Analysis of Technology Trends

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SKILLS NETWORK

OUTLINE

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  - Dashboard
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EXECUTIVE SUMMARY

- Trends reveal an always changing market but with much consistency in developer employment choices
- Popular Languages and Platforms remain dominant:
  - JavaScript and HTML CSS increasingly challenged by Python
  - SQL versions dominate with Mongo and Postgre fast emerging
  - Docker to challenge Linux and Windows dominance
- The US strongly dominates the technology job market
- There is a sharp downturn in employment after age 30
- A gender gap is evident in employment rates

INTRODUCTION

Analysing trends in Software Development

Purpose:

- Identifying current and future skills
- Identify career path choices of professionals
- Identify popular platforms and databases in the industry
- Examine current demographics within the industry

Target Audience:

- Executive Board
- Head of IT / Human Resources
- IT & Software Professionals

METHODOLOGY

Data Sources

- Stack Overflow Developers Survey 2019
- Github API Jobs and Programming Languages data

Data Exploration and Cleansing

- Python

Data Visualisation

- IBM Cognos Analytics

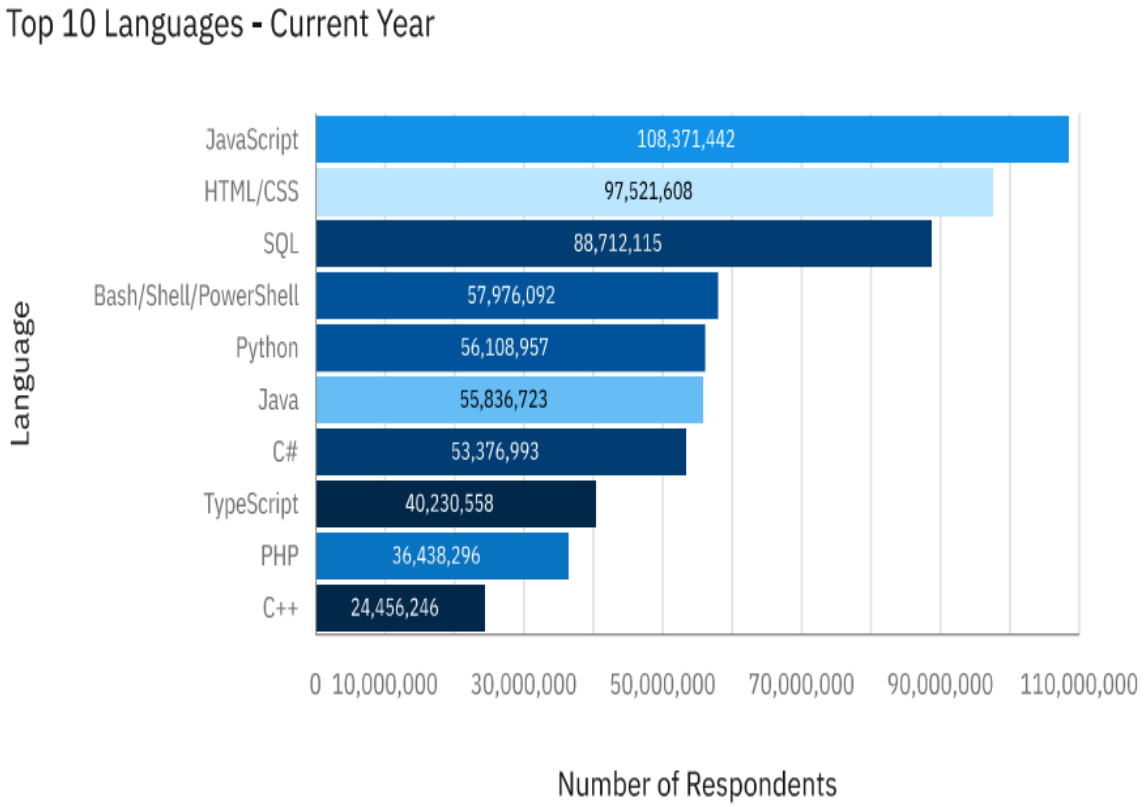
Presentation

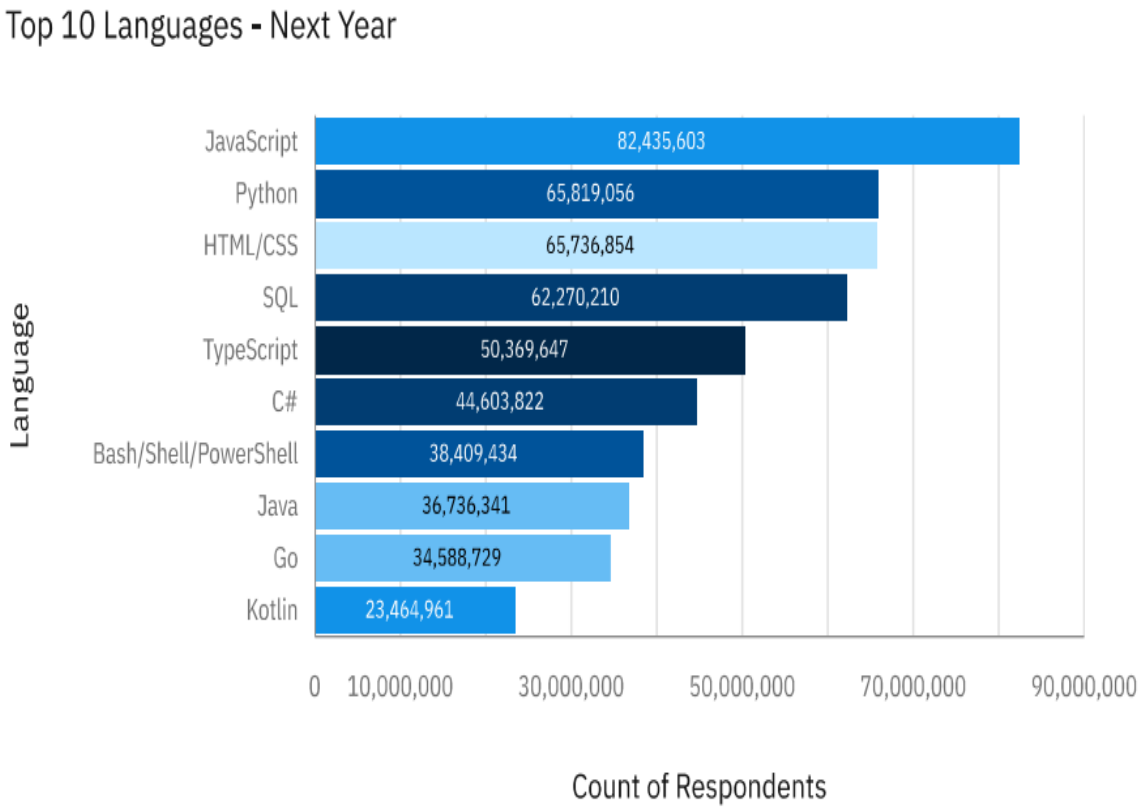
- Dashboards
- Charts

RESULTS

- **Programming Language Trends**
- **Database Trends**
- **Dashboards**
  - Current Technology Usage
  - Future Technology Trend
  - Demographics

