

Developing, testing, and deploying complementary sensors for high-efficiency trait prediction

Presenter: Earl Ranario and Jonathan Berlinger

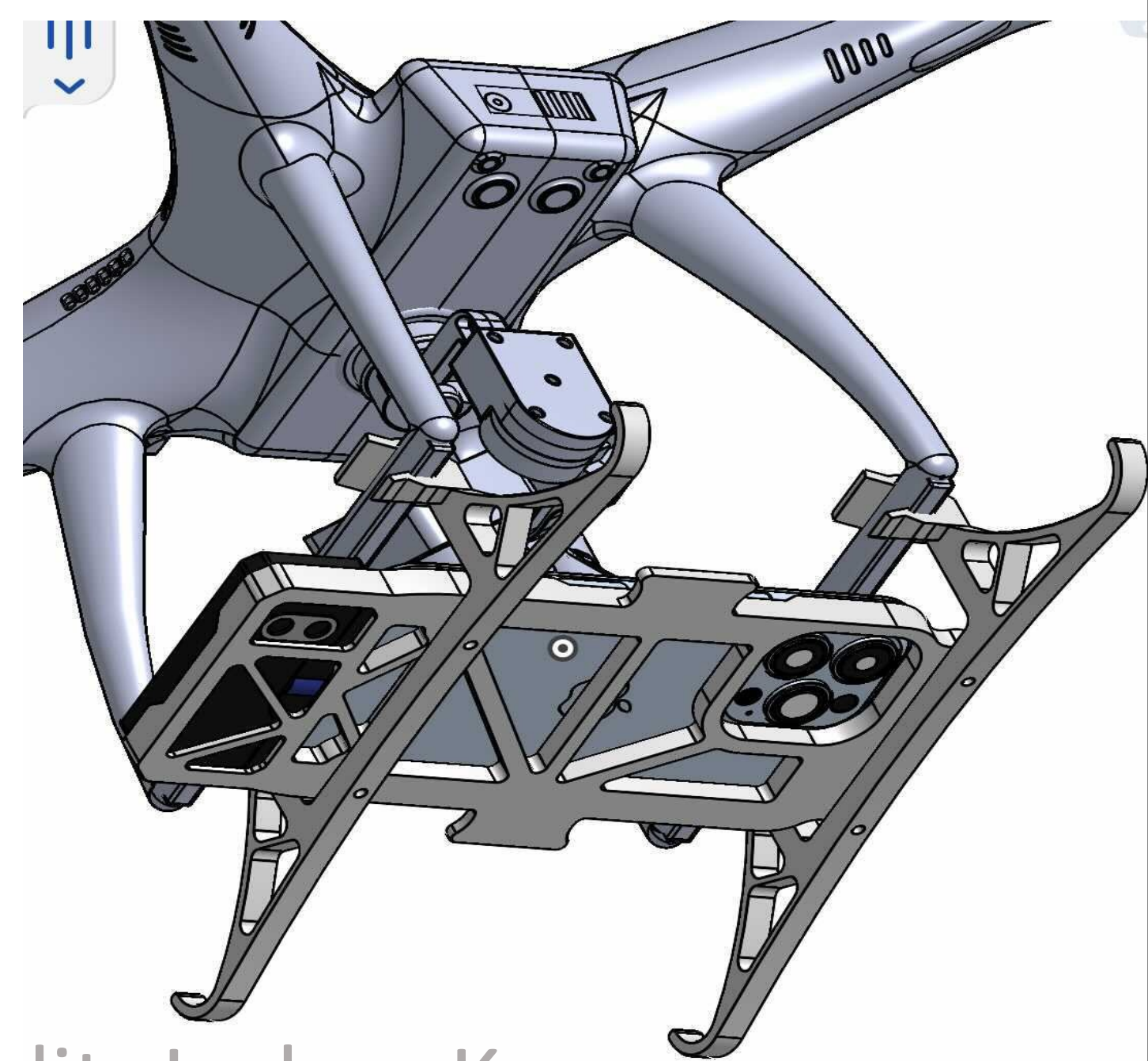
