

Research Pre-Proposal

The purpose of this pre-proposal is to help guide you as to whether your idea for your research is do-able or not. There are many things that can cause roadblocks to good research. Some of them include

1. *Projects that are too broad*
 2. *Proposals that do not take safety into account (e.g., using carcinogens)*
 3. *Projects that have already been done*
 4. *Projects that are impractical from an equipment perspective*
 5. *Projects that AOS faculty have already informed you are not feasible*
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Student name: Alexander Evitt

Subject area of research: Math Modeling

The faculty member who helped you the most with this idea: Mr. Writer

5 sentence (max) description of what you will be doing:

Satellites that are designed to pass over specific locations often only have their targets in their field of view for short periods of time. Optimization techniques, namely in the form of evolutionary algorithms, can be employed to optimize the orbits of several satellites to get the most amount of time around a set of ground targets at a minimum fuel cost. This research plans to use these optimization techniques in a way that allows the construction of a method to optimize these sets of orbits.

Any materials you know you will need, especially ones that are potentially dangerous or expensive:
(We know this list will grow in the future.)

- Computer with the ability to run programs that pertain to this research (i.e. Jupyter notebooks, Anaconda, Astropy)

Teacher Evaluation: _____ Doable (with slight modification) _____ Doable with much modification
 _____ Not doable

Teacher with whom student should discuss project next:

Teacher Comments: