**ME759 Final Project Proposal**

**Project Title**: A study of Generalized Minimal Residual Method parallelization

**Link to git repo for project**: https://github.com/tlfua/ME759\_final\_project.git

**Problem statement**: Optimize and accelerate a classic linear solver by taking advantage of the parallel computing frameworks I have learned in this class.

**Motivation/Rationale**: Solving linear system is important for many scientific applications. With this project, I hope to provide parallel versions of a linear solver to benefit scientific development.

**Explain how you contemplate going about it**: I will first implement a sequential version (as a baseline) of the linear solver- Generalized Minimal Residual Method, and then investigate how I can utilize thrust/OpenMP to accelerate them.

**ME759 aspects the proposed work draws on**:

1. thrust
2. OpenMP

**Team member[s]:**

* Name: Tien-Lung Fu
* Email: tfu37@wisc.edu
* Student’s role in project: Focus on GMRES implementation for sequential and parallel.

**Deliverables**: source codes, input files, user guild, experiment report.

**How you will demonstrate what you accomplished**: I will demonstrate the improvement from baseline to parallel version as well as the scatter plot.

**Milestone**: baseline and thrust implementations of GMRES.

Remarks:

* Please use \*this\* template
* There’s a two-page limit. See if you can make your point without hitting the limit.
* Drop your PDF proposal in Canvas in FinalProjectProposal
* Project proposal due date: March 27 at 9 pm. I hope to give feedback by April 3.
* Be bold.