This portfolio entry was created following the lab session from week 8. (lecture title) The lecture focused on unsupervised learning including classification, clustering and dimensionality reduction. The notebooks that were provided gave us the opportunity to explore all three of these. We were given the chance to see how all three of these work during this week’s lab class.

For this entry I decided to focus on the *Image clustering with K means’ notebook*. The notebook uses a pre-trained model called MobileNet to cluster images into 7 different categories.

During the lecture the key things we learnt were:

* Clustering is a process where patterns in data are identified then categorised.
* The categorised data can be used to organise new data

After going through the notebook for the Week 8 (unsupervised learning lab), I started to look at other collections of images that I could use to further explore the capabilities of the Mobilenet training model.

My goal here is to use a collection of original data and use this same unsupervised training model to better understand image clustering. Following the lab exercise I recalled that I had a collection of images of cars on my smartphone that I had been collecting over a number of years and thought that it would be interesting to use this as my dataset.

A collage of a bus and cars

Description automatically generated

(screenshot from phone image gallery)

My aim is to explore how this model categorises these images of vehicles. I would like to see what patterns that this model creates.

I decided to continue using the mobile net model for this project, due to its extensiveness and reliability on classifying images as demonstrated in our class.

Eremenko, K. (2018) 'Data Analysis Part 1, *Confident Data skills*. London: Kogan Page LTD, pp 135-145.