MSDS 631
Project Presentation

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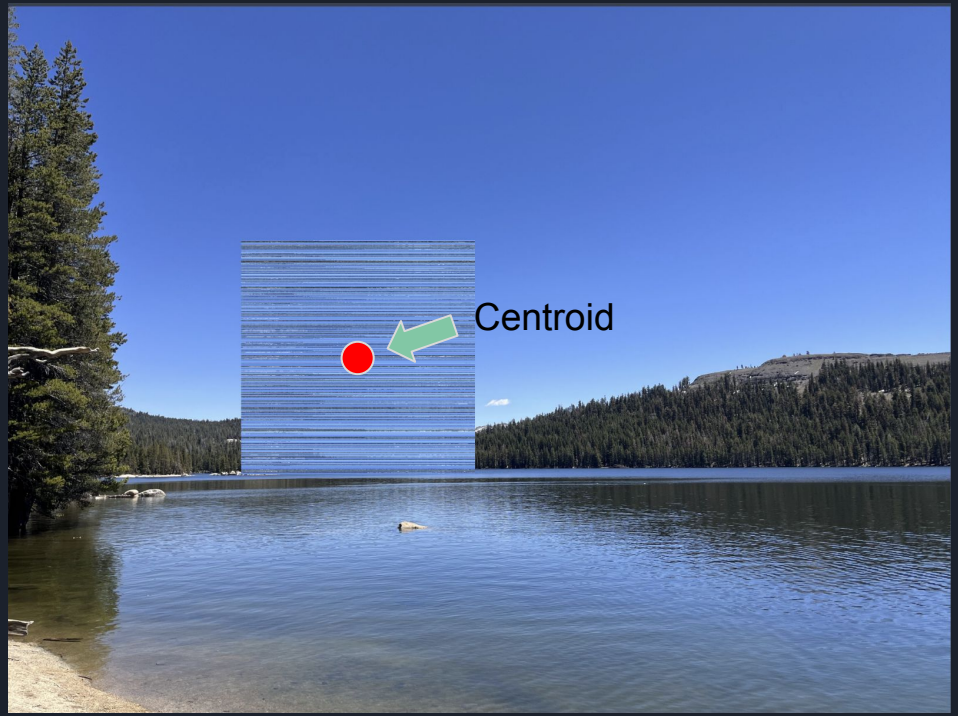
