Automated Feature Detection of Aerial Imagery from South Pacific

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Agenda

Project Overview

Progress Update

Detailed Schedule

Project Overview

Aerial Imagery in the South Pacific

Goal

- Classify and count trees in aerial imagery from the South Pacific

Motivation

- Coordination of disaster relief efforts
- Prioritize delivery of aid

Progress

Progress - Data Acquisition

Acquisition

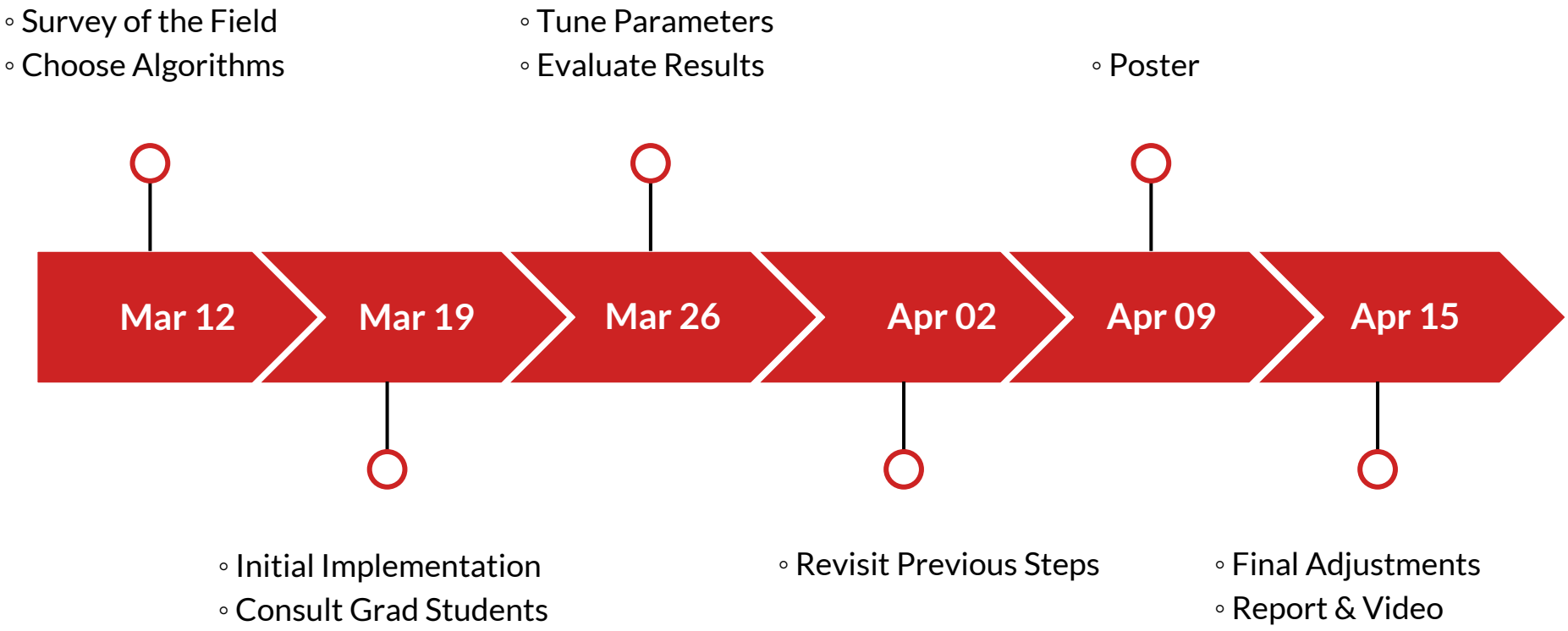
- One image: 9 cm resolution, 1.6 km x 2.2 km in Kolovai, Tonga
- 3 shapefiles representing
    - Points: trees
    - Lines: roads
    - Polygons: buildings

Progress - Data Preparation

Transformation

- Converted shapefiles to geoJSON
- Tiled images

Schedule


◦ Survey of the Field
◦ Choose Algorithms
◦ Tune Parameters
◦ Evaluate Results
◦ Poster
Mar 12
Mar 19
Mar 26
Apr 02
Apr 09
Apr 15
◦ Initial Implementation
◦ Consult Grad Students
◦ Revisit Previous Steps
◦ Final Adjustments
◦ Report & Video

Plan moving forward

1. Continue with data preparation.
2. Fine-tune one or more detection models (ResNet, Yolo) for our categories.
3. Measure performance and tune parameters.
4. Consult with grad students doing work in this area.