Workshop slides:

[DL Workshop Day 1 - 2 December 2024.pptx](https://iubedubd-my.sharepoint.com/:p:/g/personal/akmmrahman_iub_edu_bd/EVt_iWX9CDRIpOSKHQgWQFABpY_BampAgW_kc8mFckqi_Q?e=nqasFm)

(**Day 1** **session 1**)

1. Presentation: (15-20 minutes) — Mahbub
   1. Introduction to Image Recognition Pipeline
   2. Convolution, Maxpool, FC Layers
   3. Custom CNN Architecture
2. Image recognition with Custom CNN - Code demonstration (10-15 minutes)
3. Coding test **TODO** for Participants (10-20 minutes)
4. Presentation: (15minutes) — Mahbub
   1. Babysitting NN
   2. Training, Activation function, Weight initialization, Batch Normalization,
5. Coding test **TODO** for Participants (30 minutes)
6. Presentation: (10 minutes) — Mahbub
   1. Regularization, Dropout, Learning rate, Augmentation
7. Coding test **TODO** for Participants (15-20 minutes)
8. Code demonstration - Image recognition with Pretrained VGG 16 (15 minutes)-

\*\*\*\*\*\*Small Break\*\*\*\*\*\*

1. Presentation (15 minutes) – Mahbub
   1. Text Processing,
   2. Word embedding
   3. Sentiment Classification
2. Code demonstration (15 minute) -
   1. Sentiment Classification with LSTM and one hot word embedding
3. Code demonstration (10 minute)
4. Torch Embedding + LSTM

**12.** Coding test **TODO** for Participants (20 minutes)

1. Use word2vec embedding in your lstm based emotion recognition model
2. Word2vec package link
3. Compare performance with torch embedding

**(Day 2 Session 01)**

13. Presentation (30 minutes) – Mahbub

1. Transformer architecture
2. BERT
3. Fine tuning the model for Sentiment Classification

14. Code demonstration (15 minute)

1. Torch Embedding + Pretrained BERT

15. Coding test **TODO** for Participants (30 minutes)

1. Use word2vec embedding in your BERT based emotion recognition model
2. Word2vec package link
3. Compare performance with LSTM based model

16. Managing deep learning project codes (1 hour and 30 minutes)

1. Using VS code,
2. Github account and code commit
3. Colab GPU Usage from VS code

**\*\*\*\*\*\*\*Lunch Break\*\*\*\*\*\*\*\*\***

**Day 2**

**Session 2:**

16. Code demonstration (1.5 hour)

1. Use of Lighting ai

17. Interact with wanb.ai (1.5 hour)

1. View loss curves in real time
2. View model parameters in real time
3. Performance analysis in real time

18. Closing session and Certificate giving ceremony

19. Home Tasks:

1. [Workshop homework 1 - 2024.docx](https://iubedubd-my.sharepoint.com/:w:/g/personal/akmmrahman_iub_edu_bd/EWaxYPsQ_ClBr1nB6Gg31VgB1LdLT1pH3-rP4vAU6b-v5A?e=w07SNd)
2. [Workshop homework 2 - 2024.docx](https://iubedubd-my.sharepoint.com/:w:/g/personal/akmmrahman_iub_edu_bd/EYg2WWoZjIlAsHWEXM0RNYUBfUEB9RAoAxxH-RyEur31Cg?e=d87Jas)
3. [Workshop Homework 3 - 2024.docx](https://iubedubd-my.sharepoint.com/:w:/g/personal/akmmrahman_iub_edu_bd/ETObp_mh6k9Ftg4Qxbi9Sp0B4irAo01zixgB9-3X5tqWAA?e=P9oMnb)

Extra Resources

Day: 01 Session: 02 CNN Classifier PyTorch: [day-1.2\_CNN.ipynb](https://colab.research.google.com/drive/1wgrlk6PJz3XfkmDPCfRdKawsvBdHeC74?usp=sharing)

\*\*\*\*Day: 01 Session: 02 CNN Classifier PyTorch (Workshop version)::

Day: 01 Session: 01 VGG16 Classifier PyTorch: [day-1.2\_VGG16.ipynb](https://colab.research.google.com/drive/1lJ5_YyDpgW6Zxwe0OTqqHFfJmO_Xz27Z?usp=sharing)

\*\*\*\*Day: 01 Session: 02 VGG16 Classifier PyTorch

(Workshop version)

[lstm-with-one-hot-for-emotion-recognition.ipynb](https://colab.research.google.com/drive/1-JotV8MSyK7UvAmgfcDDc2SeoMNqloRr?usp=sharing)

\*\*\*\*Day:01 Session 02: Text Processing,

Torch Embedding + LSTM:

[lstm-for-emotion-recognition.ipynb](https://colab.research.google.com/drive/18xyMfhQgKsy3KrBYoO0WrIGkh0dT7fFV?usp=sharing)