

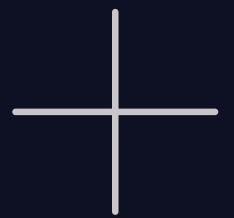


DATA ANALYSIS PROJECT



LAMIA ALHUSSAINIAN

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EXECUTIVE SUMMARY

Current Technology Usage

- Top 10 Languages Worked With
- Top 10 Databases Worked With
- Platforms Worked With
- Top 10 Web Frames Worked With

Future Technology trends

- Top 10 Languages Desired Next Year
- Top 10 Databases Desired Next Year
- Platforms Desired Next Year
- Top 10 Web Frames Desired Next Year

Demographics

- Respondent Classified By Gender
- Respondent Count For Countries
- Respondent Count By Age
- Respondent Count By Gender, Classified By Formal Education Level

INTRODUCTION

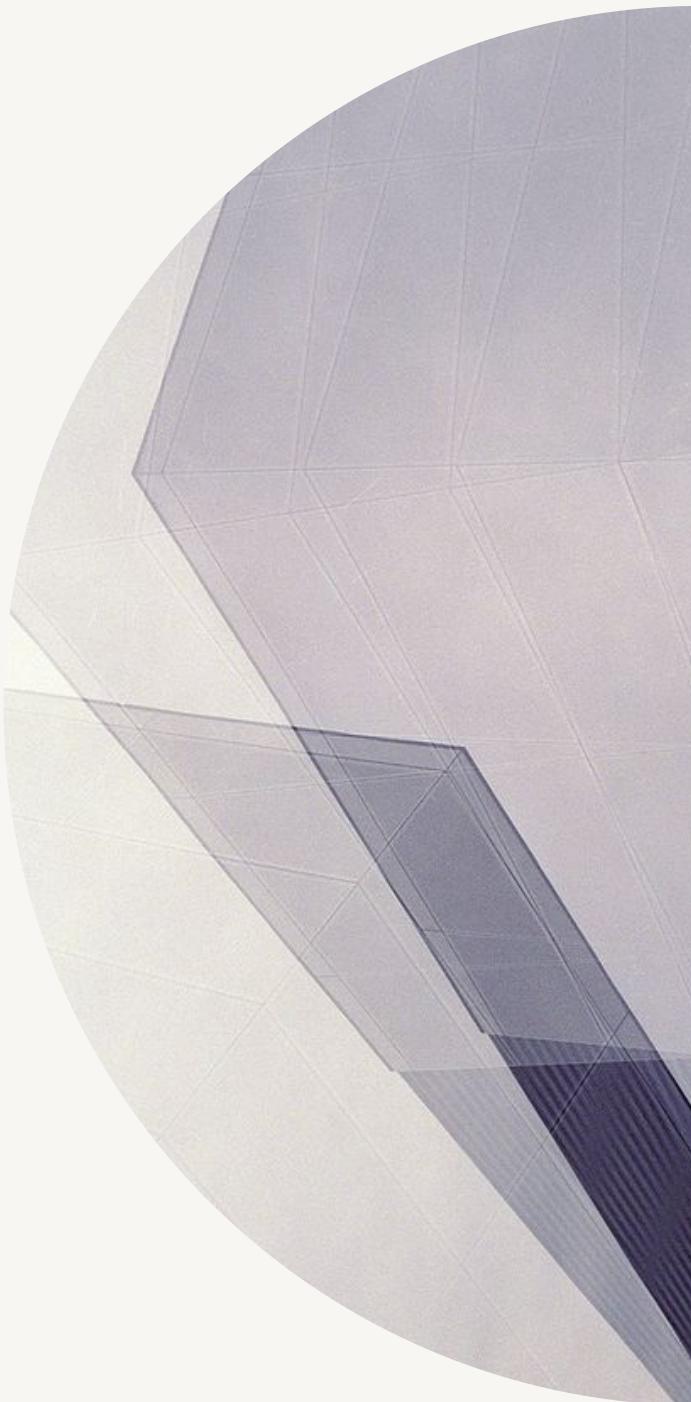


- Analyzing the trends in software and web development regarding multiple items / skills in demand.
- Identifying the top programming languages, databases, platforms and web frames.
- Eliciting skill requirements in the future.
- Extracting demographics according to specific classifications.
- Audience:

Human Resources

IT

Developers



METHODOLOGY

Data Collection Sources - (Stack OverFlow Developer Survey)

- Collecting data using APIs
- Collecting Data using Webscraping
- Exploring the data

Data Wrangling

- Finding missing values
- Finding duplicates
- Normalization

Exploratory Data Analysis

- Distribution
- Outliers
- Correlation

Data Visualization

- Visualizing distribution, relationship, composition, comparison of data
- Dashboard



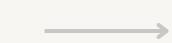
RESULTS

Respondent		LanguageWorkedWith	LanguageDesireNextYear	DatabaseWorkedWith	DatabaseDesireNextYear	PlatformWorkedWith
0	4	C;C++;C#;Python;SQL	C;C#;JavaScript;SQL	MySQL;SQLite	MySQL;SQLite	Linux;Windows
1	9	Bash/Shell/PowerShell;C#;HTML/CSS;JavaScript;P...	Bash/Shell/PowerShell;C;HTML/CSS;JavaScript;Ru...	DynamoDB;PostgreSQL;SQLite	PostgreSQL;Redis;SQLite	AWS;Docker;Heroku;Linux;MacOS;Slack
2	13	Bash/Shell/PowerShell;HTML/CSS;JavaScript;PHP;...	Bash/Shell/PowerShell;HTML/CSS;JavaScript;Rust... C	Couchbase;DynamoDB;Firebase;MySQL	Firebase;MySQL;Redis	Android;AWS;Docker;IBM Cloud or Watson;iOS;Lin...
3	16	Bash/Shell/PowerShell;C#;HTML/CSS;JavaScript;T...	C#;HTML/CSS;JavaScript;TypeScript;WebAssembly;...	MongoDB;Microsoft SQL Server;MySQL	Elasticsearch;MongoDB;Microsoft SQL Server;SQLite	NaN
4	17	Bash/Shell/PowerShell;HTML/CSS;JavaScript;Type...	Bash/Shell/PowerShell;HTML/CSS;Java;JavaScript...	MongoDB;PostgreSQL	Elasticsearch;Firebase;MongoDB;PostgreSQL	Arduino;Docker;Heroku;Raspberry Pi;WordPress

