* What are you trying to do? Articulate your objectives using absolutely no jargon.

Identify stars within the camera’s field of view and use that information to determine the satellite’s attitude.

* How is it done today, and what are the limits of current practice?

Can be done with conventional means, some modern researchers also used neural networks. I want to continue the line of research using neural networks to make the readings more robust to optical

* What is new in your approach and why do you think it will be successful?
* Who cares? If you are successful, what difference will it make?
* This is a solved problem, but older methods tend to take a lot of computation time / space in memory, and on a satellite, that is wasted energy
* Why star tracking? For high fidelity attitude determination (telescope satellites, communications satellites)
* Nice things about the problem: the training data could (in theory) be exactly the same as the “working data”, the celestial sphere doesn’t change much even for satellites exiting the solar system
* Interesting problems: make the system robust to lens defects (allows cheaper lenses / cameras to be used), use downsampled images, aberrations, rotations (the images won’t always be seen the same direction)
* From this data, we can get the attitude and spin rate of the satellite (could train another system to get this data too)