Hello,

My name is Tom and I am the sole member of the team ‘The lone Alpaca’. My project is called SuperCattle and it is competing in ‘IoT insights for better regional agribusiness at scale’ and ‘The digital future of agriculture’.

The problem that this hack is attempting to resolve is that managers of the vast cattle stations that populate inland Australia do not know where to move their cattle. As they must be moved so that they have constant feeding or else the farmers are forced to purchase expensive feed.

The solution is to setup an array of devices connects via the 3G/4G network. The devices would use computer vision to evaluate the quality of the grass and share it back to the farmer so they can work out where to move their cattle. The device would be mounted on a fence or tree so it can see a large area. The device itself would be an Arduino, a camera and a solar panel as well as additional sensors such as temperature to further help the farmers.

A prototype of the computer vision was made using teachable machines, there are three categories for this model, good, for quality feedable grass, halfway, for grass that is likely feedable but for only a short period and dry, for un-feedable grass.

This is how the computer vision went, it managed to completely recognize, as indicated by the bars at the bottom, that the grass on the left was feedable, the two in the middle are average and the one on the right is pretty poor. This seems pretty inline with how this grass looks. Note that it had never seen these images before.

This is demo app to show how the farmers might get this data in presentable form. The green squares are where the sensors on this hypothetical farm have sensed feedable grass, the yellow is the average and red being poor. This map also shows pretend locations of the station and other useable data points.