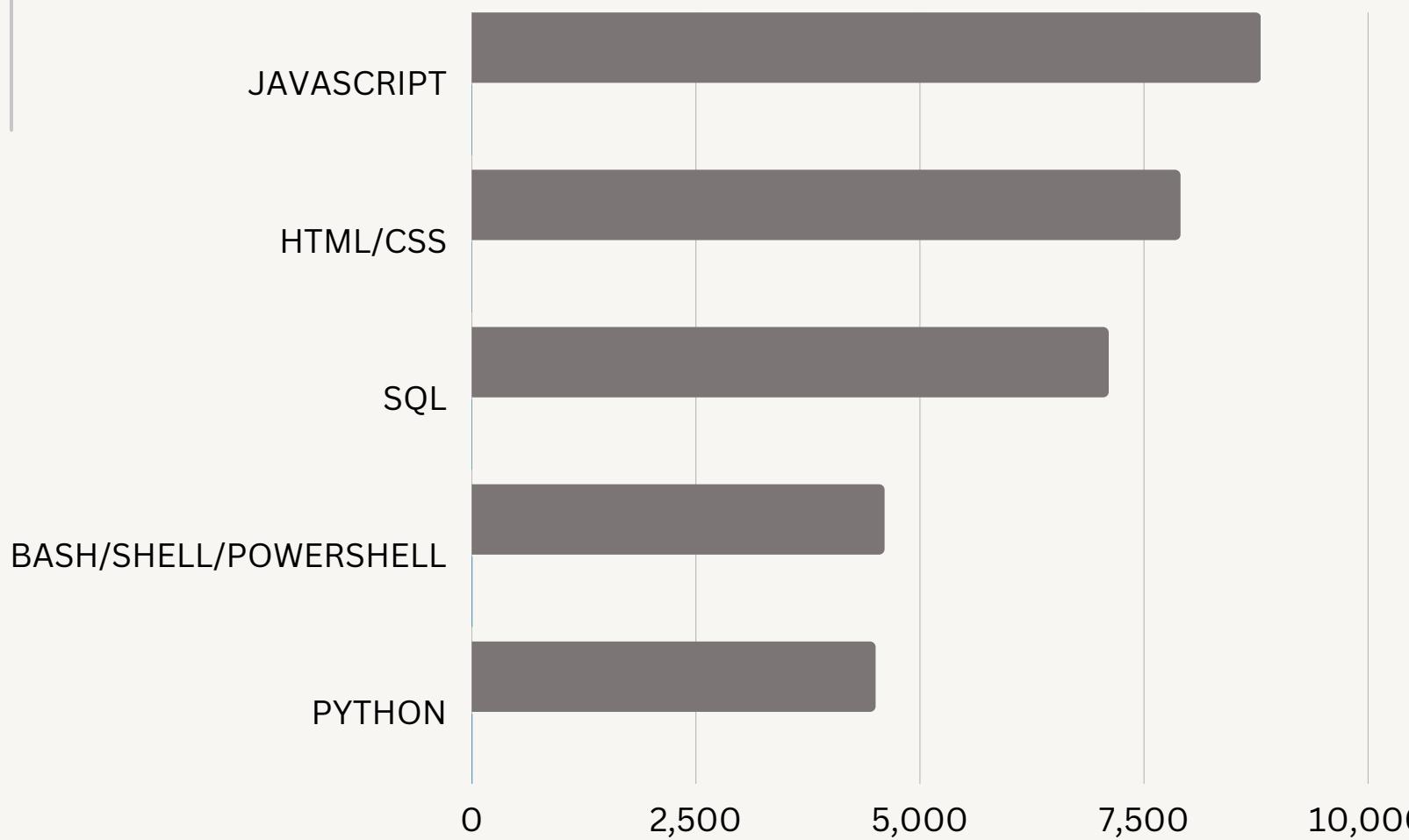
PlatformDesireNextYear	WebFrameWorkedWith	WebFrameDesireNextYear
Linux;Windows	NaN	NaN
AWS;Docker;Heroku;Linux;MacOS;Slack;Other(s):	Express;Ruby on Rails;Other(s):	Express;Ruby on Rails;Other(s):
Android;AWS;Docker;IBM Cloud or Watson;Linux;S...	Angular/Angular.js;ASP.NET;Express;jQuery;Vue.js	Express;Vue.js
AWS;Google Cloud Platform;Microsoft Azure	Angular/Angular.js;ASP.NET;jQuery	Angular/Angular.js;ASP.NET;React.js
Docker	Angular/Angular.js;Express;Spring	Angular/Angular.js;Express;React.js;Spring;Vue.js

PROGRAMMING LANGUAGES TRENDS

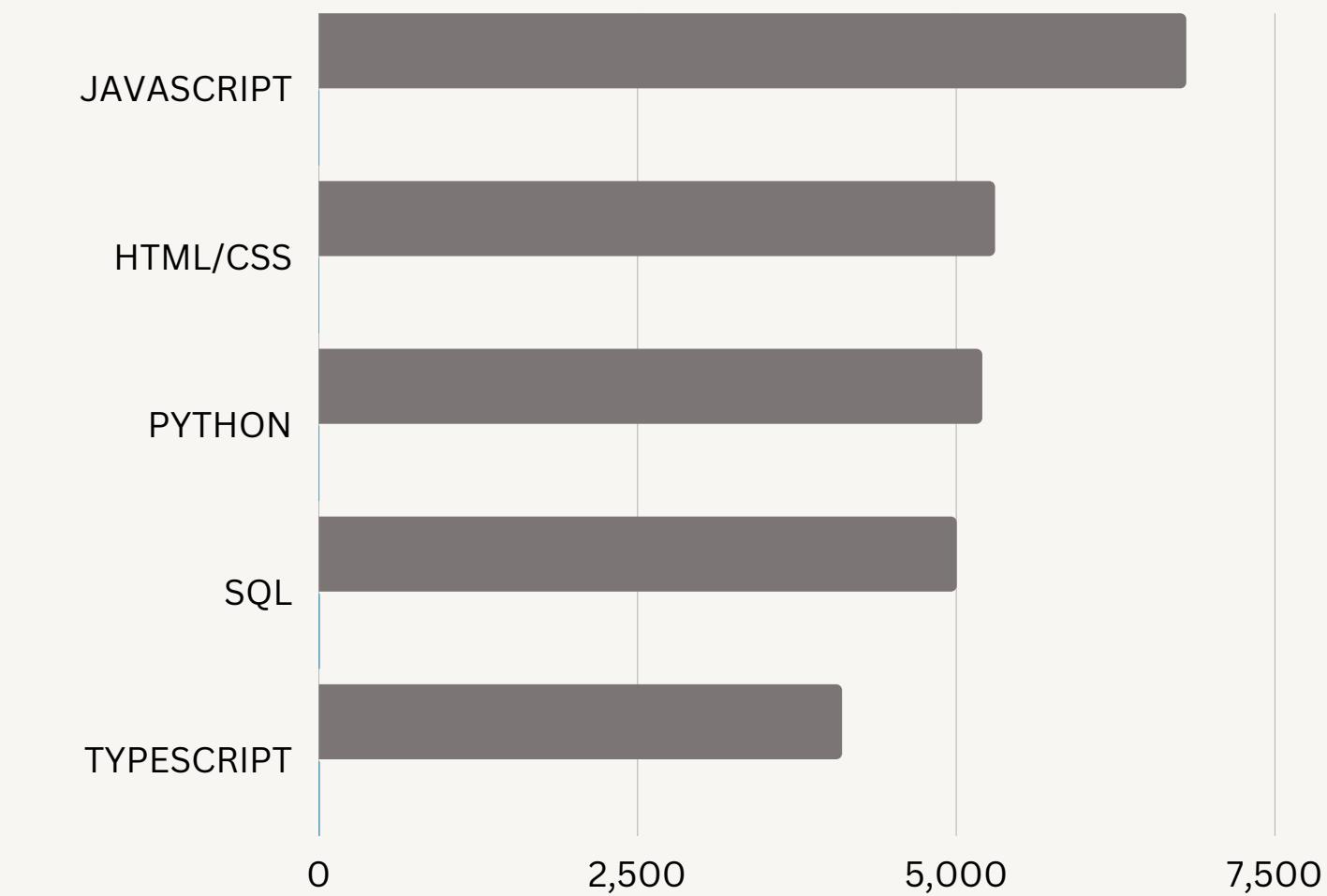
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Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

