Final Project – Proposal

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Abstract

With spacecraft avionics becoming more complex than ever, more sensors are connected throughout the spacecraft. This means more data needs to be saved on a spacecraft's non-volatile storage, then down-linked via DSN (Deep Space Network) to data centers to be processed on earth. In this paper we propose a novel way to design and implement a solution to minimize telemetry data using hardware and machine learning techniques to detect and down-link only anomalous from housekeeping sensors.

Preliminary Research – Implementation

Our initial architecture is connecting several off-the-shelf sensors to a raspberry pi and have a model predict anomalies from the output of the sensors see "Fig. 1".

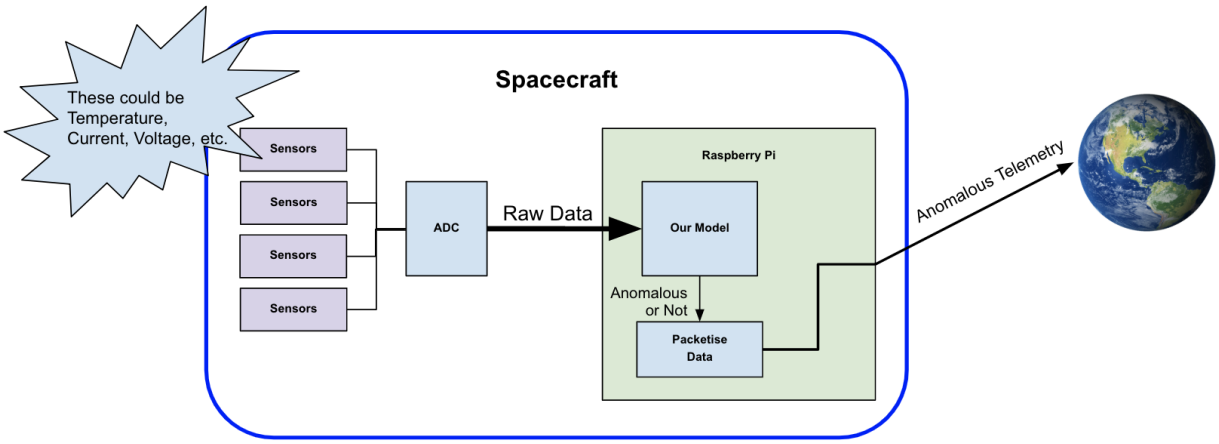

Figure 1: Architecture