­­­­­­Asher & Davis

AI

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1. Our prototype will be a neural network which will control a Parrot Mambo drone through image classification. The neural network will be trained on image data labeled with the direction the drone ought to go. We will train the neural network by taking video following a person with thee cameras. One camera will be pointed 30 degrees to the right of the subject, another 30 degrees to the left, and another which points straight towards the subject, and the images from these three video feeds will be labeled according to their direction such that the neural network will attempt to steer the drone back towards center.
2. The requirements for the prototype are:
   1. The host computer will run a script to load the pickled neural network into memory and make the drone take off.
   2. The video feed from the drone must then be sent back to the host computer running the script.
   3. The script must then retrieve the video feed and run the neural network as a classifier on each image and output the direction the drone should turn.
   4. The direction the classifier responds with must then be sent to the drone as an instruction
   5. This all must happen in a loop without interruption except from the host computer.
3. We will have a function to load the serialized python neural network object from a file into memory, another function to take the image, run the classifier, and return the direction the drone should go, and another function to convert the return from the classifier into an instruction the drone knows how to follow. All of these will then be ran in an infinite loop with an acceptably low chance that the drone disconnects on its own, and an exit clause that specifies the drone should find a place to land and land itself if the host computer sends a signal that the drone should stop.