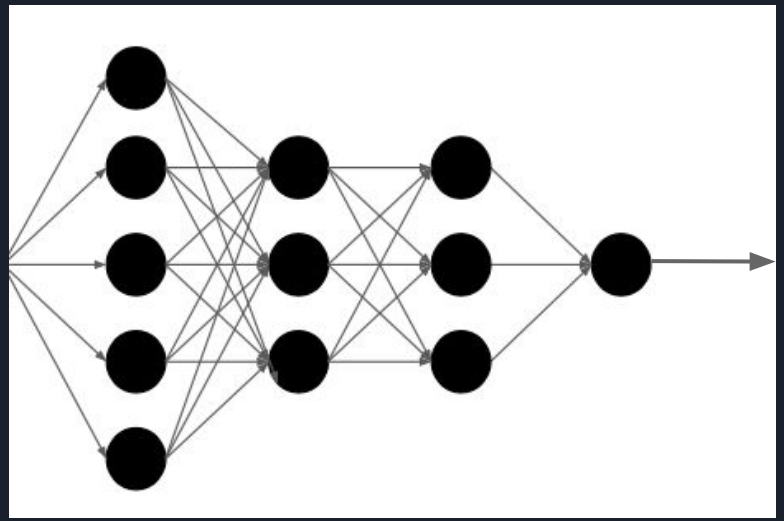
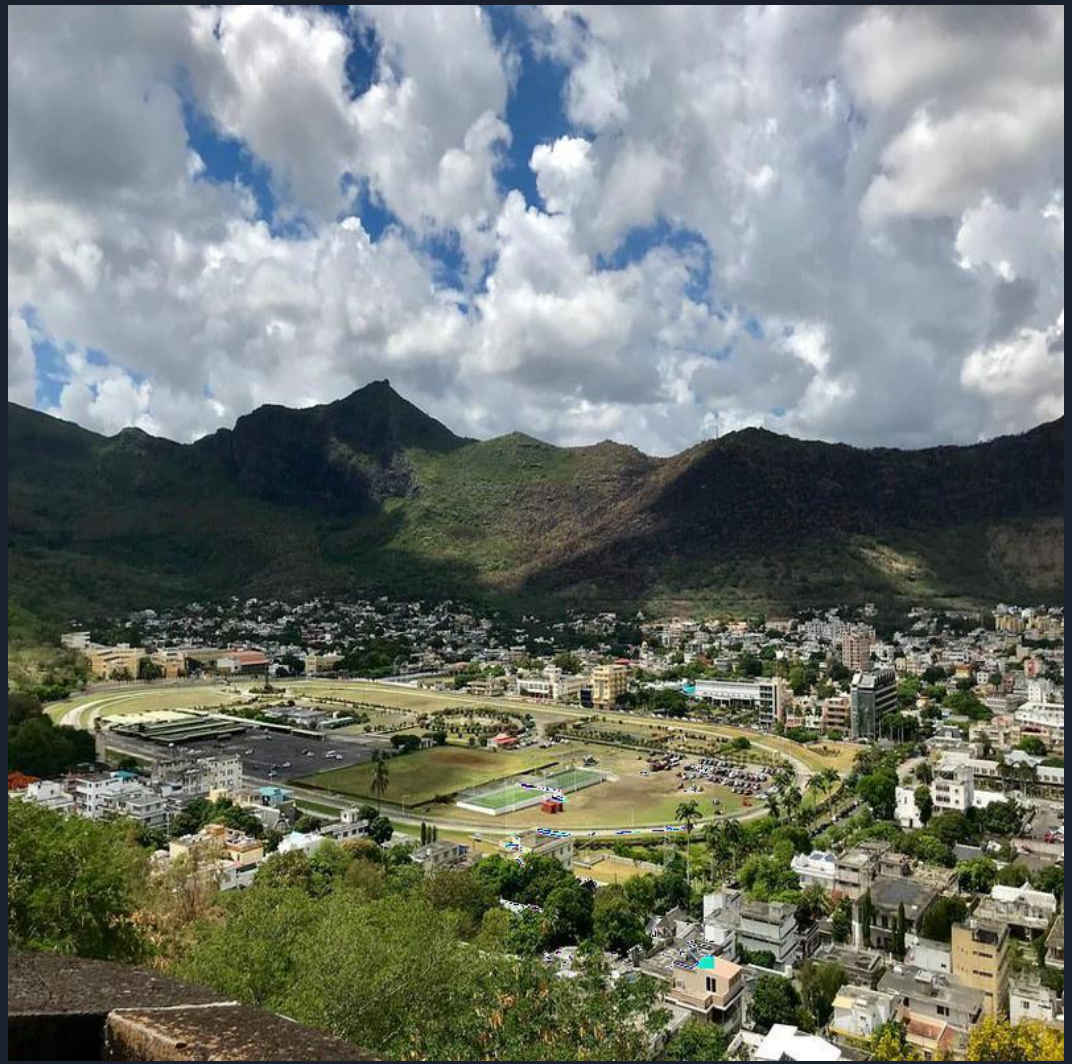
Scrambled Image Detection