PROGRAMMING LANGUAGE TRENDS





PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

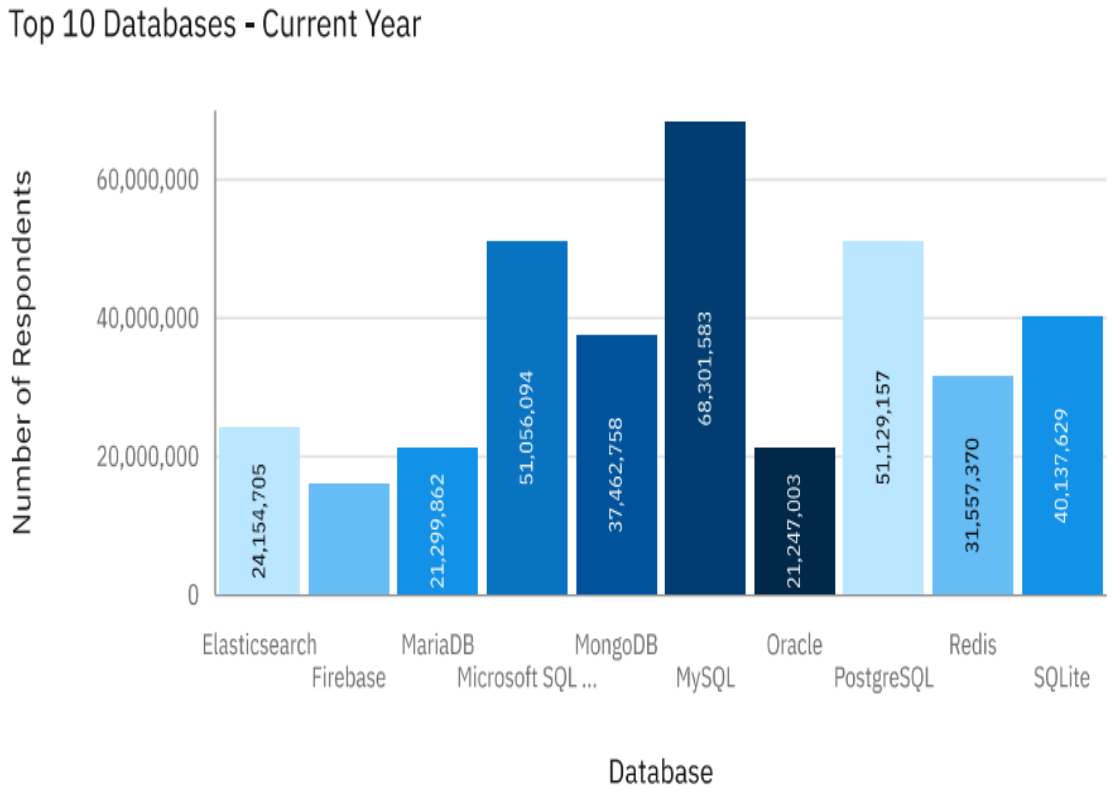
Findings

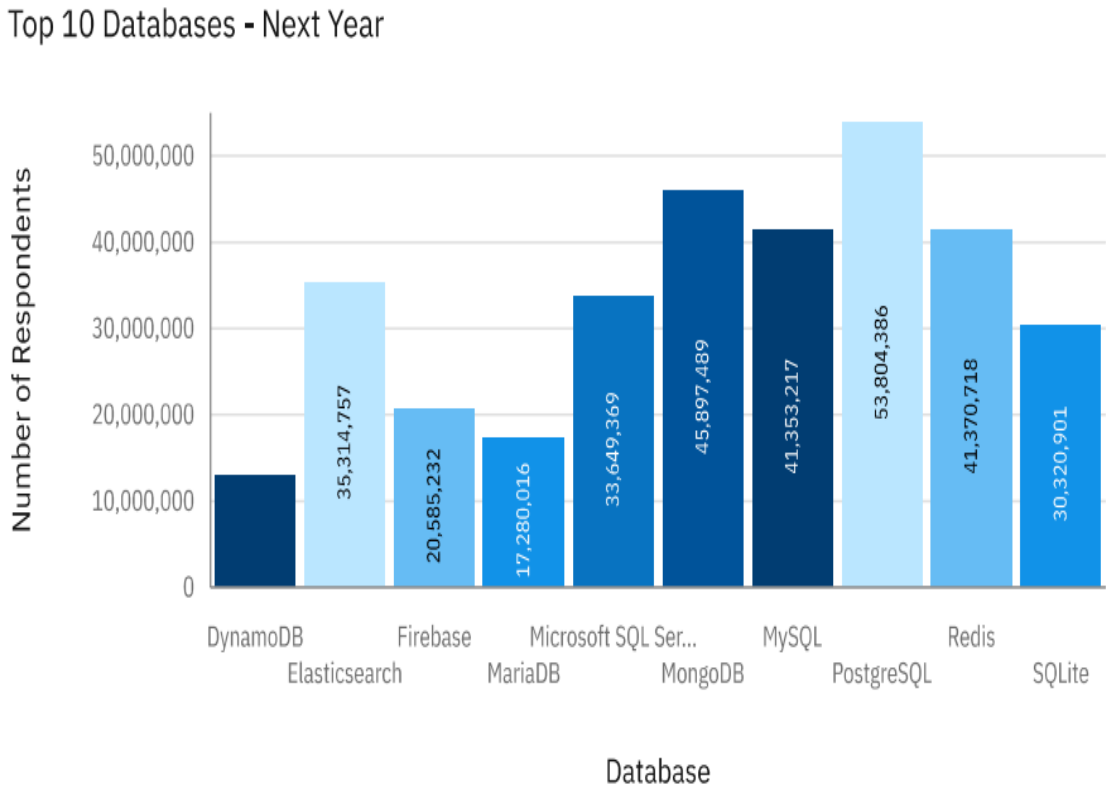
- JavaScript is the market leading programming language
- HTML/CSS and SQL are consistently in demand with Python emerging strongly
- C++ has dropped out of the picture as rival languages emerge