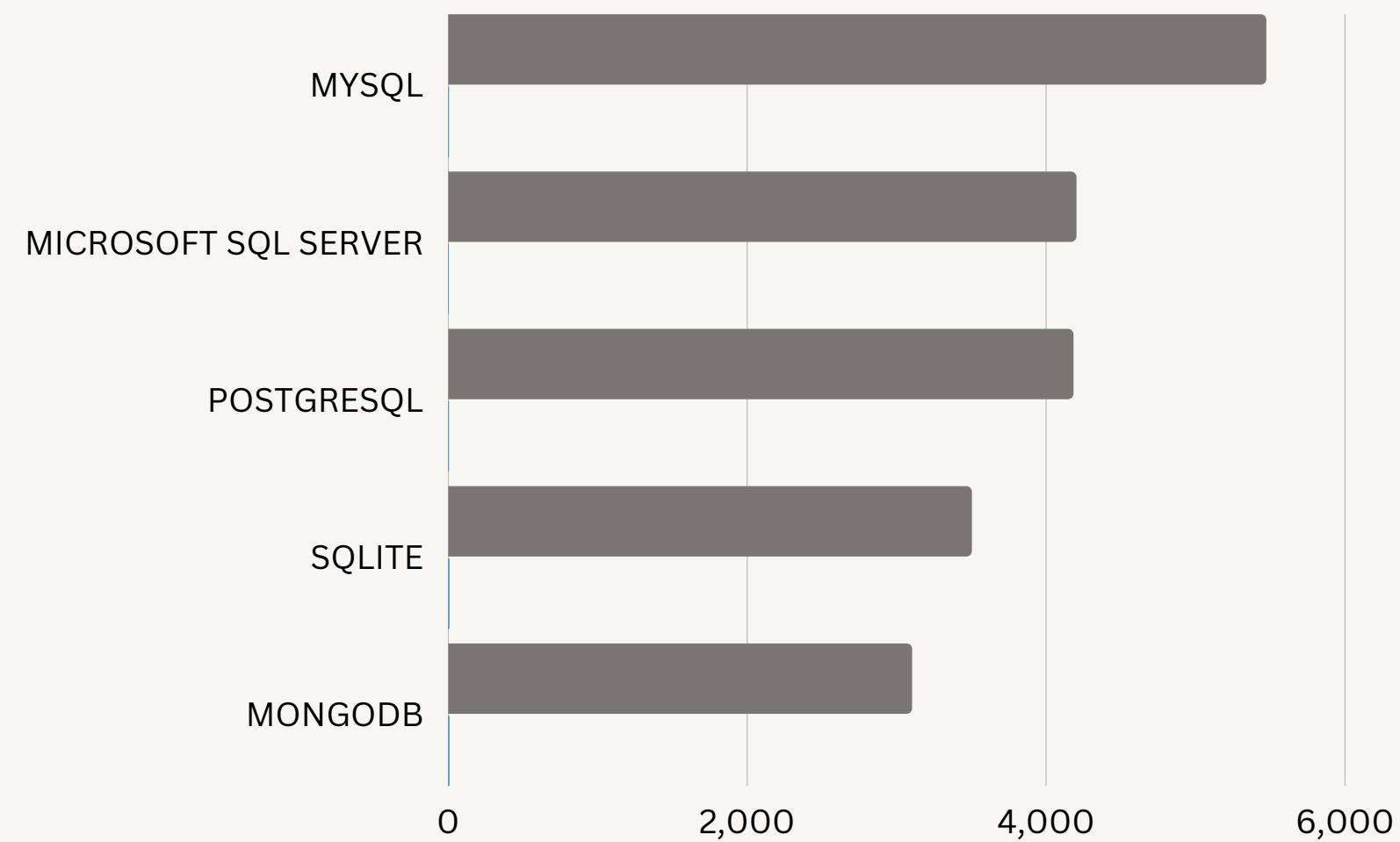
- JavaScript, HTML/CSS, are top 2 languages.
- Python and TypeScript are gaining popularity, and python is currently in demand.
- Bash/Shell/PowerShell is losing popularity.

Implications

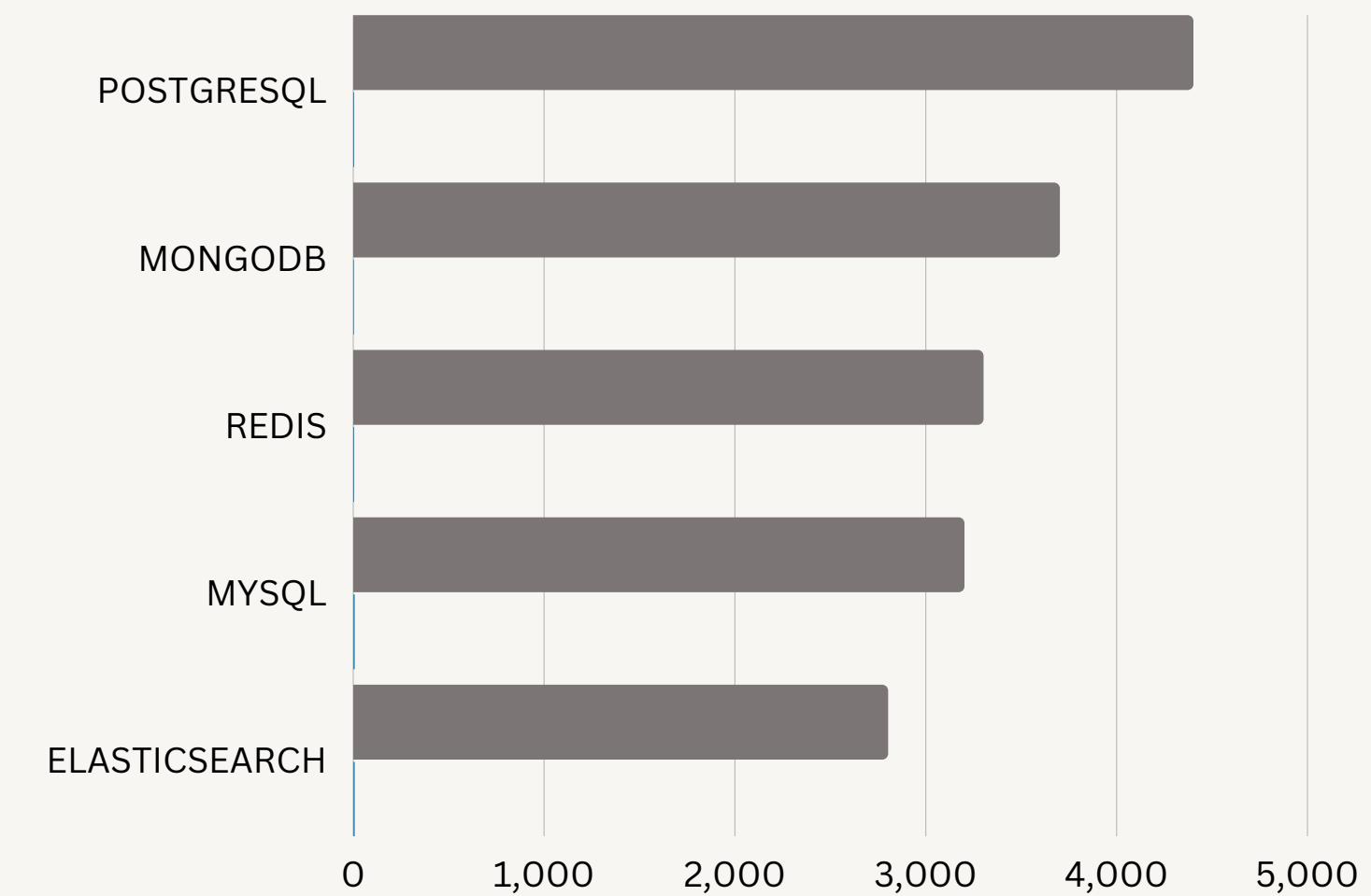
- Web development is in high demand.
- Python being the 3rd on the list for next year, indicates that it's growing rapidly, and makes it possible to predict it's position for the next few years.
- SQL is required and favorable.



Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

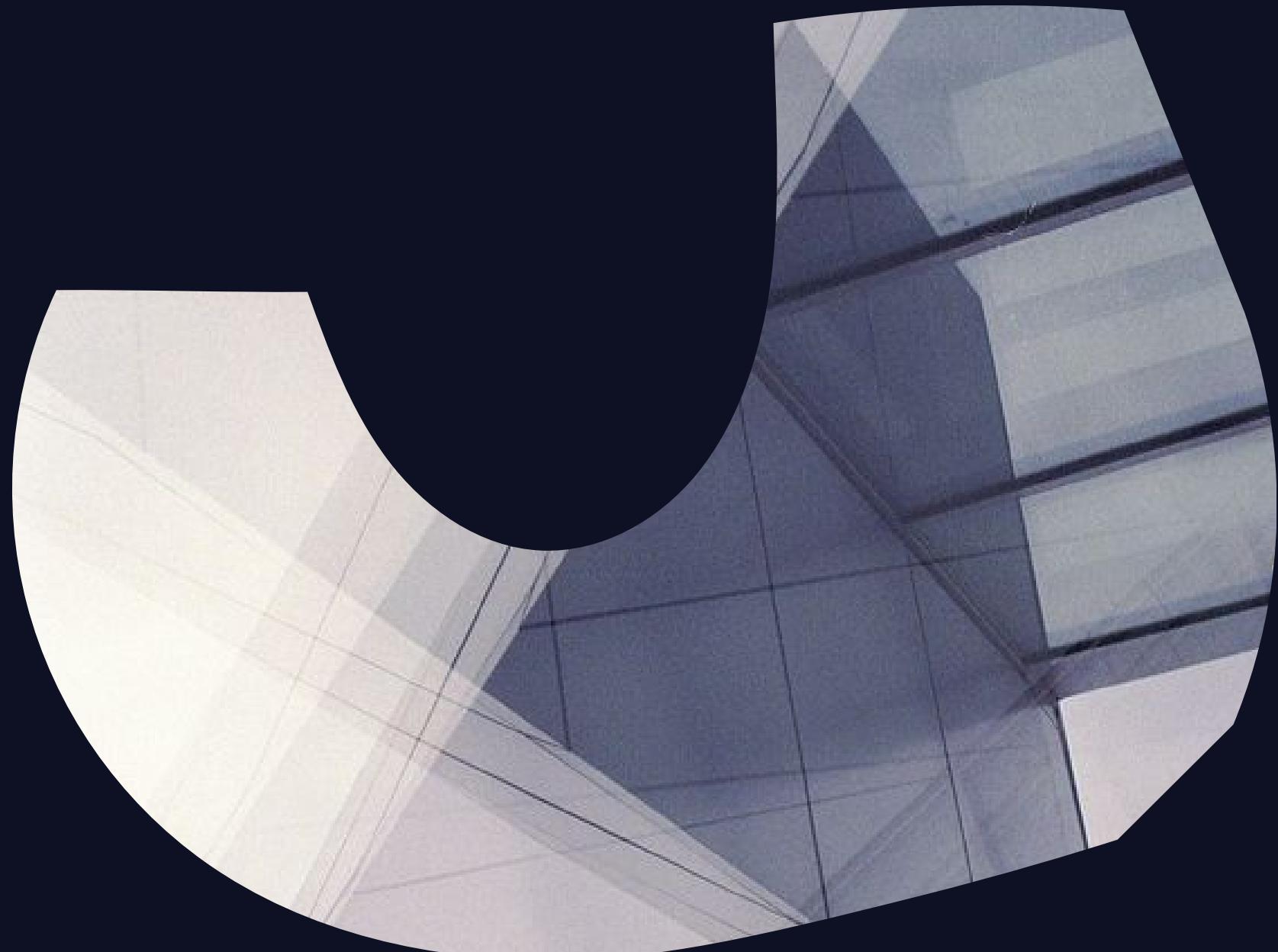
- MYSQL and Microsoft SQL Server are the most popular.
- MongoDB and Redis are becoming preferred, and MongoDB is in demand currently.
- SQLite is becoming less desired.

Implications

- Open-Source databases are desired.
- NoSQL databases are gaining popularity.
- ElasticSearch is an upcoming favorite.

