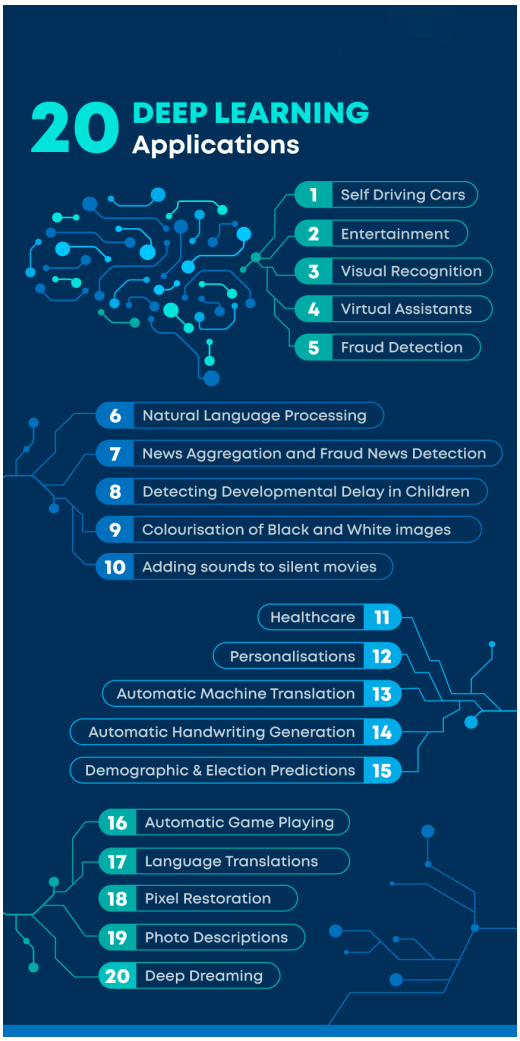
Ridzuan Daud Tech

33A Jalan Sutera 2/2. Taman Sutera,
Kajang, 43000 Selangor
(6013) 2511640

Hands On Deep Learning Workshop Brochure

May 1, 2023



Deep Learning Overview

In today's rapidly evolving landscape, organizations of all sizes, from startups to Fortune 500 companies, are harnessing the potential of deep learning and AI across their growth journey. **Deep Learning**, the fastest-growing field within AI, is revolutionizing various emerging markets, surpassing our wildest expectations. With cutting-edge deep neural networks, powered by algorithms, vast amounts of data, and the computational prowess of GPUs, the dynamics of AI are undergoing a remarkable transformation. Machines can now acquire knowledge with unparalleled speed, precision, and scalability, propelling the advent of true artificial intelligence and AI Computing. Stay abreast of the latest trends and techniques in designing, training, and implementing neural network-driven machine

learning in your applications. Explore the wide array of popular open-source frameworks and deep learning platforms that are reshaping the landscape of AI.

Learning Outcome

- Introduction to Neural Networks
- Getting Started with Deep Learning
- Building an ANN using Python libraries (TensorFlow)
- Introduction to Convolutional Neural Network (CNNs)
- Deep Learning for Image Classification (CNNs)
- Introduction to Recurrent Neural Network (RNNs)
- Deep Learning for Time Series (RNNs)
- Fine-tuning model and Transfer Learning

Course Outline

INTRODUCTION LEVEL - DAY 1 & 2

Day 1

What is Deep Learning, and what are Neural Networks?

- Deep Learning as a branch of AI
- Neural networks and their history and relationship to neurons
- Creating a neural network in Python

Artificial Neural Networks (ANN) Intuition

- The activation function (utility function or loss function)
- How do ANN's work?

- How do ANN's learn?
- Gradient descent
- Stochastic Gradient descent
- Backpropagation

Building an ANN

- Getting the python libraries
- Constructing ANN
- Using a customer churn dataset
- Predicting if customer will leave or not

Evaluating Performance of an ANN

- Evaluating the ANN
- Improving the ANN
- Tuning the ANN

Hands-On Exercise (60 min)

- Participants will be asked to build the ANN from the previous exercise.
- Participants will be asked to improve the accuracy of their ANN.
- SoftMax and Cross-entropy

Building a CNN (60 min)

- Getting the python libraries
- Constructing a CNN
- Using the Image classification dataset

- Predicting the class of an image

Day 2

Evaluating Performance of a CNN (60 min)

- Evaluating the CNN
- Improving the CNN
- Tuning the CNN

Hands-On Exercise (60 min)

- Participants will be asked to build the CNN from the previous exercise
- Participants will be asked to improve the accuracy of their CNN

Recurrent Neural Networks (RNN) Intuition (60 min)

- What are RNN's?
- Vanishing Gradient problem
- LSTMs
- Practical intuition
- LSTM variations

Building a RNN (60 min)

- Getting the python libraries
- Constructing RNN
- Using the stock prediction dataset
- Predicting stock price

Evaluating Performance of an RNN (60 min)

- Evaluating the RNN
- Improving the RNN
- Tuning the RNN

Hands-On Exercise (60 min)

- Participants will be asked to build the RNN from the previous exercise
- Participants will be asked to improve the accuracy of their RNN

Workshop Fee

2 Day Hands On Deep Learning Workshop

Online Mode

- Government Institution/NGO - RM 300/participant
- Private Company - RM 400/participant

On-Site Mode

- Government Institution/NGO - RM 400/participant
- Private Company - RM 500/participant

Other Arrangement

Kindly email info@deeplearningmy.com for further information and available date.