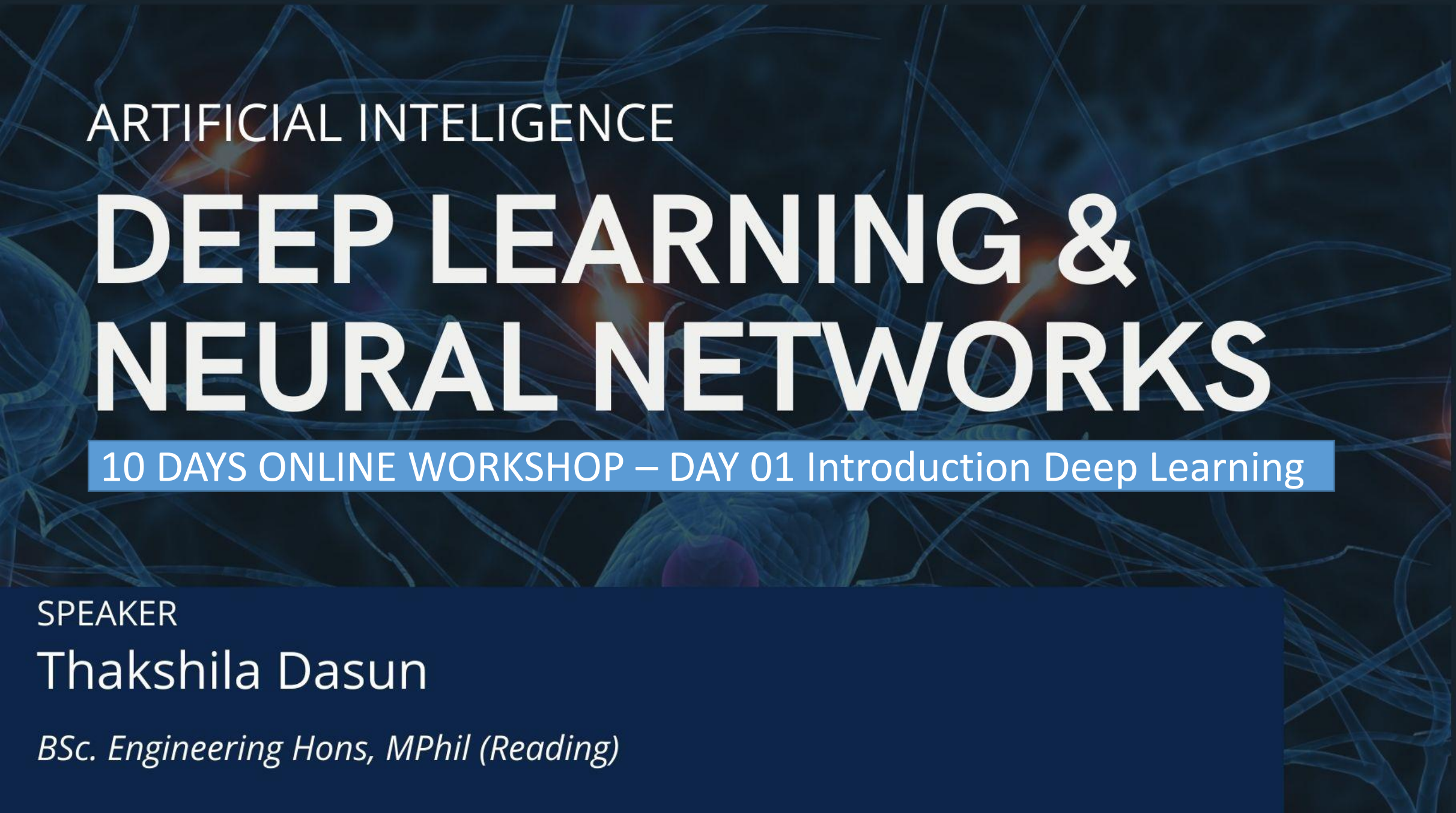

ARTIFICIAL INTELIGENCE

DEEP LEARNING & NEURAL NETWORKS

10 DAYS ONLINE WORKSHOP – DAY 01 Introduction Deep Learning

SPEAKER

Thakshila Dasun

BSc. Engineering Hons, MPhil (Reading)

Introduction to the Course

- The course is specially designed for the employees, undergraduates, students and developers interested in learning Deep Learning concepts.
- This course covers the fundamentals of ML and DL to the advanced concepts with practical applications where ever necessary
- The practical sessions will be based on the applications which use Python Programming Language, Scikit-Learn, TensorFlow, Keras and OpenCV software platforms.
- The course contains 10 Live Lectures, 10 Practical Sessions and 1 Pre-recorded Lecture Session for Python Programming Basics.
- All the Live Lectures, study materials, codes and assignments will be available in www.edxcope.com

Method of Conduct

Per day, there will be a 3 hour Online Live Lecture, 1-2 hour Practical

1. Online Live Lecture (3 hours/Day) – Weekdays 6:00PM-9:00PM
    - interactive session, where you can directly ask questions, clarify doubts and discuss
2. Practical Session (1-2 hours/Day) – Pre-recorded Video after the lecture
    - Materials will be available in GitHub and the link will be provided in due course
    - Video will be uploaded to edxcope.com
3. Extra Day – DAY 00
    - Pre recorded Lecture series for Python Basics and Modules

	Day	Lecture	Practical
STAGE 01 : DL & NN Fundamentals and Essential Programming and Maths	01	Part 1 - Introduction to the Course. Part 2 - Introduction to Deep Learning & Neural Networks	Part 1 - Setting Up the Environment Part 2 - Python Programming Essentials and Python Modules
	02	Feed Forward Neural Networks Architecture and Forward Propagation	Feed Forward Neural Network Training and Evaluation Training FFNN for your own dataset
	03	Part 1 - Optimizers, Adaptive Optimizers, Loss Functions and Backpropagation Algorithm Part 2 – Problem of Overfitting and Underfitting, Regularization methods	Feed Forward Neural Network Optimization
	04	Part 1 - Feature Extraction and Image Kernels Part 2 - Convolutional Neural Network Architecture	CNN Training and Evaluation Training a CNN for your own dataset
STAGE 02 : Supervised DL	05	Applications of CNN, Self-Driving Cars and Object Detection APIs	Customization of Object Detection APIs Training an Object Detection API for Custom Objects
	06	Part 1 - Recurrent Neural Networks, Backpropagation through time, Problems of Vanishing and Exploding Gradients Part 2 – Long Short Term Memory Cells and Gated Cells	Stock Market share value predication using LSTMs 1D Convolutional Neural Networks for Time Series Data
STAGE 03 : Unsupervised DL	07	Part 1 – Unsupervised Deep Learning Part 2 – Autoencorders, Latent Space, Variational Autoencorders	Training an Evaluation of De-noising Autoencoders Sequence to sequence prediction using Autoencoders
	08	Generative Adversarial Networks, Discriminator and Generator Architectures	Fake data generation using GANs Generating Fake Images using GANs
STAGE 04 : Model Deployment and Practical Usage	09	Deployment of Neural Network models in Mobile and Web Applications, Python backend development using Flask	Python Backend development with flask Deployment of Trained Neural Network Models Development of a Website and Python Backend for Image Classification Application
	10	Cloud Computing for Deep Learning	Configuring and Training Deep Learning Models in Dedicated GPU in Linode

Certificate

All the participants are eligible to obtain a participating certificate upon the successful completion of the course.

The certificate is offered through EdXcope by Global Eye International (Pvt) Ltd.

GEI is a Registered Private Limited Company in Sri Lanka providing Consultation, Training and Knowledge Partner in International Certification

Payments

All the payments should be done through the verified and secured online payment gateway integrated in www.edxcope.com

Payment

1. The total course fee is 7,000LKR (All Inclusive)
2. The total course fee should be paid on the 2nd day of the course.
3. Participant can request for an extension of deadline through the Lecturer
4. 1000LKR Discount available for participant of ML or ADPY courses

Resource Personnel

Thakshila Thilakanayake

B.Sc. Engineering (Hons), MPhil (Reading)

A passionate educator, trainer and developer in the fields of Robotics, Data Science, Machine Learning and Deep Learning with several years of demonstrated experience, who guides the community with the latest research findings and technologies in the subjective fields. Currently conducting workshop, courses and cooperate training sessions in several institutes.



Press the icons to navigate

Tools

- Programming Language: Python
- Modules used: Scikit Learn, Tensorflow, Keras, OpenCV, Numpy, Matplotlib
- Development Environment: Anaconda Navigator (Jupyter Notebook)

TensorFlow

References

1. *an Goodfellow and Yoshua Bengio and Aaron Courville*, Deep Learning, 2016, MIT Press.
2. *François Chollet*, Deep Learning with Python, 2017, Manning Publications Co.
3. Oliver Theobald, Machine Learning for Absolute Beginners (2nd Edition), 2018
4. Jake VanderPlas, Python Data Science Handbook: Essential Tools for Working with Data, 2016, O'Reilly Media, Inc.

Let’s Get Started

With Advanced Python