Unsupervised Single-View 3D Object Reconstruction

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Summary of work to date: I am still working on the implementation of the project. This is a huge deep learning project in PyTorch with so many classes and modules. There are lots of preprocessing steps, post processing steps as well as the main training model making it complicated and time consuming. My initial goal was implementing the model as proposed in the paper and then improving the model by improving the loss functions. I am working on loss functions in parallel with implementing the original model, but it seems that most of my time will be allocated to the implementation part which is not too bad because as I mentioned, it is a very complicated project with lots of interesting concepts and methods both in deep learning and geometric parts making it super useful for my research project beyond this course which is shape completion using deep neural networks. My hope is that after being done with implementation, that would be easy to test a couple of different loss functions which I am having in mind to see the effect of different loss function on the model true error.

I am almost done with the implementation part and it is possible that I will post another update after finishing that part, but for now I don't have much to say because most of my progress was dissecting the algorithms, the neural network models, the different loss functions, etc.