URStreamSight: PROJECT REQUIREMENTS

Project Name	URStreamSight

Functional Requirements

1. Capture image data with a camera system mounted in a recycling truck.
2. Remove low quality images with a filter system.
3. Send images to remote storage.
4. Classify images as recyclable or non-recyclable.
5. Score recyclable vs non recyclability of bin contents in an image.
6. Provide meaningful data about recycling to households and stakeholders

Technical/Performance Requirements

Technical Requirements:

1. An API to store the images to a remote storage host and provide methods to access the data.
2. Machine learning model to train on the bin image dataset and classify items in images as recyclable or not.
3. Create a front-end UI to take the scores and provide visual representation of quality of recycling.
4. Use AWS for API hosting, front-end hosting, image storing as mandated by Prairie Robotics.

Performance Requirements:

Ideal goals:

1. Classifier recall (focus on reducing false negatives) of 90%
2. API response Time of under 500ms