# ME574 Project Proposal

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1) Description of proposed topic

The topic of the project is to write python code to solve for Prandtl Stress Equation, which is a commonly used equation in FEA and elasticity. The purpose of the equation is to calculate the second moment of inertia of a certain 2D shape. By using the FEA method, the certain shape will be mashed as fine as possible to be used in calculation. The derivation of Prandtl Stress Equation requires large amount of mesh in certain area and lots of iterations on vector calculation. The computation is sometimes time-consuming when in serial mode.

2) What you plan/hope to actually do regarding the topic?

With the concept of Prandtl Stress and its corresponding equation, the code can be written in Python in serial mode and further developed to parallel mode to speed up the computation. The equations and theories supporting the code are from the FEA class that Zhaoyi is currently taking.

3) Description of project team

The team will be formed by Juntao Zhang and Zhaoyi Jiang. Both of them will work on the project collaboratively.