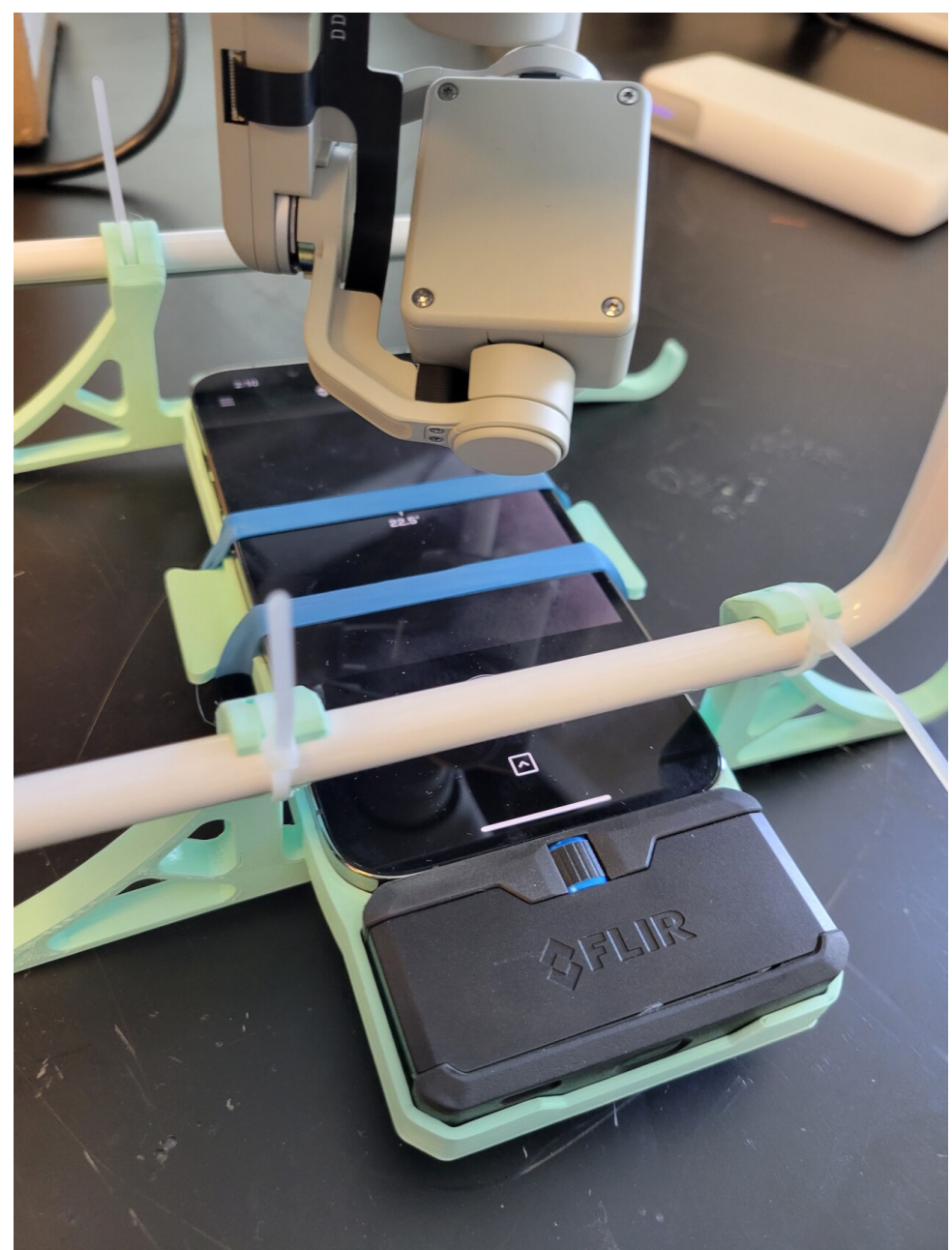
Goal

Develop an AI-enabled biophysical framework to predict different phenotypical traits and nutritional quality.

