CRN 12322 / 12323, Mon/Wed 6:00-7:15pm, 3 credit hours

Instructor: Dr. Ching-Hua Chuan, c.chuan@unf.edu
Prerequisites: Data Structures AND any statistics course

This course studies computer algorithms and technologies used in music analysis, synthesis, and processing. Topics include, but are not limited to: music signal processing, knowledge representation in digital music, interactive systems for music learning and composing, music emotion recognition and automatic music recommender systems. This course demonstrates how computing and engineering concepts, including programming, algorithms, data structures, algebra, probability/statistics, and signal processing, are applied to digital music research. The class includes weekly readings of contemporary scientific literature in the field of computational music research, project presentations, in-class discussions, and hands-on assignments. Students complete a final project in which they create software systems to improve everyday musical experiences via the use of computer technologies.

Topics include:
- Musical Instrument Digital Interface (MIDI)
- Digital Representation of Music
- Java Sound Programming
- Audio Signal Processing
- Playlist Generation
- Music Recommendation
- Computer-Assisted Music Composition