Topic Proposal

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My proposed presentation topic will be in the area of coding theory. My primary topic choice will be Hash Functions, my secondary choice will be Decoding Methods.

Hash functions are a commonly used system of encoding data to protect the data from anyone who is not supposed to have access to it. Hashes are import to research, since they can be used for encrypted messages or passwords. In this presentation and research paper, I intend to explore the various applications hash functions have today, understand and be able to explain how they work, where they are effective and where they can be exploited, and possibly simulate the operation of a hash function via a computer program.

Decoding methods are the process of translating given code words back into written messages. In this presentation I would discuss various decoding methods, list pros and cons, understand and explain how they work and the mathematics behind them, and possibly simulate the decoding of an encrypted message via a computer program.