Implications

- JavaScript, HTML/CSS and SQL developers remain in high demand
- Python seems likely to become dominant – this perhaps in parallel with emergent AI and ML
- SQL developers remain in demand

DATABASE TRENDS





DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- SQL database platforms remain in high demand
- Postgre and Mongo are strongly challenging MySQL and MicrosoftSQL
- ElastiSearch and Redis may also displace those two more familiar platforms

Implications

- Open Source databases are in high demand and generally preferred by companies
- SQL-based platforms remain dominant but the emergence of No SQL options may have a greater impact in near future
- The market demand may change rapidly going forward

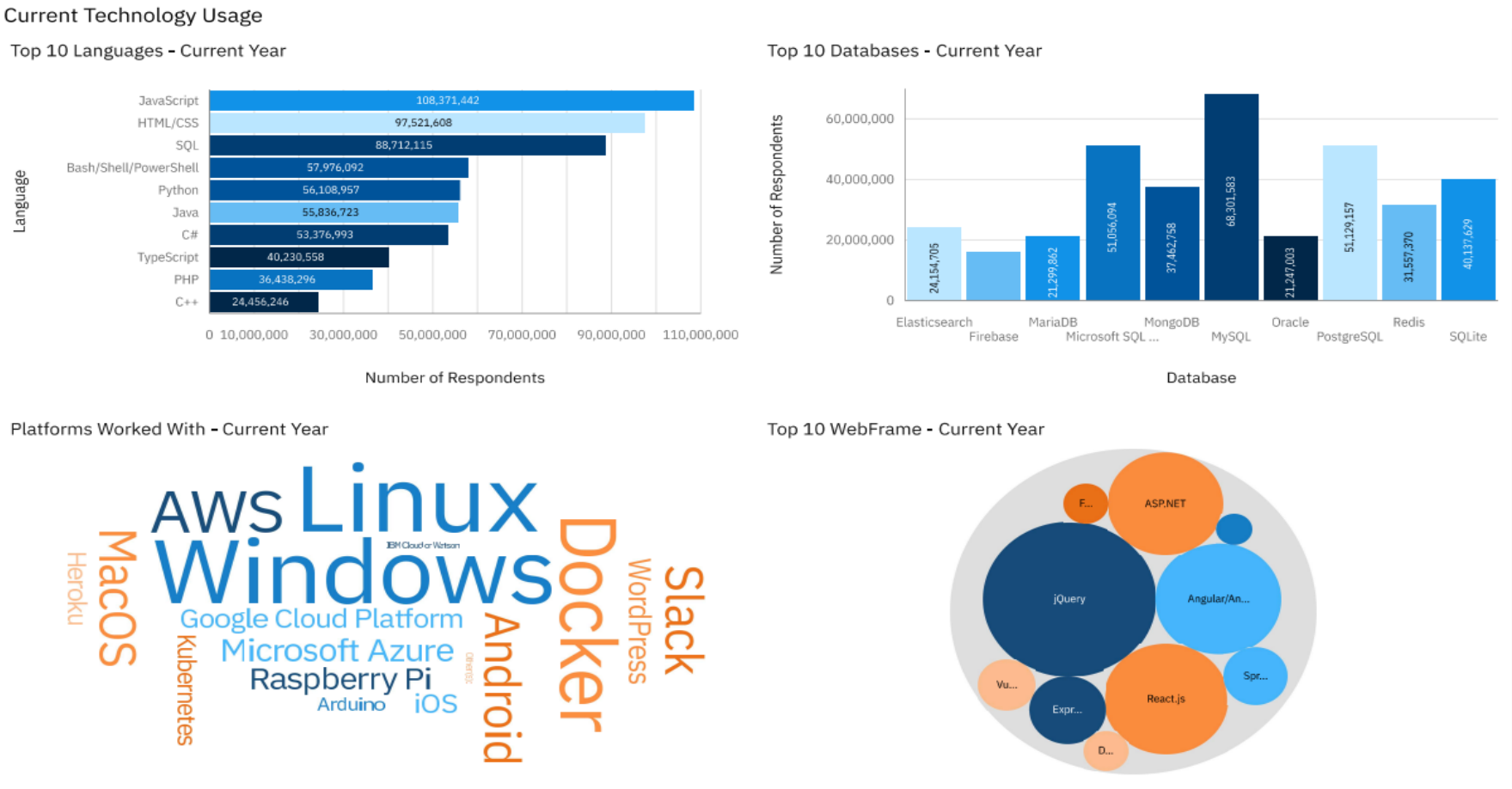
DASHBOARD

Please view the Dashboards illustrating this analysis via the url below:

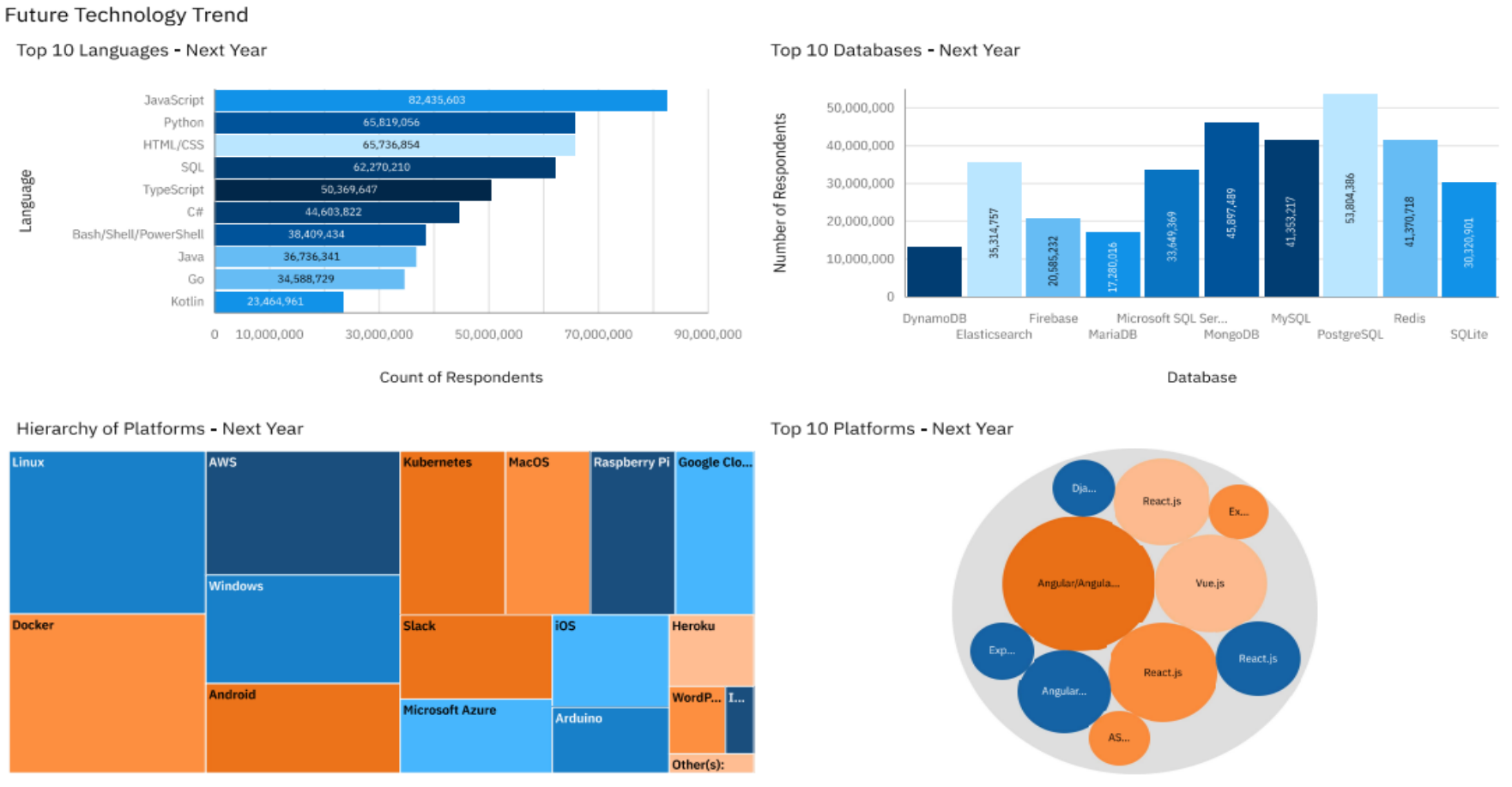
https://stez73.github.io/IBMDA/Capstone/CapstoneTechTrends.pdf

The following slides provide snapshots of the graphical data.

