MEng Project Announcement

Project title: Compression using Generative Models

Brief Description of Design Project Goals:

Overview:

Generative models are machine learning algorithms that produce realistic data when fed with noise. Recently generative models such as Variational Autoencoders (VAEs) and Generative Adversarial Networks (GANs) have been shown to achieve better compression for images, compared to traditional compression techniques. This project will consist of implementing generative models to compress different data formats such as images, videos, audio and hopefully improve upon state of the art compression performance.

Another aspect of this project is to improve quality of samples generated by generative models, which is an active area of research. This part will consist of implementing modifications to current generative models, in particular VAEs and running various experiments to test theoretical hypotheses.

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Number of MEng Students Needed: 3

Required Skills: Good programming skills. Must take ECE 5620 in the Spring 2019 semester.

Estimated Project Time Frame: Fall 2018 + Spring 2019 semesters