

Photograph by Markus Spiske via Unsplash.

Graphs that Speak

Methodology

Outline

- O1) Extracting the Annotations
- O2) Prioritized Data Elements
- O3) Model Implementation

Methodology

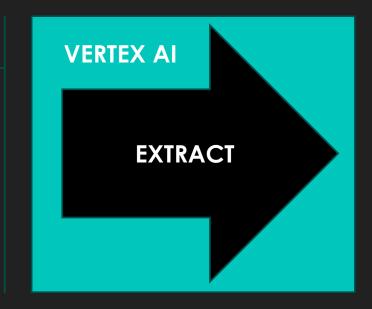
- OGOAL = successfully interpret the data series depicted in the test set
- O Dataset
 - 60,578 synthetic and professionally produced .jpg images
 - 60,578 associated annotations in .json format

Examples of Charts

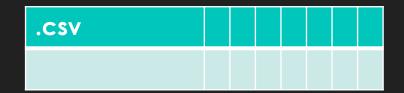


1) Extracting Annotations

- One .json file
 - O Source:
 - O Generated
 - O Extracted
 - O Chart Type:
 - Horizontal Bar
 - O Vertical Bar
 - Scatter
 - O Dot
 - O Data Series 'X':
 - o x values of the graph
 - O Data Series 'Y':
 - o y values of the graph



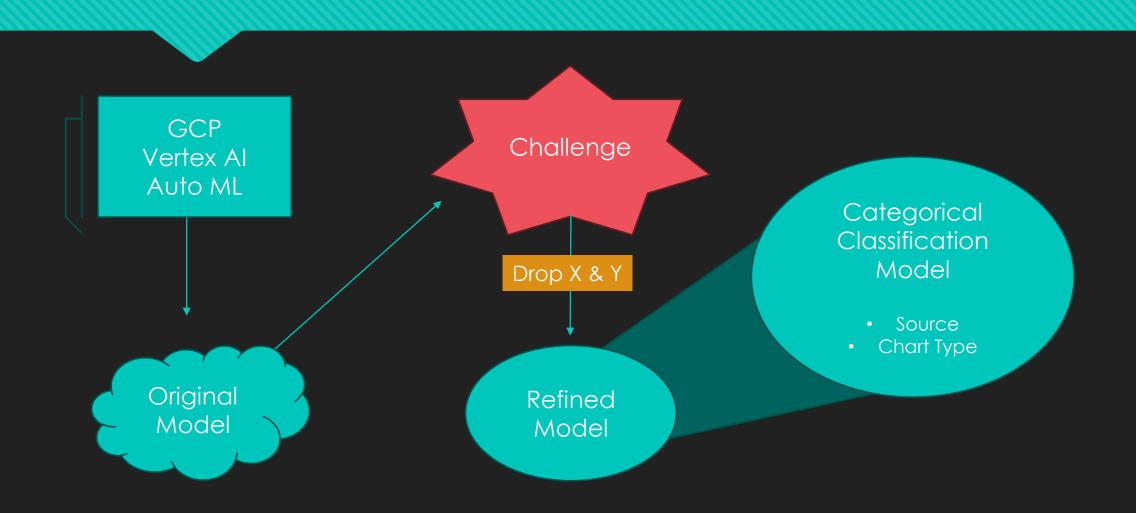
Data Frame				



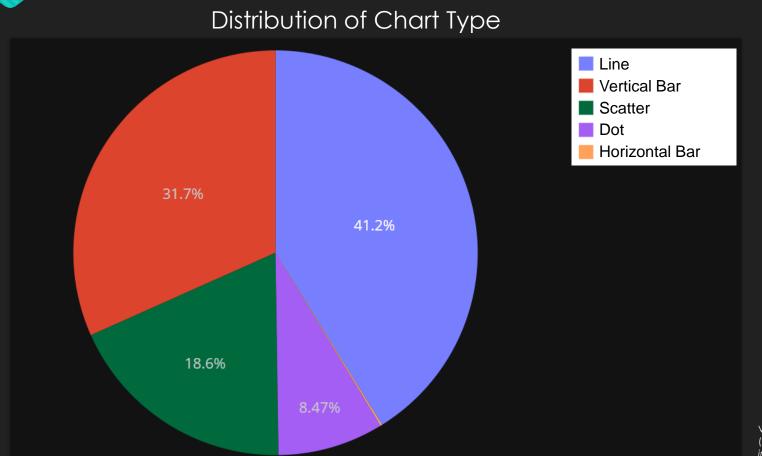
2) Prioritized Data Elements

- O Draft code in Python notebook
- Transfer images and .csv to GCP Storage Bucket
- Conduct Exploratory Data Analysis
- Build and deploy model with Vertex AI AutoML tool

3) Implementation



Exploratory Data Analysis



Visualization from Jones, M., Renton, K., & Rahmani, R. (2024). Graphs that speak: Breaking the silence barrier in STEM for the blind and visually impaired. March 15, 2024. York University, ON.