ECE 6563 **Term Project Proposal** **Win 2021**

This deliverable is an introduction to your project. It should include a description of the problem and its motivation, a comprehensive literature review of how others (researchers, industry, blogs, etc.) have addressed the problem, a proposal of what you will do. Projects are to be done individually.

Task Description	Mark
1.1 Format Report: Grammar, spelling, formatting. Make sure to have someone review your document before submission. The use of a tool such as Grammarly is easy and ***strongly*** recommended (www.grammarly.com). The University writing center also offers excellent support if required and is encouraged for students who are English as a second language. You may format your document as an IEEE-style double column document.	**/ 10**
1.2 Project Introduction Describe the background and motivation for your project. Identify and explain the dataset (or datasets) that you will be working with throughout the term. You may optionally create or collect your own dataset, but it should be carefully considered and explained how you will manage this added complexity and risk within the scope of the project and timeline.	**/ 30**
1.3 Literature Review Complete a comprehensive literature review of any previous research, blogs, and/or commercial products that have addressed the problem. Ensure that your search is sufficiently broad that you can discuss related works, but not be so broad that your review fails to frame your work properly. Use this review to describe what is possible, what has been done, and what the current state-of-the-art is in your chosen area. Refer to peer-reviewed research articles (such as on https://ieeexplore.ieee.org/, for example) for inspiration and examples. Your literature review must include *at least* 20 relevant articles and a bibliography in IEEE format, such as [1], for example.	**/ 40**
1.4 Proposed Work Provide a proposal for the type of work you expect to complete during your project. I appreciate that you have yet to learn the course content but explain to the best of your abilities in general terms and draw from your literature review. For example, we will explore classical (ARIMA-style) modeling, Kalman filters, hidden Markov models, and deep-learning approaches. Will you compare different approaches to solve an existing problem, leverage temporal information to improve classification, use modeling to better segment a signal, or develop a predictor for future values? Be as specific as possible so I can provide feedback on feasibility and scope.	**/ 20**

1. Khushaba, R., Phinyomark, A., Al-Timemy, A., Scheme, E., "Recursive Multi-Signal Temporal Fusions with Attention Mechanism Improves EMG Feature Extraction," *IEEE Transactions on Artificial Intelligence*, Early Access, Dec 2020, pp. 1, DOI: 10.1109/TAI.2020.3046160