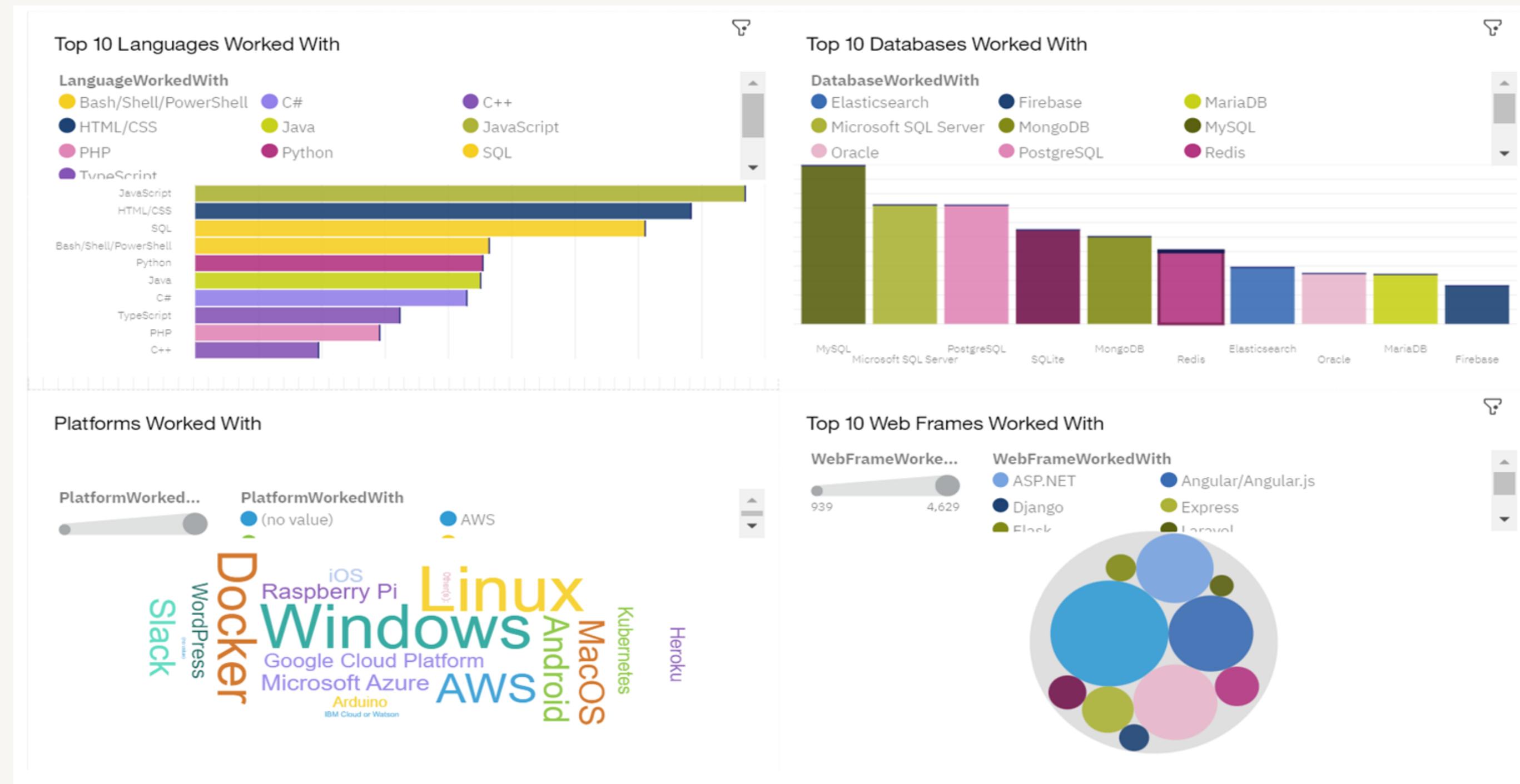
DASHBOARD

DAHSBOARD LINK



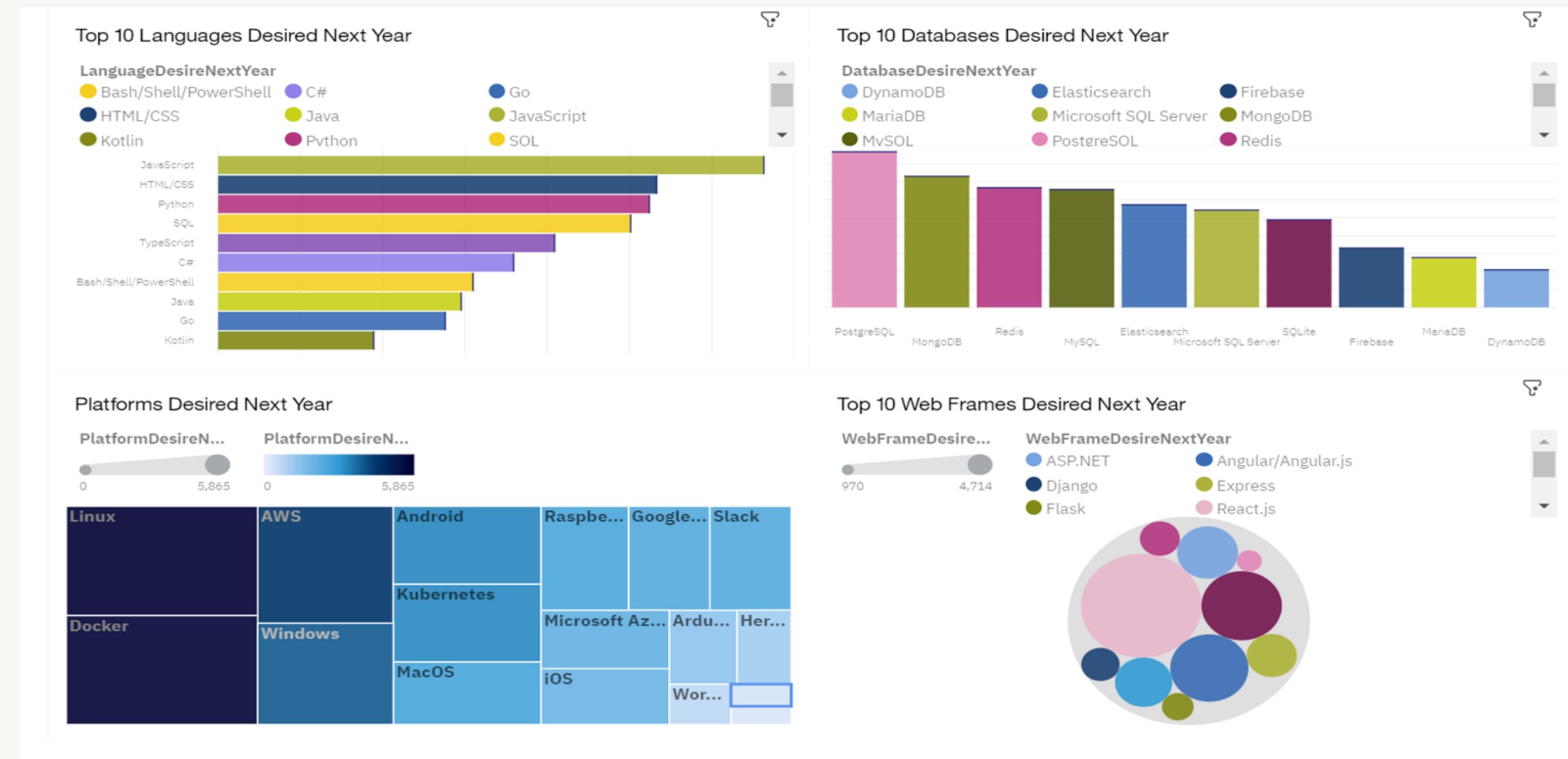
DASHBOARD 1

CURRENT TECHNOLOGY USAGE



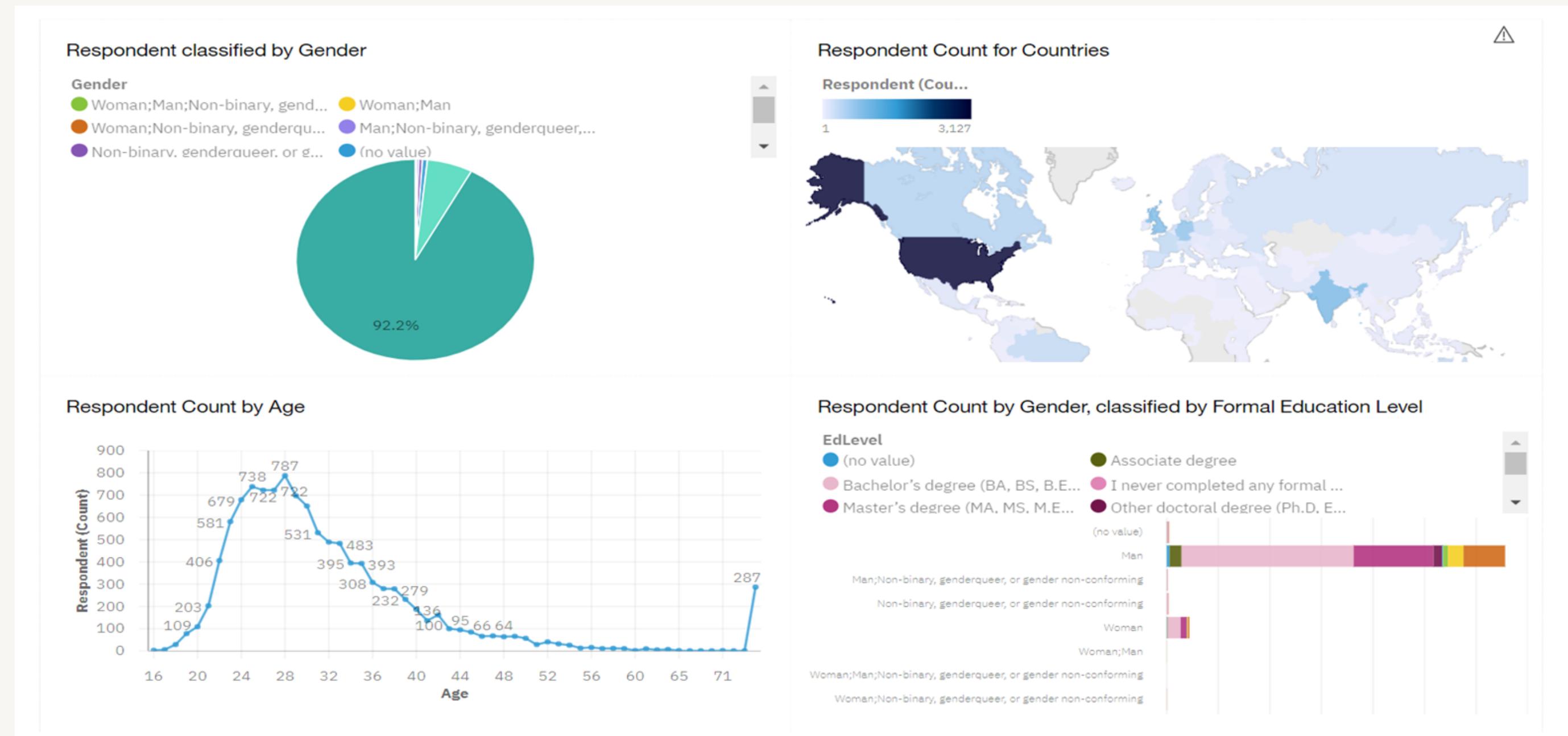
DASHBOARD 2

FUTURE TECHNOLOGY TREND



DASHBOARD 3

DEMOGRAPHICS



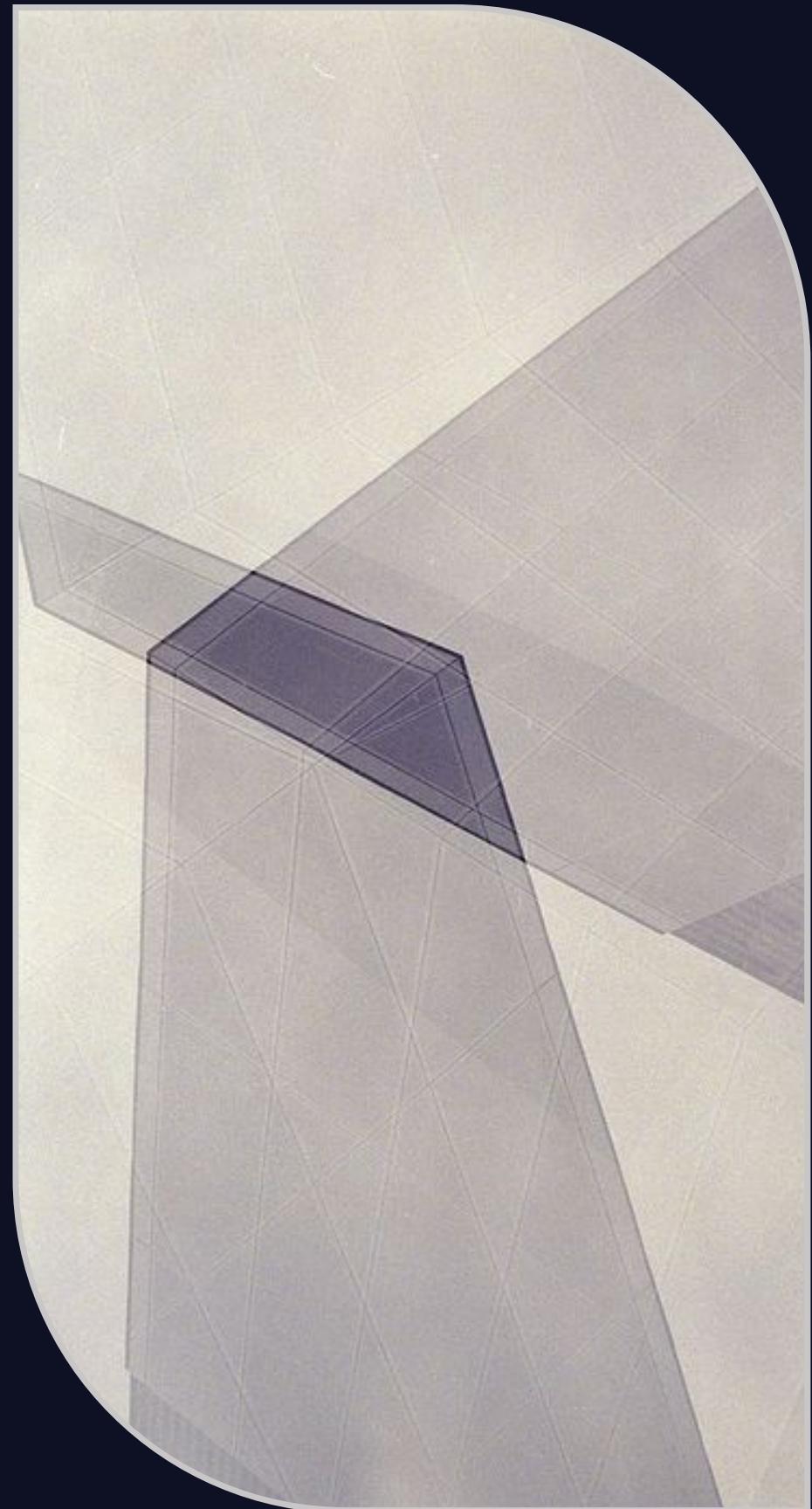
DISCUSSIONS +

01 | Technology trends currently and in future.

02 | Countries concertation.

03 | Gender diversity and Age gaps.

04 | Education levels.



