

## [SDSC] Course Outline

### Introduction to Deep Learning (Neural Network)

31<sup>st</sup> July and 1<sup>st</sup> August 2018

4<sup>th</sup> August 2018 (Optional)

NUS I-Cube Workstation Lab 2

## Overview

### Day 1 (Jul 31)

- Course overview
- Introduction to neural network (NN) and convolutional neural network (CNN)
- Example 1. Image classification (synthetic images) (with code explanation)
- Example 2. Image classification (real images) (with code explanation)  
\* *recognition of 62 characters including 0-9, a-z and A-Z.*
- Hands-on lab using NN and CNN

### Day 2 (Aug 1)

- Introduction to recurrent neural network (RNN) and transfer learning
- Example 3. Image classification (synthetic images) (with code explanation)
- Example 4. Natural language processing and answer generator (with code explanation)
- Example 5. Transfer learning (real images) (with code explanation)  
\* *differentiation between images of cat and tiger*
- Hands-on lab using RNN and transfer learning

### Day 3 (Aug 4) (Optional)

- Not compulsory
- Consultation or discussion only
- By appointment only
- 25 min for each participant
- Anything you want to discuss about deep learning and its application
- Tentatively 7 slots (0930-1300)

## [SDSC] Course Outline

### Introduction to Deep Learning (Neural Network)

31<sup>st</sup> July and 1<sup>st</sup> August 2018

4<sup>th</sup> August 2018 (Optional)

NUS I-Cube Workstation Lab 2

## Schedule

### Day 1 (Jul 31)

- 0930-1000 Introduction
- 1000-1030 Tea break
- 1030-1200 Introduction to NN and code explanation
- 1200-1300 Lunch
- 1300-1400 Assignment (NN)
- 1400-1530 Introduction to CNN and code explanation
- 1530-1600 Tea break
- 1600-1700 Assignment (CNN)

### Day 2 (Aug 1)

- 0930-1000 Introduction to RNN
- 1000-1030 Tea break
- 1030-1200 RNN code explanation
- 1200-1300 Lunch
- 1300-1400 Assignment (RNN)
- 1400-1530 Introduction to Transfer learning and code explanation
- 1530-1600 Tea break
- 1600-1700 Assignment (Transfer learning)

### Day 3 (Aug 4) (Optional)

- 0930-0955 slot 1
- 1000-1025 slot 2
- 1030-1055 slot 3
- 1100-1125 slot 4
- 1130-1155 slot 5
- 1200-1225 slot 6
- 1230-1255 slot 7