Applied Signal Processing Final Project (Engn 395, spring 2020)

The final project is a "Choose your own adventure". Then you get to tell us all about 1) what path you took and why; 2) what tools you used in your signal processing toolbelt; and 3) what the outcomes of your project were.

In summary, the goal of this assignment is to provide you with an opportunity to design and apply a pipeline of signal processing techniques to develop and test a solution to real world problem that you find especially interesting. Remember: There is no "the" solution, just some solutions that are better and/or more elegant than others)

What Ground Your Adventure Must Cover: Report Guidelines

Each team will submit a single report that covers the bullet points below ("What ground your adventure must cover"). You have the option of submitting either a single written report (approximately 4 – 8 pages), or a single video report (approximately 8-12 min) with embedded graphics, videos, etc.

Each team will make a brief presentation (~10-15 min) on the last day of classes, 22 May 2020. The presentations are just a vehicle for sharing about your fun and interesting projects, highlighting where and how you applied your new-found signal processing prowess to a real world problem—have fun with it!

What ground your adventure must cover

- Identify a real-world problem that clearly states its relevance/importance.
- Specify the source of your data—where did you get the signals you are processing? Cite sources as appropriate.
- Describe in *lay-language* and appropriate *mathematical formalism* the signal processing pipeline.
- Articulate the rationale for your signal processing approach, highlighting engineering decisions made in the context of the problem.
- Illustrate and describe how the signal processing pipeline works step-by-step.
- Quantify the results achieved.
- Discuss the benefits and limitations of the proposed solution.