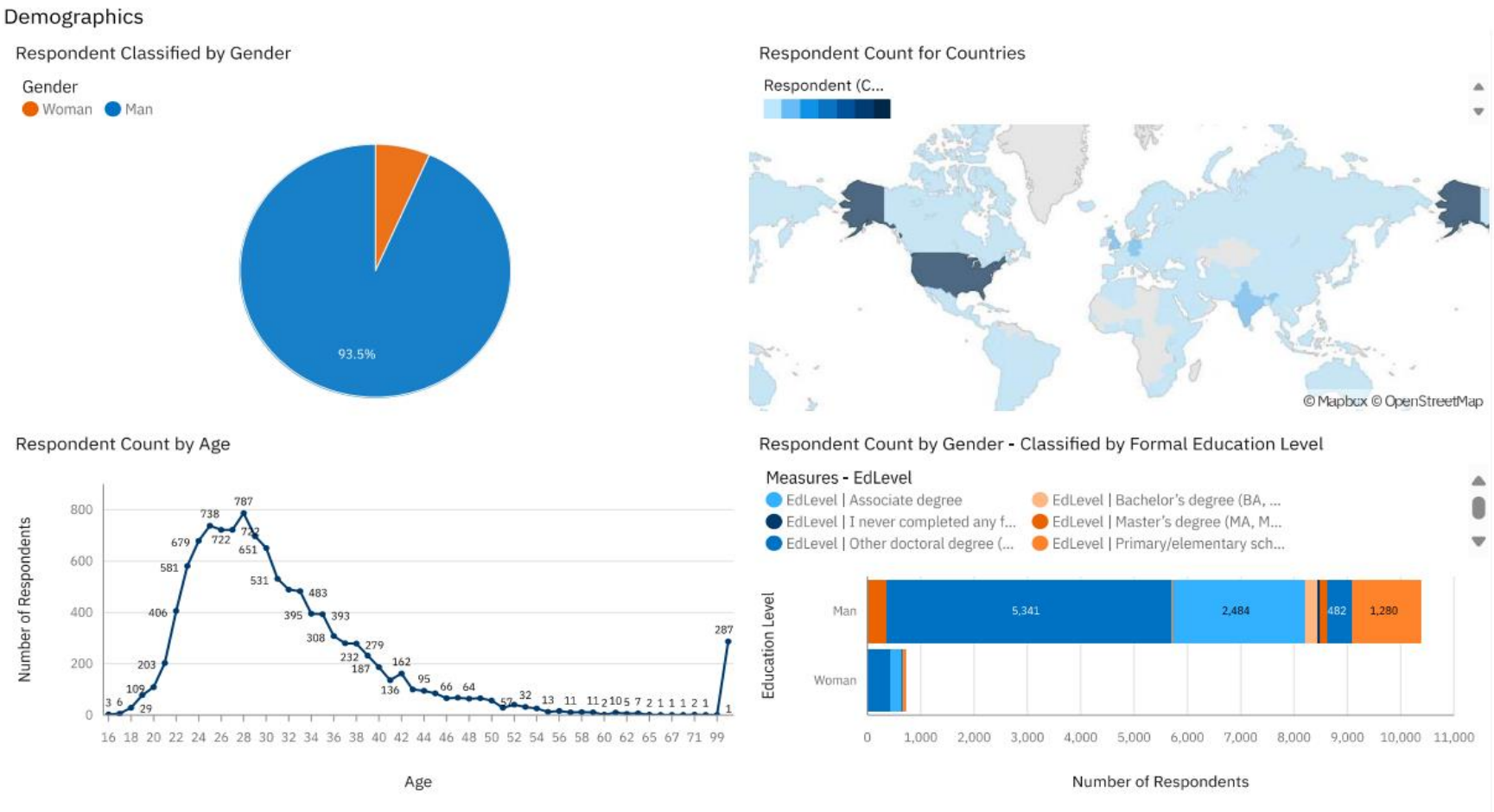
DASHBOARD: Current Technology Usage



DASHBOARD:Future Technology Trend



DASHBOARD: Demographics



DISCUSSION

- The technology market is ever-changing with emergent languages and platforms
- Workers require constant reskilling to engage new technologies
- Diversification could be encouraged to meet new demands and bridge gender/age gaps
- Will global employment trends change with emergent technologies?

