current and future top 10 items did reveal discrepancies in responses

APPENDIX



JOB POSTINGS



POPULAR LANGUAGES