Complementary Sensors



FLIR Thermal Camera
~\$130

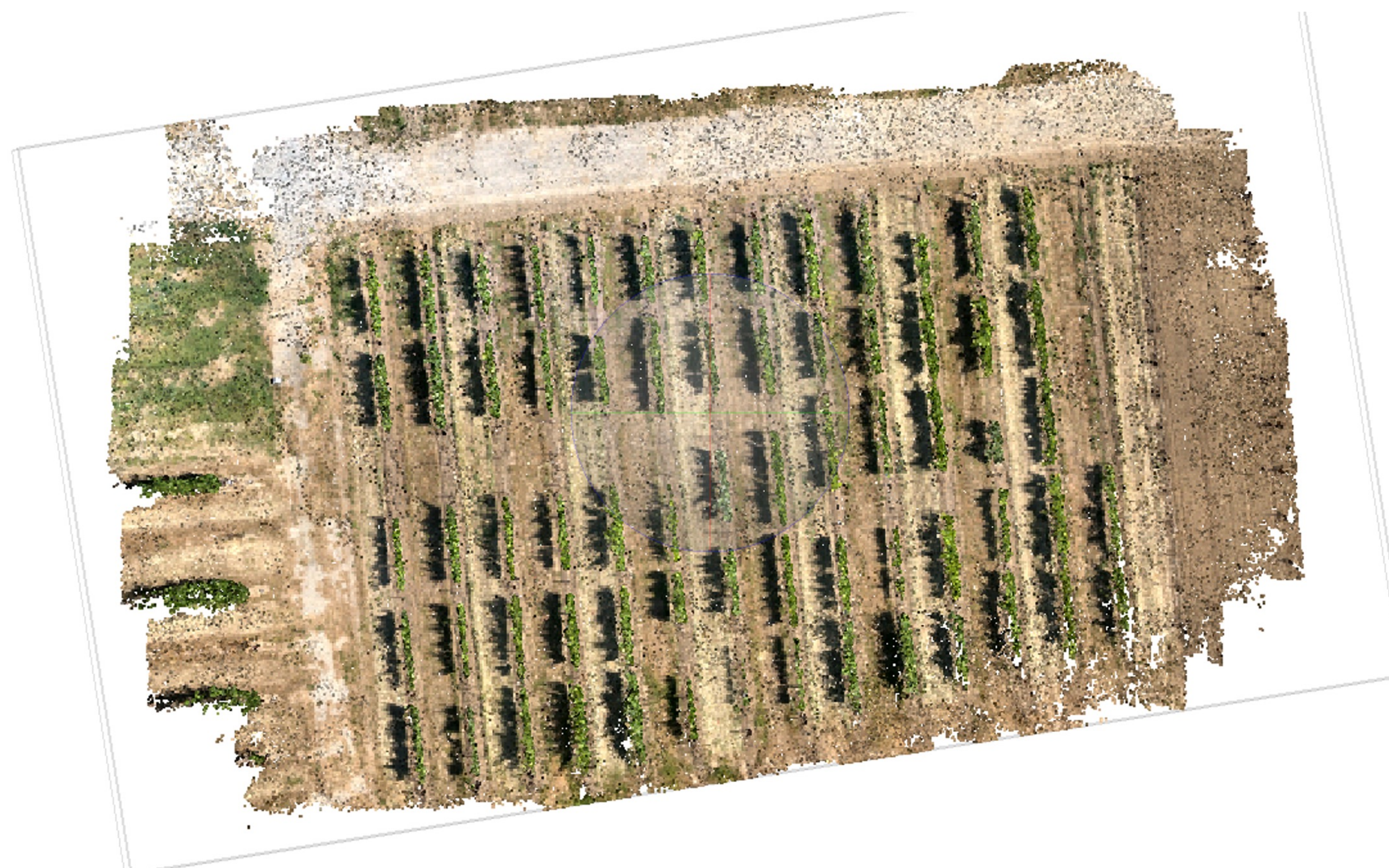


Credit: Joshua Kong

