Information of AI and IoT Program
TAIST Tokyo Tech








TAIST Tokyo Tech ICTES Program

Thanaruk Theeramunkong

Waree Kongprawechnon

Dusit Thanapatay

Denchai Worasawate

Somrudee Deepaisarn

May 2022

Structure of TAIST – ICTES

Executive and Program Director

Omjai Saimek
NSTDA Vice President
TAIST Executive Director

Thanaruk Theeramunkong
ICTES Program Director

Steering Committee Advisory

Nobuhiko Sugino

Akinori Nishihara

Hiroaki Kunieda

Kanokvate Tungpimolrut

Steering Committee Members

SIIT

Thanaruk Theeramunkong

Waree Kongprawechnon

Somrudee Deepaisarn

Tokyo Tech

Tsuyoshi Isshiki

Hiroshi Sasaki

NECTEC

Kamol Kaemarungsi

Apichart Intarapanich

Teera Phatrapornnant

KU

Dusit Thanapatay

Denchai Worasawate

Students in ICTES (AI&IoT) Program

B1: 26 students (2008)

B2: 22 students (2009)

B3: 28 students (2010)

B4: 17 students (2011)

B5: 24 students (2012)

B6: 28 students (2013)

B7: 15 students (2014)

B8: 20 students (2015)

B9: 19 students (2016)

Students in ICTES (AI&IoT) Program

B10: 21 students (2017)

B11: 18 students (2018)

B12: 24 students (2019)

Students in AIoT-1 Program

B13: 21 students (2020)

Students in AIoT-2 Program

B14: 19 students (2021)

2008-2022

International Journal	19
National Journal	6
International Conf.	409

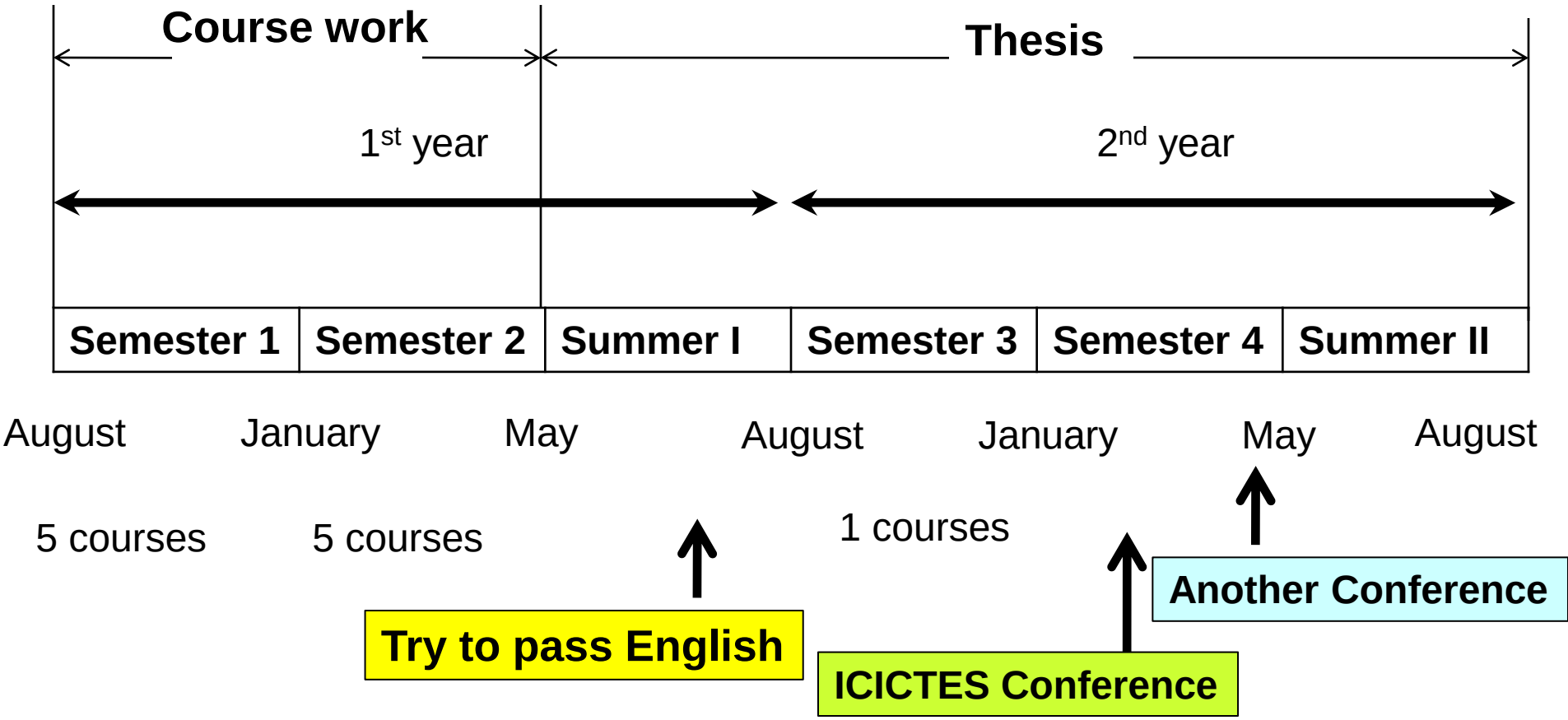
Only 2020-2022

International Conf.	43

History of TAIST ICTES (AI&IoT) Program

September 2001	**MOU between Tokyo Tech and NSTDA.**
October 2002	Tokyo Tech Office (Thailand) established in NSTDA.
November 2005	Prof. Dr. Masuo Aizawa, President of Tokyo Tech discusses with senior officials from NSTDA on establishment of a "joint graduate institute."
April 2006	First visit by the AE group of Tokyo Tech to Thailand
July 2006	Workshop at Tokyo Tech by the Biology group.
August 2006	Automotive Engineering Conference at NSTDA.
August 2006	HRH Princess Sirindhorn visited Tokyo Tech.
November 2006	Forum on EnvE and ICT held at Tokyo Tech.
December 2006	Signing of "Sub-agreement of the Memorandum of Understanding on the Cooperation in the First Phase of a Joint Graduate Institute" by Tokyo Tech, NSTDA, KMITL and SIIT.
June 2007	**The first program of TAIST - Tokyo Tech, the AE Program, started.**
September 2007	Grand Opening Ceremony at Thailand Science Park.
June 2008	**ICTES Program started.**
September 2009	First Graduation Ceremony.
June 2012	**Advanced and Sustainable Environmental Engineering started.**
August 2012	Second Phase MOU signed.
April 2015	HRH Princess Sirindhorn visited Tokyo Tech.
July 2015	First Basic & Adv. Eng. for Automotive Course organized by JSAE
June 2016	Revision of existing graduate curriculums in cooperating Rail Transportation pedagogy
November 2016	Second Basic & Adv. Eng. for Automotive Course organized by JSAE
August 2017	Third Phase MOU signed.
March 2018	Tokyo Tech Annex
May 2018	Railway Engineering Courses (Mahidol University Certificate)
August 2018	10th year Anniversary of TAIST Tokyo Tech
August 202	AI and IoT Curriculum (Original: ICTES)

Study Plan



* Note that **<u>pre-courses</u>** will be conducted in <u>July</u> before the 1st year starts to familiarize students with AI & IoT fundamentals.

Study Plan (first year, first semester)

Start from August 2022

ES 605	Research Methodology	2(2-0-4)
ICT 700	Software Concepts for AI and IoT	3(3-0-6)
ICT 720	Hardware Concepts for AI and IoT	3(3-0-6)
ICT xxx	Technical Elective	3(x-x-x)
		11

ICT 740 Communication Theory and Connectivity	3(3-0-6)
ICT 750 Digital Signal Processing and IoT	3(3-0-6)

Study Plan (first year, second semester)

ICT 600	Computational Mathematics	3(3-0-6)
ICT 710	Software Designs for AI&IoT	3(2-3-4)
ICT 730	Hardware Designs for AI&IoT	3(2-3-4)
XXX xxx	Technical Elective	3(x-x-x)
		12

ICT760 Data Science and Intelligence Processing	3(3-0-6)
ICT770 Control Theory and Smart Control	3(3-0-6)

Study Plan (second year)

ES 806	Seminar	1(0-3-0)
ICT 898	Master Thesis	9
	Total	**9**
		9

ICT 898	Master Thesis	6
	Total	**6**
		6

- The students need to register 15 thesis credits in the 3rd and the 4th semesters.
- Submit progress report and present the progress presentation every semester.
- Present your proposal in August of the 2nd year.
- Submit at least two int'l conference papers.
- Defense thesis within March (May) of the 2nd year.

AI and IoT Curriculum (I) – Core

Curriculum 2020/2563 (new)
ICT700 Software Concept for Artificial Intelligence and Internet of Things 3(3-0-9) Introduction to artificial intelligence (AI) and internet-of-things (IoT) systems. AI concepts: searching, inferencing, reasoning, knowledge representation, fuzzy theory, planning, decision making, machine learning, deep learning, and multi-agent processing. Data structures, sequential and binary searches, merging and sorting for AI. IoT concepts: software issues in design of IoT systems, communications and networking, real-time system design, software design, verification and testing.
ICT710 Software Designs for Artificial Intelligence and Internet of Things 3(2-3-7) Hand-on training and experiments on artificial intelligence (AI) and internet-of-things (IoT) systems, including software design, verification and testing for artificial intelligence (AI) and internet-of-things (IoT) system, software concepts on microcontroller architectures and peripherals, software implementation of AI and IoT systems communication and algorithms. Examples of applications for Railway Electronics or Electrification.
ICT720 Hardware Concepts for Artificial Intelligence and Internet of Things (3-0-9) Basic digital system design for artificial intelligence and internet of things, processor architecture design for artificial intelligence and internet of things, AI hardware design: control parts, peripherals, device interfaces, FPGA hardware implementation for communications and networking related to for artificial intelligence and internet of things. AI accelerator, smart sensors, ARM architecture, Single-board microcontroller, GPU architecture, Microelectromechanical systems (MEMS) architecture.
ICT730 Hardware Designs for Artificial Intelligence and Internet of Things 3(2-3-7) Hand-on training and experiments on basic digital system design for artificial intelligence (AI) and internet of things (IoT), testing and experiments on the control parts, peripherals, device interfaces, FPGA hardware implementation hardware for communications and sensor interfaces related to for artificial intelligence and internet of things. Examples of applications for Railway Electronics or Electrification.