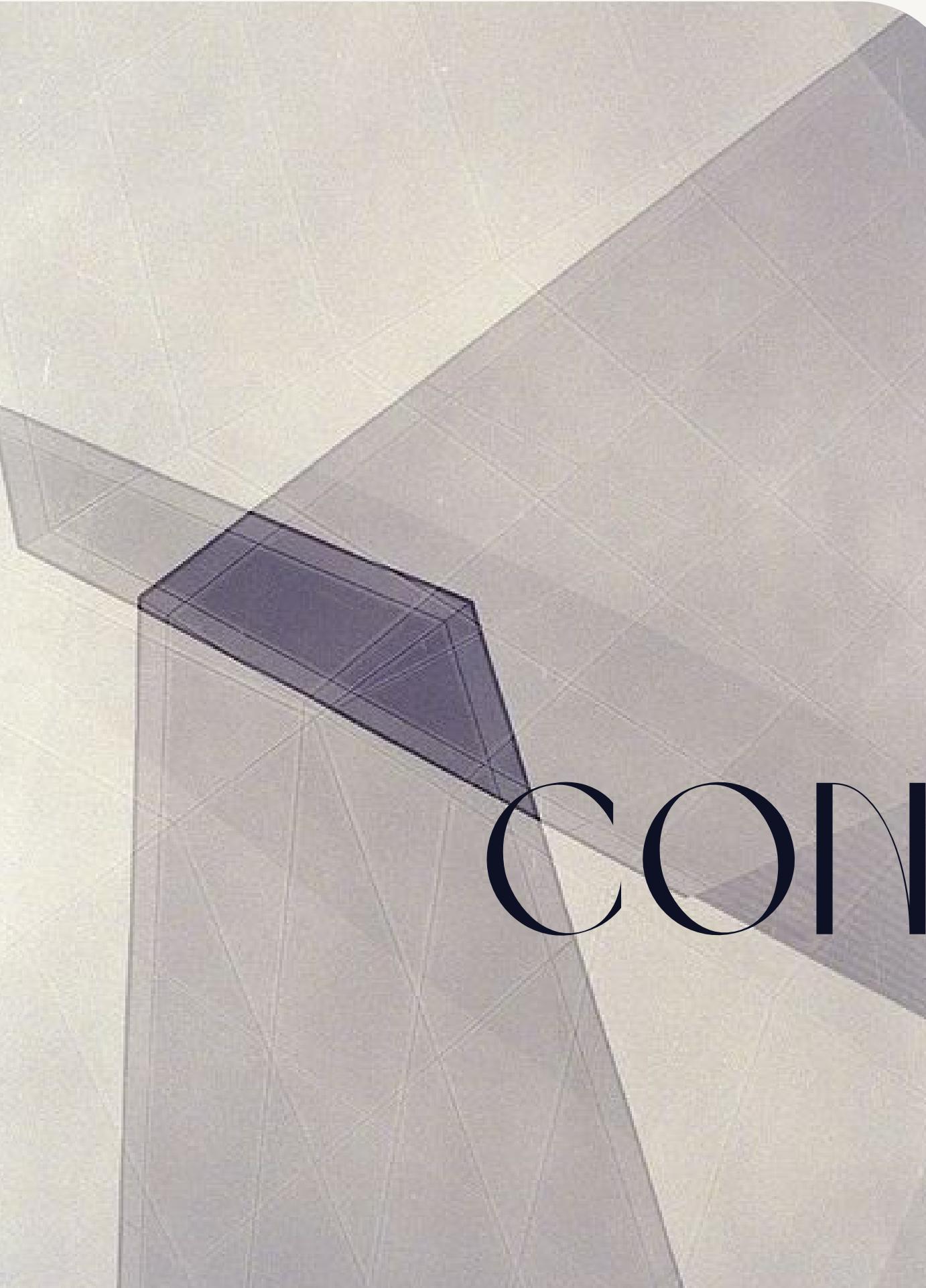
OVERALL FINDINGS & IMPLICATIONS

Findings

- Technology is changing rapidly.
- Respondent concentration in few countries such as USA, India, UK.
- Gender gap in technology work fields. As females have low opportunities.

Implications

- Companies and IT related need to cope and adjust the changes.
- Technology needs to be expanded and spread out all over the world.
- Increase females opportunities.

