The emergence of “big data” requires sophisticated solutions for information capture, dimensionality reduction, compression, and compressive computing and communication. In this course, you will learn the fundamentals of data reduction and compression techniques and have the opportunity to pursue advanced topics of your interest, e.g., compressed sensing, remote sensing (e.g., radar and hyper-spectral) and biomedical data compression, dimensionality reduction, artificial intelligence and machine learning, etc.

- **Example Topics:**
  Mathematical Preliminaries; Information Theory; Entropy Codes; Lossless Compression Techniques; Quantization; Lossy Compression Techniques; Image & Video Coding; Compression Standards; Design of Compression Schemes for Specific Applications; Selected Advanced Topics on Data Reduction and Compression.

- **Textbook:**

- **Credit:** 3  **Time:** MW 1:00 PM -- 2:20 PM  **Place:** Engineering Bldg. 240

- **Prerequisite:** Graduate Standing

For further information, please contact the instructor:
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