

**CMPE 478: Parallel Processing**  
**Fall 2024, Homework 1 (due: Dec. 24<sup>th</sup>)**  
*(This project can be done in groups of at most 2 students)*

**PART A (50 pts)**

Use MPI to implement the 2D version of Poisson solver project that you did in Homework 1. Write a report in order to document how you implemented your project and provide a table of execution timings for different N (grid size) and P (number of processors).

**PART B (50 pts)**

Use Thrust to implement the 2D version of Poisson solver project that you did in Homework 1. Also, write a report in order to document how you implemented your project and provide a table of execution timings for different N (grid size) and P (number of threads).

Note: You should perform a demonstration of your project to me. An online survey will be sent in order to schedule demo dates and times for each group during the finals.