MEng Design Project Announcement – 2018-19 AY

Project title: Recurrent and other neural networks in understanding and creating music

Brief Description of Design Project Goals:

Overview: Pattern matching in music has been traditionally through recurrent neural networks. It has been employed for melody and harmony. But, it is also possible to make such models in networks such as those employing deep learning. This project will use TensorFlow to explore music, to be able to make recursive networks supervised, and to compare, at least, the difference between deep and recursive learning of music.

Specific MEng Contribution: (a) Use TensorFlow for deep learning, (b) Transform MIDI files to be useful for neural networks, (c) use and write recursive network code for music, and (d) attempt to generate music that reproduces characteristics of learnt music.

The student is expected to have a background knowledge in neural approaches. Should know Python.

ECE Field Advisor Name: Sandip Tiwari
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- Office – Phillips 410

Number of MEng Students Needed: 1

Required Skills: Understanding of principles of neural networks, and should be a good coder.

Estimated Project Time Frame:

The advisor will meet the student at least once a week individually. Weekly effort and discussions are expected with a strong collaboration that develops in-depth understanding.

2018-19 Academic Year, Two (2) Semesters