**Assignment 3 – Generative Music**

**MUSI 6002**

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**Link to watch demo: https://drive.google.com/file/d/1JluZeXX-3\_5NTWEKl6SmPBOEw-z\_pew6/view?usp=sharing**

This Max patch generates an experimental music piece using random number generators, cellular automata (mathematically) and Markovian processes.

Initially the patch generates a random number called "mystery" which is used in multiple parts of the patch. The mystery number kicks off by selecting a global tempo for the piece.

Then a random snare and kick pattern are generated using some restraining rules to keep an interesting interval and timing between the kick and snare. Also a the number is used to randomize the velocity of kick and snare. The snare pattern is then fed into a cellular automata with "Rule 86" that continuously generates new cellular rows of patterns that are used to trigger hihat, rim shot and wood click in a sequencer style.

This sets up the beat of the piece in Section 1.

In Section 2, the kick drum sequence is used to trigger notes on bass piano "noteout 1". The key for bass piano is pentatonic but it is randomly selected with the mystery variable again. The notes played by the bass piano is fed into 2 markovian chains, one for the chords and the other for arpeggiations.

All the generated MIDI notes are finally sent into Ableton Live using "fromMax1" virtual MIDI port to generate the sounds.

The patch generates 1 minute of music with exactly 30 seconds on each Section.