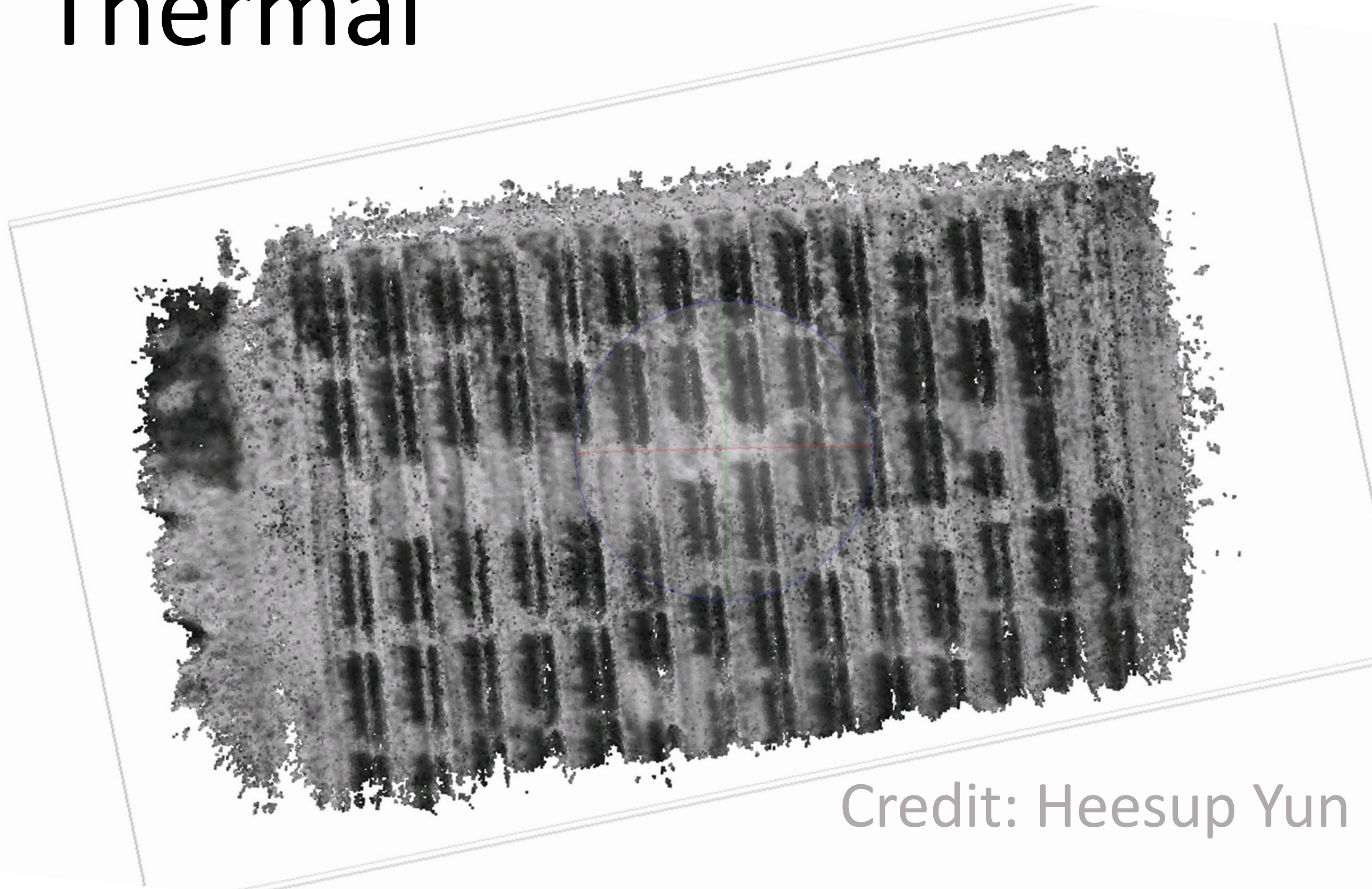
Phone attachment on drone to capture images along with the onboard camera.

