Iowa Colloquium on Information, Complexity, and Logic

December 2018 Meeting

Location: Iowa State University in Communications 1230

[Map of Iowa State University](#)   [Parking Map](#)

Time: Thursday, December 6 at 3:30 PM

Speaker: Adam Case (Drake University)

Title: Automata, Compression, and Dimension

Abstract: One of the first topics discussed in an undergraduate theory of computation course is finite-state automata. This model of computation is often viewed as an "acceptor," that is, a machine that either accepts or rejects its input strings. In this talk we examine finite-state compressors (FSCs), a modification of finite-state automata that reads an input string and produces an output string. We discuss the compression properties of FSCs that are information-lossless and compare them to the well-known LZ78 compression algorithm. Compressors based on other kinds of automata will also be explored, along with various relationships between compression and dimension.

Parking Information: It is recommended that visitors use the Memorial Union Parking Ramp.