

Sample topics for the semester projects

Signal Processing

1. Speech

- a. Speech Recognition
- b. Speech Synthesis
- c. Speaker Identification
- d. Speech compression

2. Audio

- a. Feedback eliminator
- b. Music to score program
- c. Audio Effects
- d. Dolby Pro-Logic Decoder
- e. Musical Instrument Synthesis with physical modeling
- f. Audio Compression
- g. Servo Feedback Woofer
- h. 3-D Audio over headphones
- i. Room Acoustics
- j. Watermarking
- k. inverse-convolution for room acoustic removal

3. Acoustics

- a. Active noise cancellation
- b. Acoustic Beamforming

4. Signal Analysis

- a. Power Quality Analysis
- b. Heart Rate monitor

Communication

1. Digital Modulation

2. Analog modulation

3. Encryption