Aerial Images

RGB



Thermal



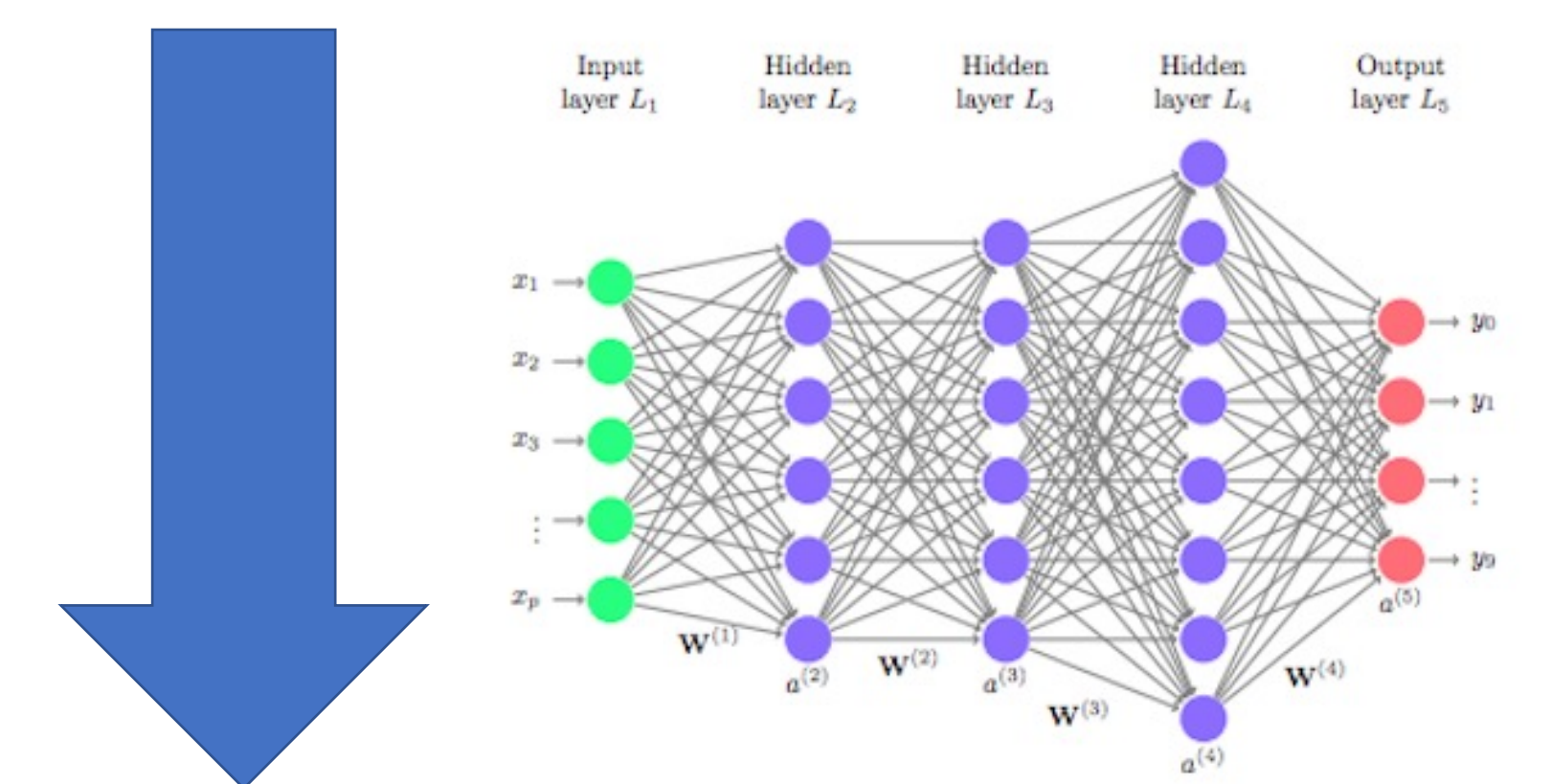
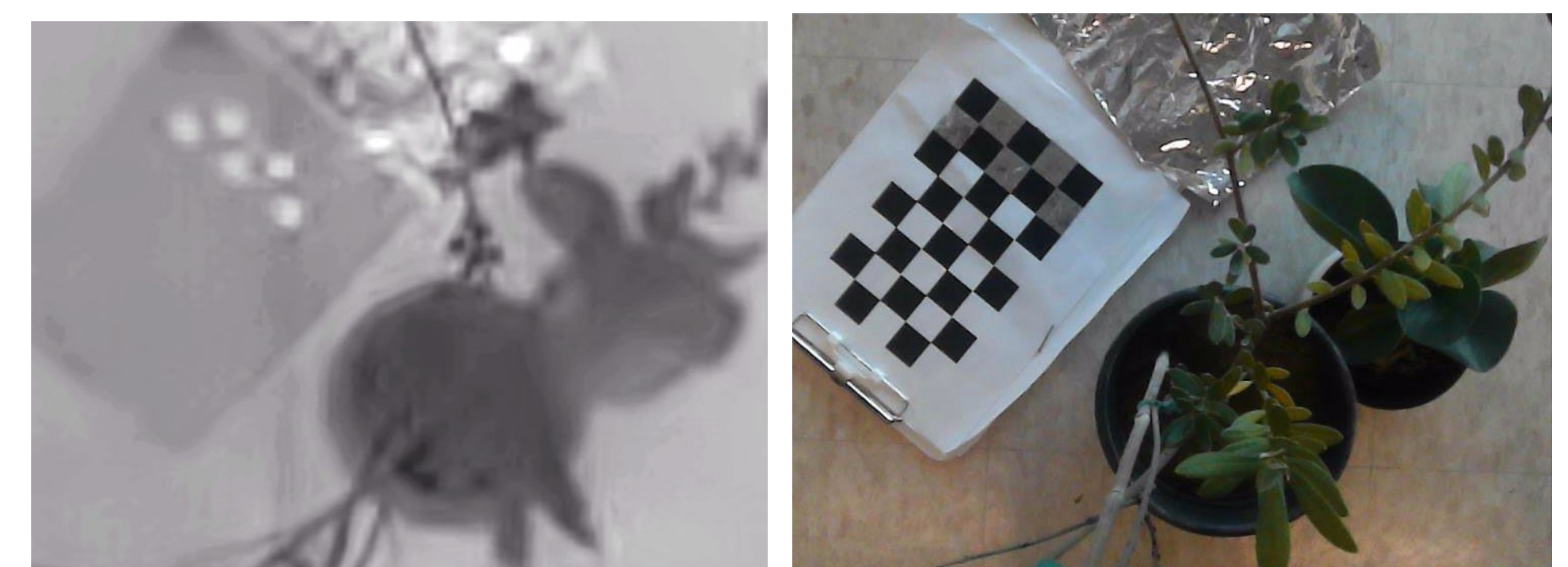
Credit: Heesup Yun

Stitched RGB and Thermal images 10m in the sky.

Post-Processing

Use AI to turn a low-resolution image, from a low-cost thermal camera, to a high-resolution image for improved prediction.

Thermal Camera Super Resolution



Credit: Heesup Yun