Must work -20 to +40 degrees. 1.5 hr drive to farm – so needs to be right! Requires a lot of testing before you visit the farm. Animal welfare, profitability (for both farmers and employer)

Cluster detection for chicks. Minimum bounding rectangles. Calculate centroid. Detecting clusters. Leads to controlling air vents. Ability to work back into the machine learning or forward into the control. Danish customer. Building a test environment – pen with tennis balls.

Hot cow detecting. Image recognition on individual cows. Timing how long they have been inside barn. After certain time, turn on a mister above where they are.

Recognising white line on hoof (symptom of injury) on cow. As cows exit milking platform. Auto-draft using gate to shove the cow to a vet.

Detecting when milkers break cows’ tails. IR to spot when milker has raised their hands above shoulder height. Auto take string of photos, send email email with photos to owner alerting to possible broken tail. IR to check if tail broken? Read the article about milker who broke lots of tails (online somewhere). Good animal welfare project.

Counting number of cows feeding. In a circle facing inwards, eating out of circular spouting with meal in it. Circles constantly for 2 hours. Cows load in and out over the 2 hours. Takes 8 minutes to feed. Cows should be loading in and out constantly. Count how much empty space there is over 2 hours and report to farmer.

Detecting swine flu in pigs. Use microphones to listen in on coughs. Identify which pen the pig is in and flag it to the farmer.

Finance algorithm. Forward pricing (foreign currency). Option. Testing interpolation models and maths associated with it. Speed is critical, so need to improve algorithms to make as fast as possible. Lots of stakeholders.