OVERALL FINDINGS & IMPLICATIONS

Findings

- The industry is ever-changing
- Emergent languages and systems will continue to impact trends in industry choices and employment
- There is a marked gender and age gap in the employment market
- The US currently continues to dominate the sector in terms of opportunities

Implications

- IT professional and companies are required to be highly adaptable as new technology emerges
- Familiar systems and languages maintain a high market share but with challenges emerging
- Gender/Age imbalance seems likely to remain – for now
- US dominance is formidable but emergent technology may challenge this

CONCLUSION

- New technology creates new opportunities and rapidly changing trends in demands and the job market
- As things change, some things remain the same – the enduring demand for SQL technology and developers
- Python tightening it's grip – AI and ML technologies moving into place
- The IT industry could benefit from a degree of diversification

APPENDIX

Please see the following slides for additional displays:-

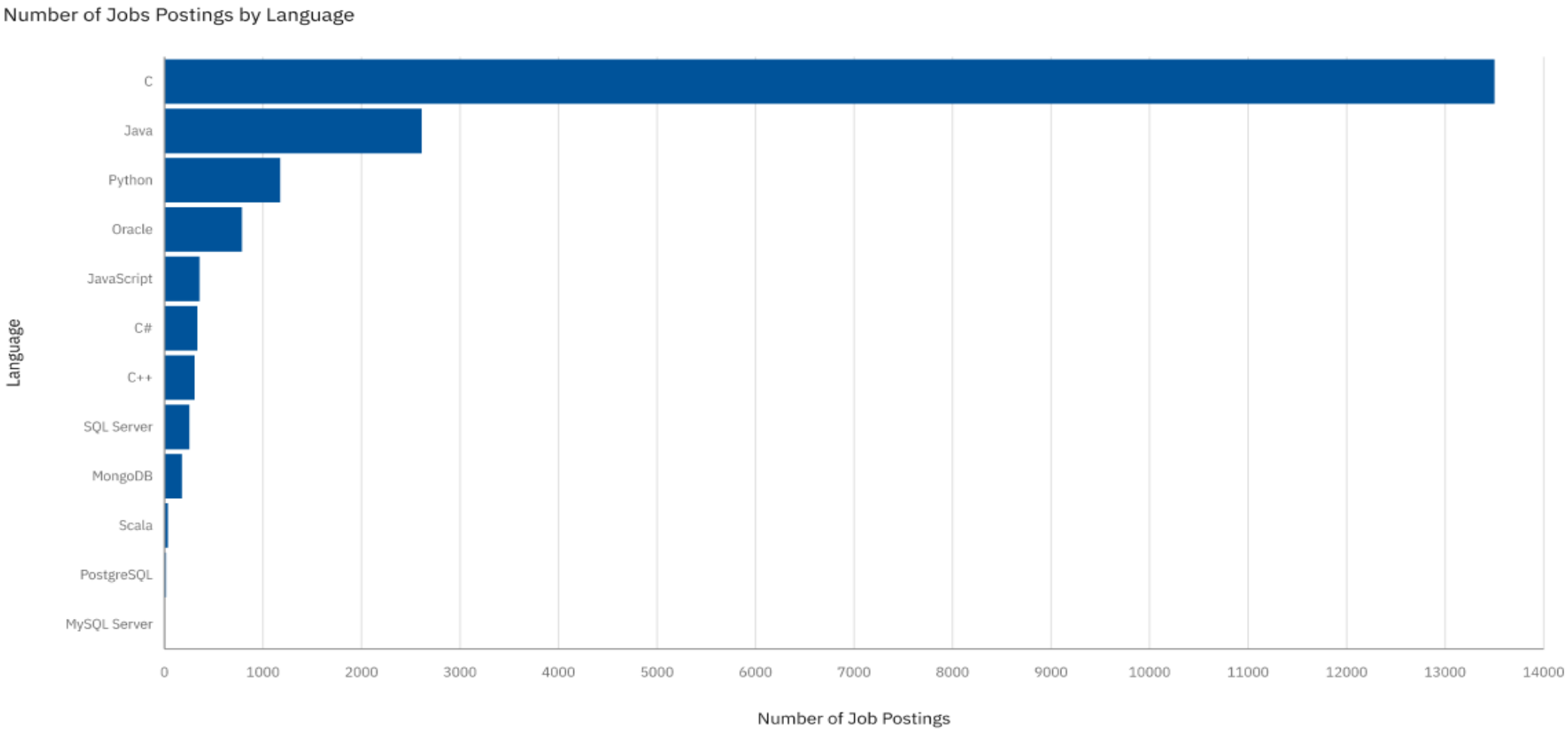
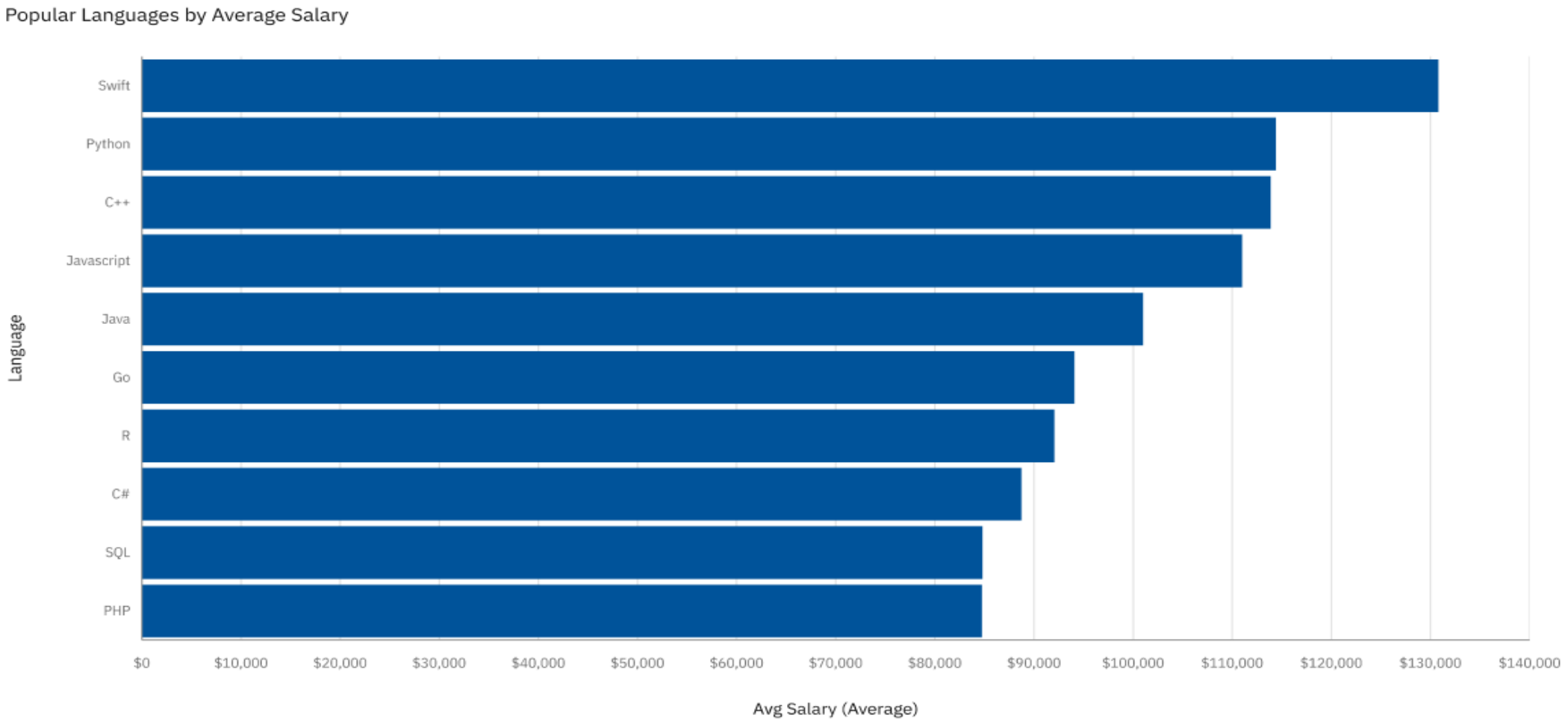
Job Postings

- Bar chart generated via Github API Jobs data

Popular Languages

- Bar chart generated via Github API Languages data

JOB POSTINGS



POPULAR LANGUAGES