How Deep Learning is Used



coordinates of the centroid



Dataset

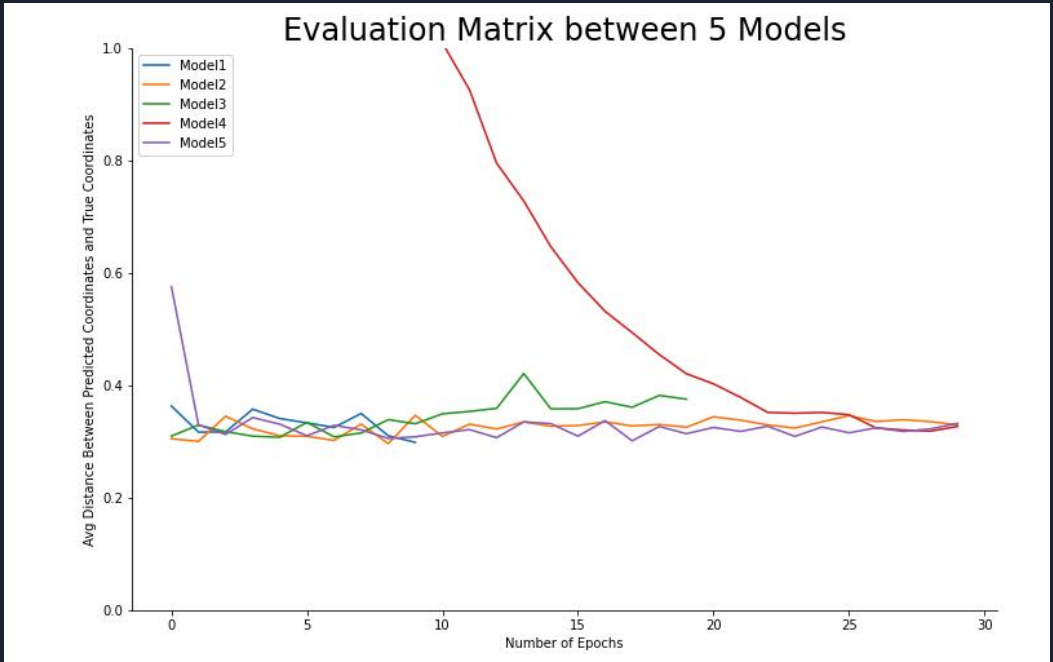
- Wrote a script to scrape 200 photos and modify them

	x	y	r	discolor_ratio	img_path
0	599	120	89	1.08	/Users/anthonywang/Deep_Learning/landscape_scr...
1	376	646	30	1.08	/Users/anthonywang/Deep_Learning/landscape_scr...
2	246	281	30	1.10	/Users/anthonywang/Deep_Learning/landscape_scr...
3	480	360	174	1.08	/Users/anthonywang/Deep_Learning/landscape_scr...
4	223	430	111	1.14	/Users/anthonywang/Deep_Learning/landscape_scr...

Models Used

- Model 1: Images w/ high learning rate and fewer epochs
- Model 2: Images w/ low learning rate and more epochs
- Model 3: Images and numerical features before fully connected layers
- Model 4: Images and numerical features before last connected layers
- Model 5: Images and numerical features pass through linear layer before last connected layers

Results



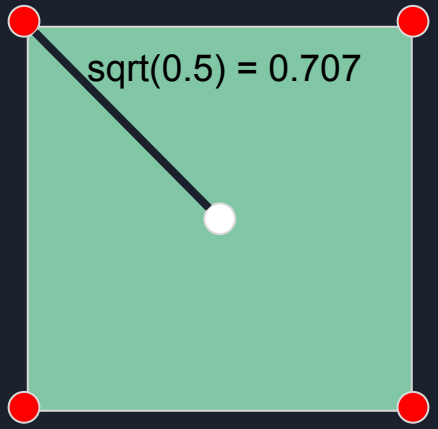
What went well:

- CNN style models were easier to train
- Distance metric was decent

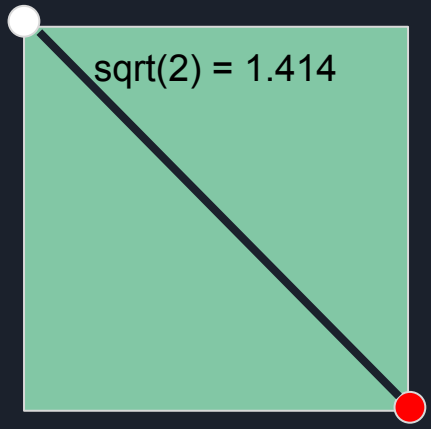
What didn't go well:

- Combining numeric features

Distance Metric Discussion



Scenario 1



Scenario 2

- True Coordinates
- Worst Possible Predicted Coordinates