Metis Project 5 - Proposal

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Primary proposal: Identify structures on a map

Given a map with a satellite view I would like to identify the different types of structures on the map and/or determine what it is “composed” of, for example 80% structure, 5% road, 15% park.

Business Case:
Maps of areas can change over time due to human development, natural disasters, climate change, etc, and for it human to relabel this information would take a lot of work. It would be useful if an image classifier could label this new map, find the roads, and maybe even find specific structures on this map.

If I can correctly segment the images and classify structures, infrastructure, and non-structures then maybe I can do comparisons of different cities.

Data Collection:
I am looking to see if I can download something for this dataset, which can be comprised of satellite view of labeled images for structures, roads, parks, land/water, etc. But if this cannot be downloaded then I would use the google maps API and generate the data which might be better in the long run because I have more control over the image size, and different filters I can apply. For example I would be able to compare a satellite view and a cartoon view and see what the differences are.

Questions / Blockers:

- What are some other business cases to narrow down the scope, and/or make the presentation more compelling.
- What are some models / research that are already out there to give me a starting direction and not try out infinite combinations. So far I am going to look at U-Net.

Final Presentation:

- A webapp where you can give it an address and it can look at the satellite view for that are and label different items
- A webapp where you can upload a satellite image and it can return some features and compositions.