Central Michigan University

Department of Mathematics

Graduate Student Seminar

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A Brief Look at Mastermind Playing Algorithms

Tuesday, March 1, 4:00 pm - 5:00 pm
Pearce Hall, Room 227

Mastermind is a code-breaking game for two players, one a codemaker and the other a codebreaker. The codemaker chooses a pattern of four colored pegs (six different colors to choose from and duplicates are allowed) and the codebreaker tries to guess the the pattern in both order and color. For each guess made, the codebreaker gets a grade to improve their next guess.

In this talk, we will give an in depth look into the codebreaker algorithm developed by Donald Knuth in 1976 as well as report two new codebreaker algorithms developed by Criswell, Persall, and Plante. In one strategy we consider mastermind as a linear constraint problem. We also present an algorithm implementing an artificial neural network.

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