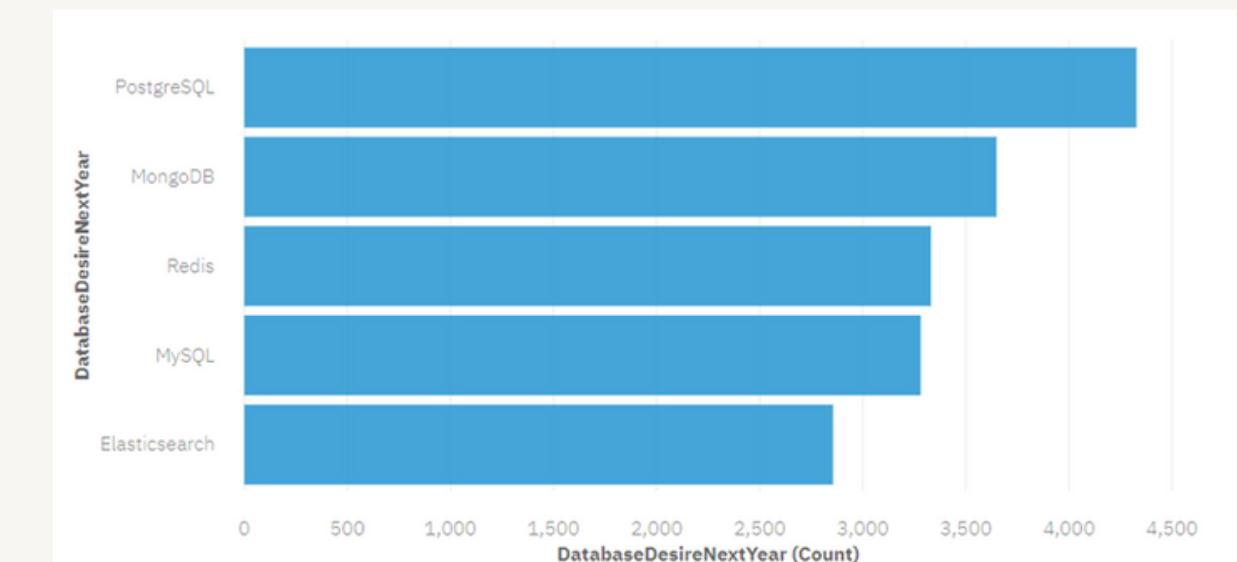
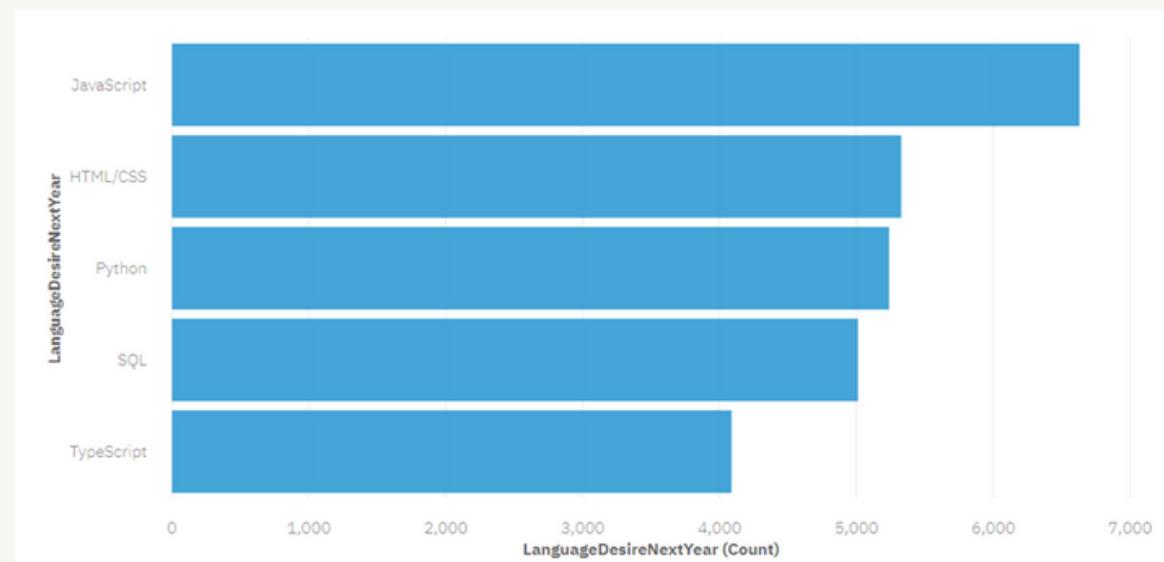
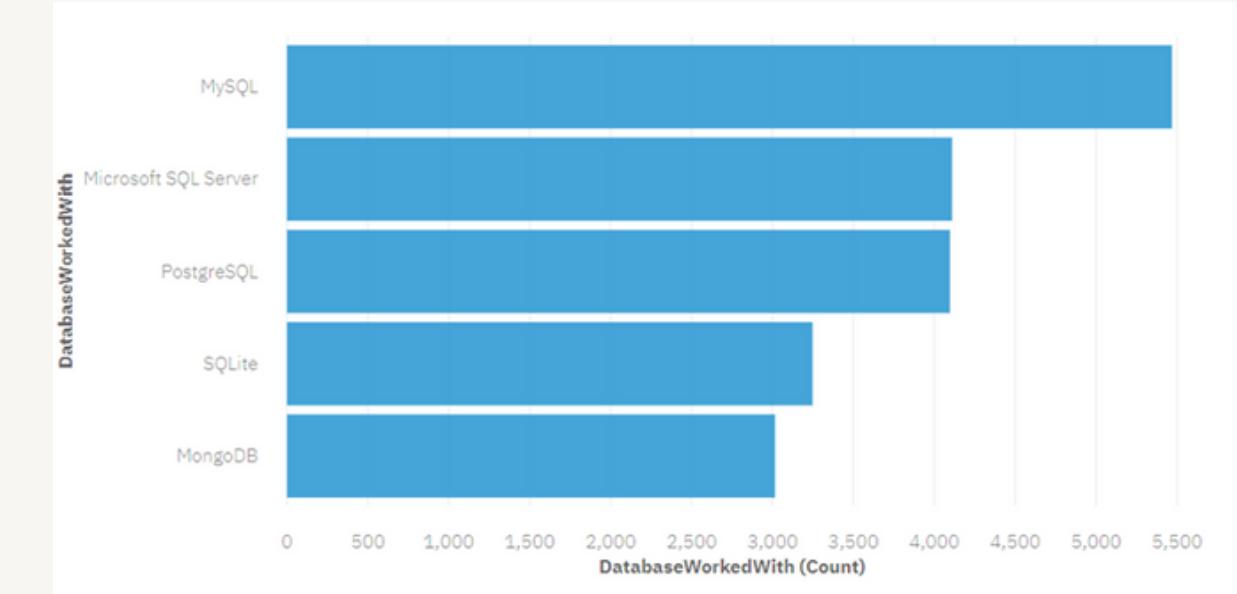
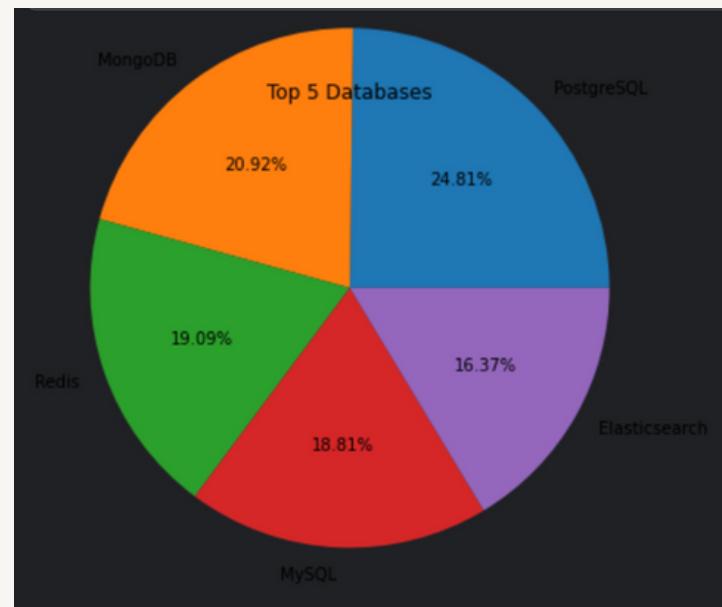
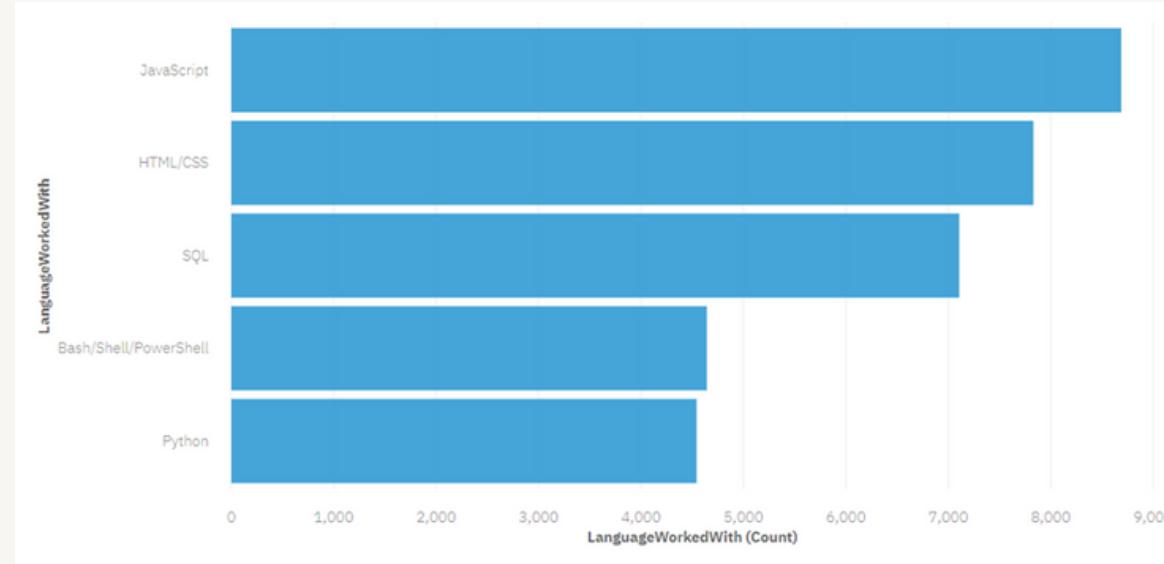
A large, abstract graphic on the left side of the slide features a light beige or cream-colored background with a subtle grid pattern. Overlaid on this are several dark grey and black geometric shapes, including a large trapezoid-like form at the top and a smaller, more complex shape at the bottom left.

