Plain-Talk AI Solution Plan

1. Where the data comes from
We plug straight into the satellite's live telemetry stream think of it as its heartbeat, blood pressure, and body temperature all rolled into one. We also keep a history book of past missions so the AI can learn what "healthy" looked like before.

2. Cleaning things up
Space is noisy. Sensors glitch. We smooth out weird spikes, translate everything into the same units, and make simple "features" like rolling averages so the AI has a clean meal.

3. How the brain works
We train a tiny neural net called an *autoencoder*. Its job is to rebuild what it just saw. When it cannot rebuild a signal well, that is a red flag. No giant labeled dataset needed it just memorizes normal behavior.

4. The day-to-day flow
Telemetry in → Quick clean-up → AI takes a peek → Gets an "uh-oh" score → If the score crosses a line, we send an alert. Lines can move as the satellite ages, so we do not overreact.

5. What happens after an alert
• Flash a dashboard light on the ground.
• Optionally run a checklist on-board (e.g., switch to backup battery).
• Log everything for later retraining.

6. Safety nets
False alarms waste precious attention; missed alarms end missions. We start with cautious thresholds, show confidence scores, and always keep a human override button.