CITS5508 Machine Learning
Semester 1, 2025
Lab Sheet 1
(Not assessed)

1 Get the software working

The first lab task for this week is to install all the necessary software on your laptop and/or set up Google Colaboratory or the UWA UniApps Virtual Machines. See the "Software" section on LMS for helpful information regarding software installation. Please note the provided instructions are only guides to support you, but you are responsible for the software installation. We are not responsible for issues with students' computers or software.

2 Try some Jupyter examples

Once the software is installed correctly, your next task is to learn and experiment with the Jupyter Notebook examples in Chapters 1, 2 and 3 of the textbook on your own computer environment. All the Python code examples from the book *Hands-On Machine Learning with Scikit-Learn & TensorFlow* can be downloaded from https://github.com/ageron/handson-ml3 (third version).

You need to download the notebooks and run them with the environment `cits5508` you created during the software installation (assuming you followed this option). Check all cells are running properly and that you do not have package issues.

You can start running the file sample `sample.ipynb` and see if you understand the commands and read the tips about how to present your results in a meaningful and clear way (will be necessary for your assignments). Several resources are available on the Web to learn how to format Jupyter Notebooks properly – you will need to be familiar with Jupyter Notebooks to prepare your assignment. You can search for documentation on the Web, and some useful links are available in the folder "Software" in your LMS.

3 Implement a simple learning model

In this task, you will implement the simple learning model discussed in class for a synthetic data set. Look at the provided instructions in the file simple-learning-model.ipynb.