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I searched the sketch dataset on the internet and find the CUFS which exactly fits our project. Then I sent the dataset to Changchuan to preprocess it. I also coded for the Utils module, which contains python helper functions for ours project. I wrote ShowImage, Tensor2Edges, SketchLoss, SaveModel and LoadModel. ShowImage takes a Pytorch image tensor and uses matplotlib to show the image. Tensor2Edges takes a Pytorch image tensor and uses opencv to detect edges and I implemented 3 different ways to detect edges. The output of Tensor2Edges is also a Pytorch image tensor. SketchLoss takes 2 Pytorch image tensor and returns the L1 loss between them. SaveModel and LoadModel are for saving and loading Pytorch models. These are all basic components for the learning process. After Shengquan finished the Generator and Discriminator and the script for training GAN, I trained the GAN with two types of architecture of the Generator, which are U-net and Resnet. I found that both generated best result at about 600 epochs, after that, the quality of "fake" sketch from the Generator went worse. I reported the result to Shengquan and talked with our team about the phenomenon, they thought it was because GAN's generative feature. For the report, I wrote the part 2 related work and part 3 Data sets.