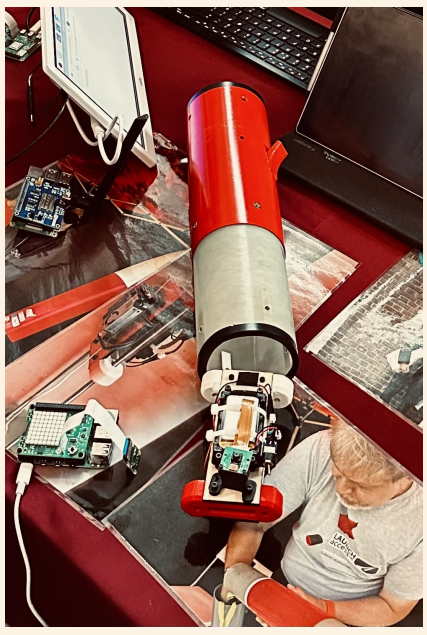
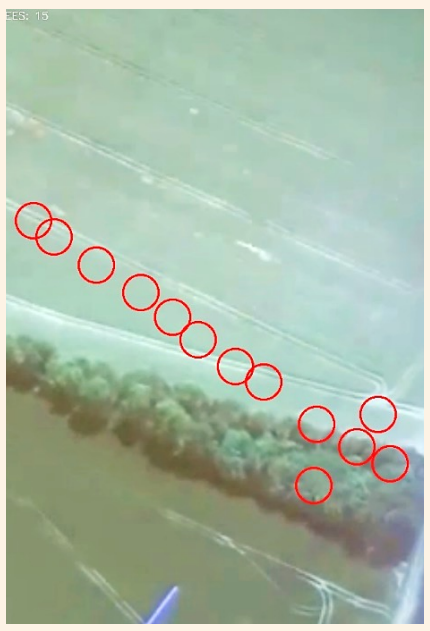
Sutton High School

CranSEDS Cranfield University

Can we receive airborne image recognition results remotely during flight?

Our project integrates engineering and data science to explore if image and sensor data can be collected at long-range from Raspberry Pi computing devices mid-flight and transmitted for live cloud-based AI processing.
If machine learning processing could implement image recognition algorithms to discover environmental features during flight, locations of recognised entities might be transmitted and received to enable their tracking or updating on maps of the area more immediately.





Discovering image data could not be transmitted efficiently enough to the ground via radio for live AI processing,
we attempted to run a pre-trained image recognition model directly on the Pi computer whilst airborne. We are seeking a method where images collected for feature recognition are processed during flight so only details from images containing features are sent in lighter, manageable form to be reassembled for tracking or mapping.

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