IEEE Computational Intelligence Society Distinguished Lecturer Program

Speaker: Pau-Choo (Julia) Chung, National Cheng Kung University, Taiwan

Inviting Chapter: IEEE Computational Intelligence Society Thailand Chapter

Date: 8 May 2021

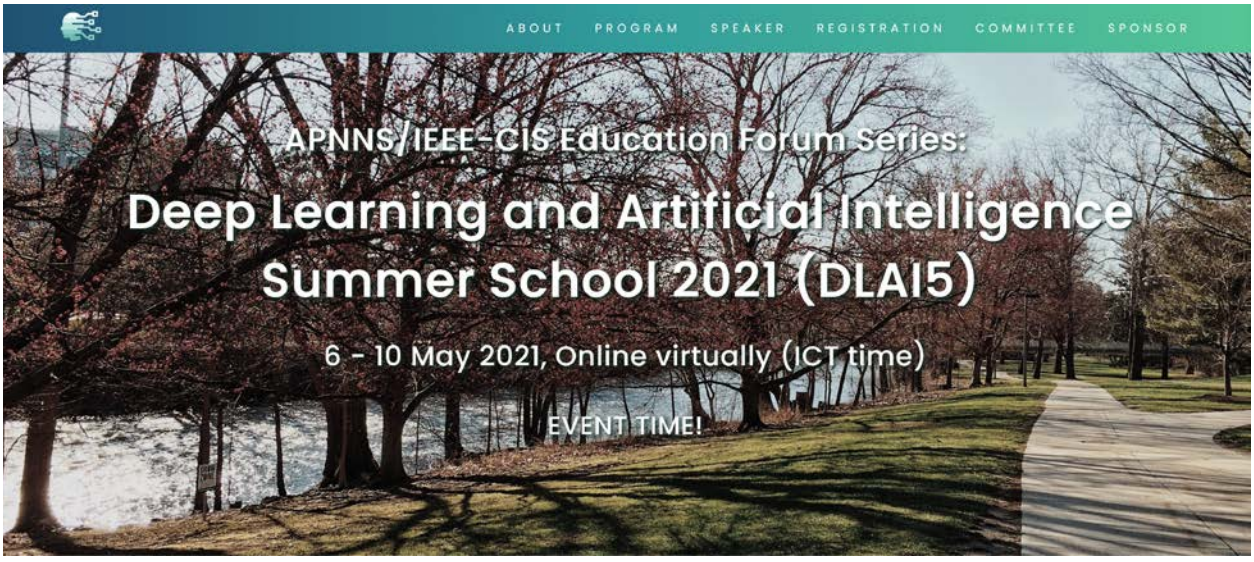
Number of Participants: 56 People

Lecture Title: Gait and Balance Analysis for the Elderly Using an Inertial-Sensor-Based Wearable Device

Abstract:

Gait and balance patterns are two major measurements for the evaluation of the elderly's physical conditions and are therefore often used in the early detection of certain diseases. For example, patients with Alzheimer's disease (AD) were reported of revealing gait disorders and balance problems. In this talk we will present an inertial-sensor based wearable device, which are designed for objective quantitative measurement of gait patterns and balance capabilities. Accompanied with the device are the algorithms and CI models, which integrally provide the quantitative evaluations. We will also discuss several essential indicators from gait and balance patterns for AD diagnosis. The gait analyzing algorithm, which is composed of stride detection followed by gait cycle decomposition, and the balance analysis algorithm, which is measured by the sway speed in anterior-posterior (AP) and medial-lateral (ML) directions of the projection path of body's center of mass (COM), will also be introduced.

Website: https://deeplearningandaiwinterschool.github.io/



ABOUT | PROGRAM | SPEAKER | REGISTRATION | COMMITTEE | SPONSOR

Day 3: Sat 8 May 2021 (ICT time UTC+7)

Time	Activity
Women in Science and Engineering (WISE) Session I	
07.50 - 08.00 am.	**WISE opening remarks**
WISE Keynote	
08.00 - 09.00 am.	**Speaker:** *Deepa Kundur*, University of Toronto, Canada **Topic:** Analytics-Driven Cyber-Physical Security for a Converged Smart Grid
IEEE-CIS Distinguished Lecturer Talk I	
09.00 - 10.00 am.	**Speaker:** *Pau-Choo (Julia) Chung*, National Cheng Kung University, Taiwan **Topic:** Gait and Balance Analysis for the Elderly Using an Inertial-Sensor-Based Wearable Device
WISE Industry Talk	
10.00 - 11.00 am.	**Speaker:** *Yingxue Zhang*, Huawei Montreal Research Centre, Canada **Topic:** Bayesian Graph Neural Networks and its application in recommendation system
WISE Academic Talk	
11.00 am. - 12.00 noon	**Speaker:** *Claire Chewapreecha*, King Mongkut's University of Technology Thonburi, Thailand **Topic:** Dissecting the genetic basis of Melioidosis Infection
12.00 noon - 12.50 pm.	Lunch Break
Forum for Young Investigators (FYI) Session I	
12.50 - 01.00 pm.	**FYI opening remarks**
FYI Academic Talk	
01.00 - 02.00 pm.	**Speaker:** *Haiqin Yang*, Ping An Life, China **Topic:** Towards building emphathetic chatbots
FYI Industry Talk	
02.00 - 03.00 pm.	**Speaker:** *Tanut Kamwai*, IBM Data and AI, Thailand **Topic:** Imbalanced credit card fraud detection via using deep neural network
FYI Academic Talk	
03.00 - 04.00 pm.	**Speaker:** *Wittawat Jitkrittum*, Google Research, Germany **Topic:** Interpretable Comparison of Deep Generative Models
Hackathon Session II + Networking	
04.00 - 05.00 pm.	**Topic:** Hackathon updates + Networking

DLAI5 Day 3

- **Featuring IEEE-CIS Distinguished Lecturer talk by Prof. Pau-Choo Chung (Julia)**