

# **Semi-Supervised Learning with Ladder Networks**

## **1. Introduction**

- Supervised Learning
- Unsupervised Learning
- Semi-supervised Learning
- Semi-supervised using ladder network

## **2. Overview**

- How algorithm works?
- Explain encoder-decoder
- Final cost

## **3. Algorithm**

- Start with the basic concepts
- Encoder-decoder function in detail
- Denoising Source Separation(DSS) and Denoising Auto-Encoder(DAE)
- Ladder network architecture

## **4. Implementation and Results**

- Python implementation
- Code snippets
- Dataset used (MNIST)
- Training Labeled data + Training Unlabeled data
- Results – Testbeds used
- Results – Accuracy measured
- Results – Time taken for each testbed

## **5. Conclusion**

## **6. References**