An ensemble learning based method for training Convolutional Neural Networks on OTU data after stratification based on phyla. This is a deep learning methodology to arrange OTU data for CNN modelling based on similarity between OTUs in phylum level of the taxonomy tree.

Three datasets are used: 1) Simulation study 2) T2D study by Qin et al., 2012 and 3) Cirrhosis study by Qin et al., 2014. The files NN_up.py, NN_T2D.py and NN_Cirr.py are the main files. Relative abundance in OTUs are present in rows for each individual in the files.
The datasets are stored in T2D.zip, Cirrhosis.zip and Simulation Data.zip.

Prerequisites

1. Python 2.7
2. CUDA
3. cuDNN
4. Conda
5. TensorFlow
6. NumPy pandas
7. Keras