

Dear Applicant,

Thank you for applying for the position of Deep Learning Developer at Kinesense Ltd. As part of the application process for this position you are asked to complete a short coding assignment. This task is detailed below, and should take about 1 hour to complete, but there is no time limit. The work submitted must be entirely your own and you are required to provide the source code you write and be able to talk us through your decisions during the interview.

## Assignment: KINE0920

Using the Cifar-10 dataset (quick download link here: [https://ks-deeplearning.s3-eu-west-1.amazonaws.com/Cifar4\\_SortedImages.7z](https://ks-deeplearning.s3-eu-west-1.amazonaws.com/Cifar4_SortedImages.7z)) build and train a TensorFlow model to categorise images in the categories 'bird', 'horse', 'cat' and 'dog'.

bird



cat



dog



horse



You can use any technology you wish. We find Keras and Anaconda to be very useful, and you can get some example code here: [https://ks-deeplearning.s3-eu-west-1.amazonaws.com/Cifar\\_template.py](https://ks-deeplearning.s3-eu-west-1.amazonaws.com/Cifar_template.py)

Completed assignment code should be returned to [jobs@kinesense-vca.com](mailto:jobs@kinesense-vca.com) with the assignment ID in the email title (KINE0920). Include your code file, final test accuracy and loss. Be prepared to explain your choice of layers, activations, and number of training epochs.

Yours,

Dr Mark Sugrue