CONCLUSION

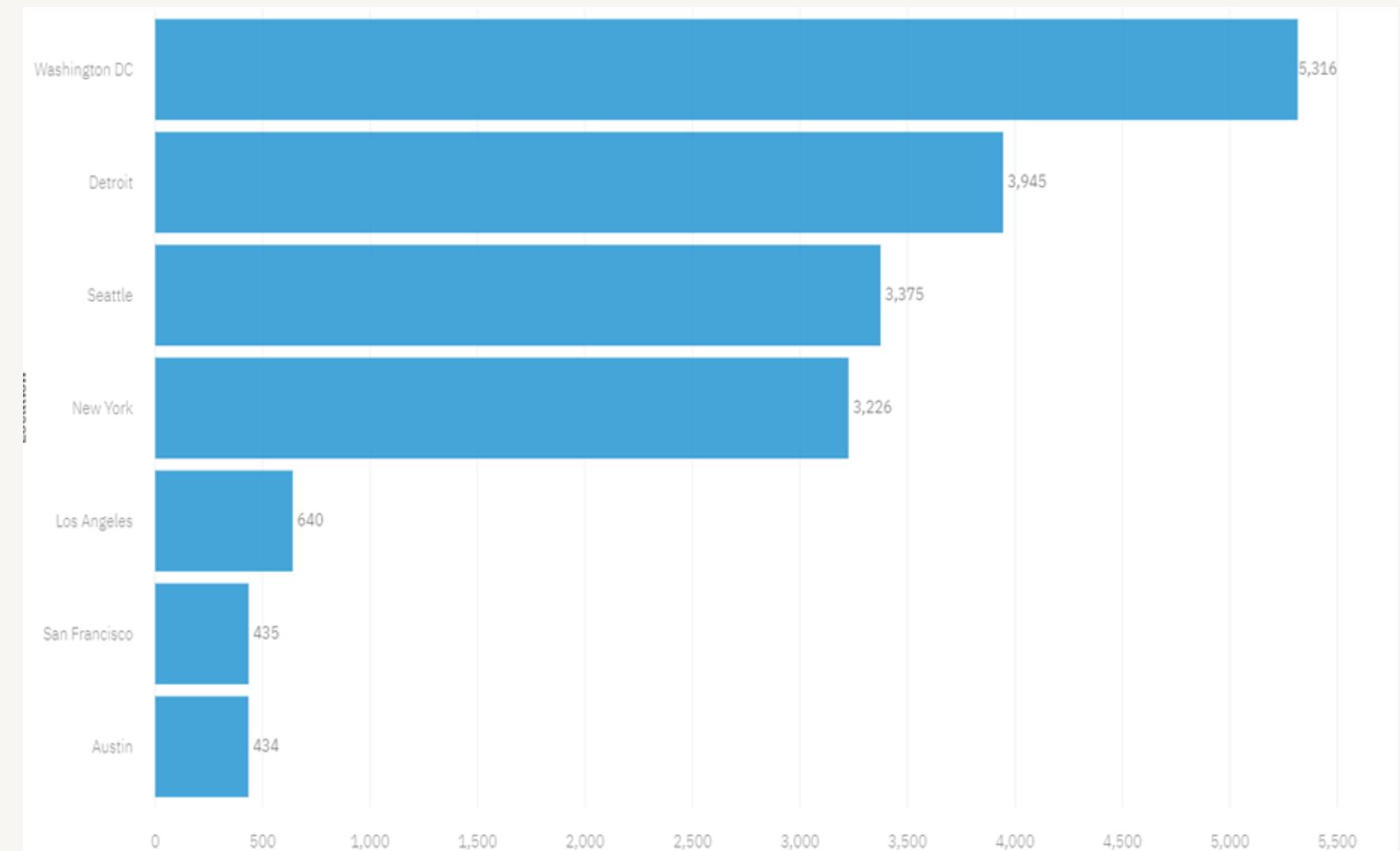
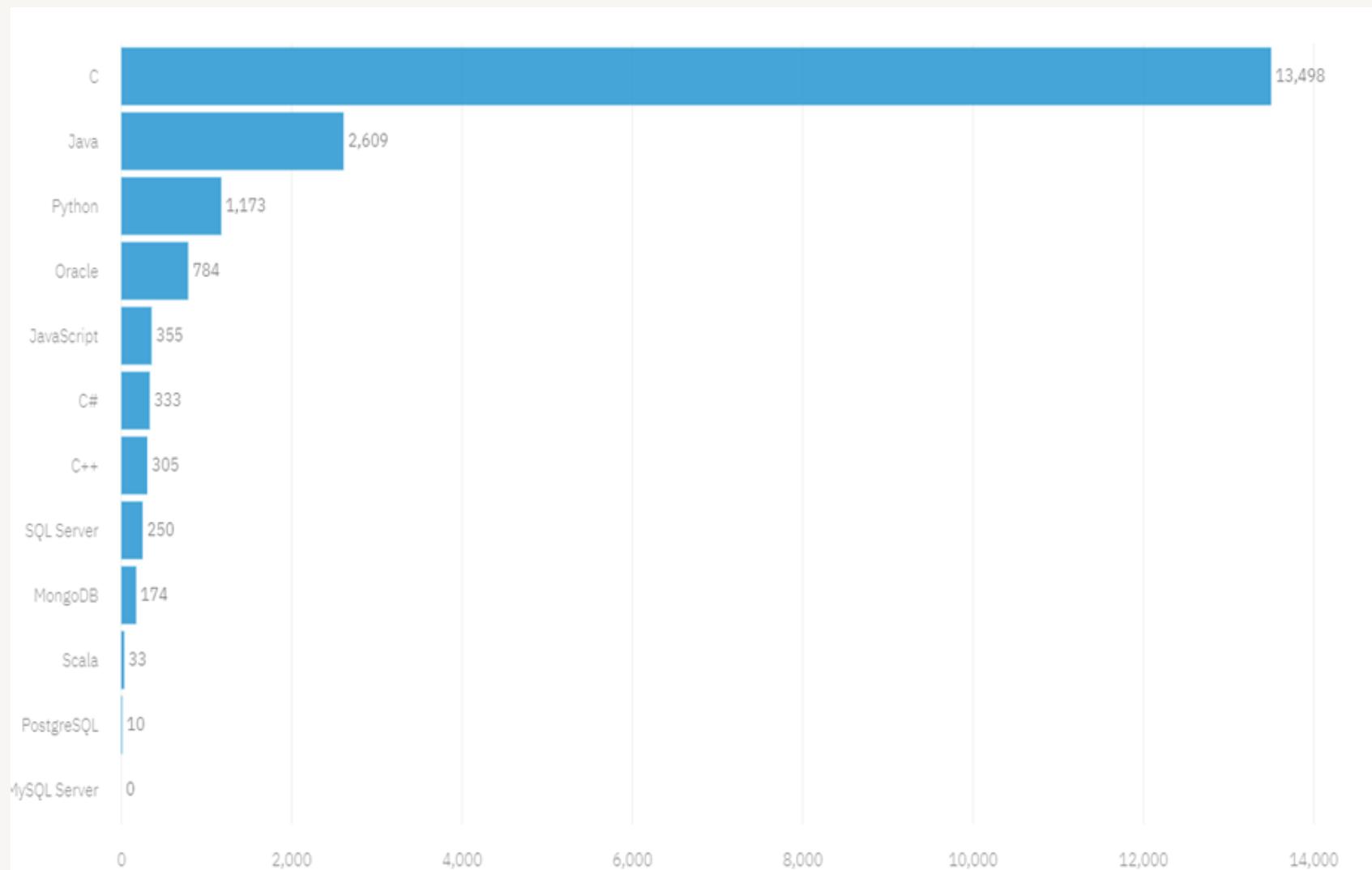
This presentation concludes:

- Future and current technology trends.
- Demographics.
- Each case findings and implications.

APPENDIX



JOB POSTINGS



POPULAR LANGUAGES

