Classifying the Right-Of-Way for San Francisco

Using Semantic Segmantation on SkySat Ortho Imagery

MUSA 650 Progress Report

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For my final project, I will be performing right-of-way semantic segmentation of satellite imagery. I want to understand which areas of the City of San Francisco are roads/right-of-way. I already have a polygon dataset of those right-of-ways, but I still need to find a proper set of rgb satellite images before cleaning them and developing the U-net model.

Project Steps:

Find Data

1. ~~Create Github (LINK)~~
2. ~~Find Right-of-Way Polygons for San Francisco (San Francisco Open GIS)~~
3. Find Satellite Images that are granular, have multiple channels, and are newer than 2015

Data Preparation

4. ~~Create a mask from the Right-of-Way (RoW) Polygons based on the shape of the satellite images~~
5. Cut the RoW masks & satellite images into the same sized windows
6. Process the satellite images into matrices

Develop & Fit the Model

7. Start with a U-net architecture for the model. Then potentially look into alternatives
8. Fit the model
9. Analyze the accuracy then re-evaluate the model