Deep Learning Assignment

- Deep generative model building experiment
  1. Define your translation task of interest.
     e.g., image translation, voice conversion, …
  2. Prepare the training, validation, and test data.
  3. Build one of the following models
     ① Variational autoencoder
     ② Generative adversarial network
     ③ Diffusion probabilistic model
  4. Train the deep neural network and find the best hyperparameters using the training and validation data.
     e.g., number of layers, number of nodes in each layer, types of a node, connectivity, learning rate and scheduling, minibatch size and scheduling, momentum, number of epochs, …
  5. Test the deep neural network using the test data.

Deep Learning Assignment

- Submit the source code and documentation including the followings.
  1. Definition of your translation task
  2. Description of the source code that you implemented or downloaded
  3. Description of the training/validation/test data that you used
  4. Description of the compiling, training, validation, and testing procedures
  5. Resulting graphs of the hyperparameter tuning experiments
  6. A sample set of source (input), target, and converted (output) test data

- Due: 2 weeks

- For a voice conversion task
  - Source: Your own voice
  - Target: Different gender's voice (provided)