AI and IoT Curriculum (II) – Elective

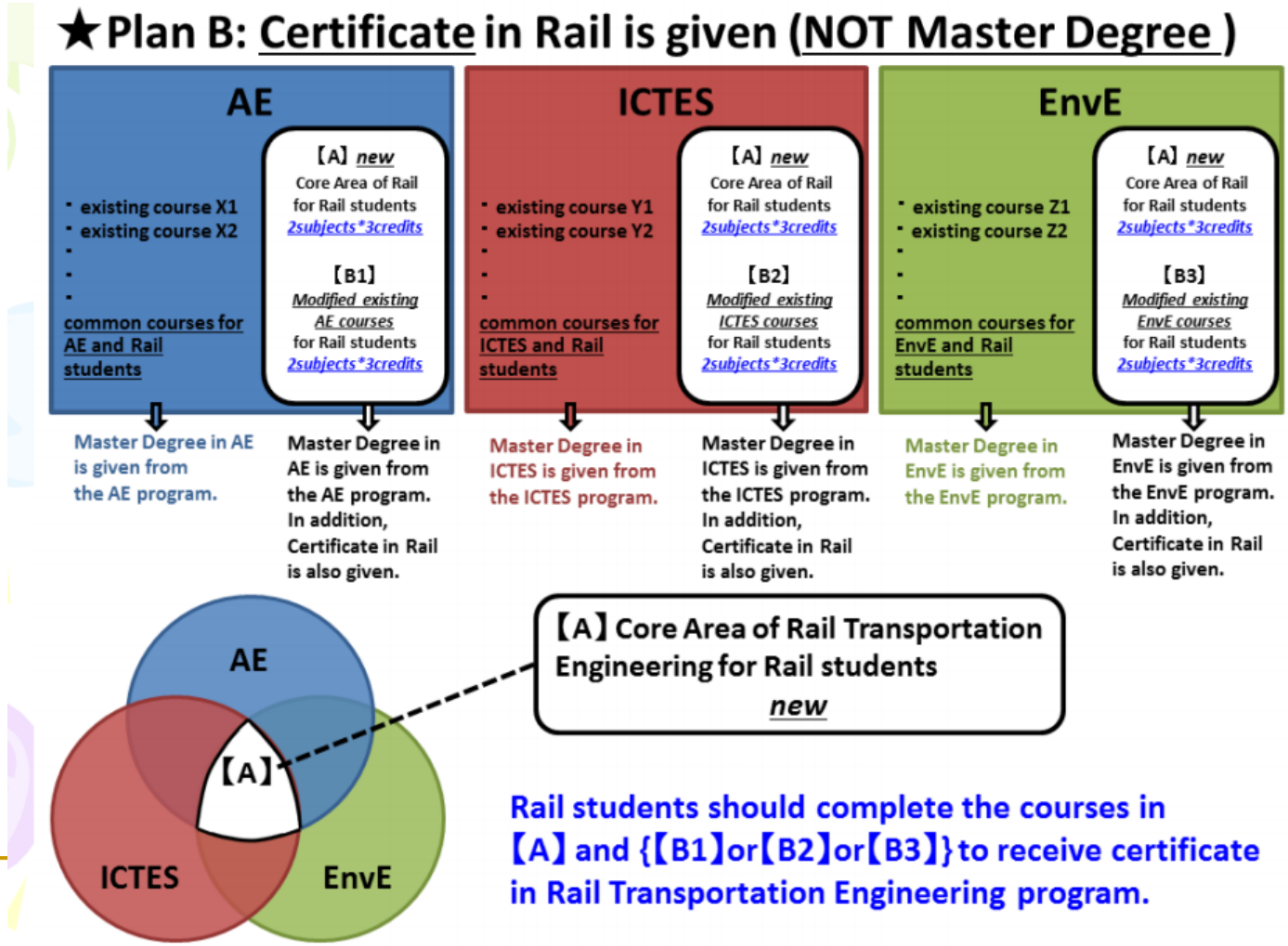
Curriculum 2020/2563	
ICT740 Communication Theory and Connectivity	**3(3-0-9)**
Information theory, communication systems, wireless communications, wireless channel characteristics, link budget, source coding and decoding, channel coding and decoding, modulation techniques, multiple-access techniques, wireless networks, wireless network protocols and standards, mobile networks, RFID, communication for Internet of Things, communication protocol: Bluetooth, LPWAN such as LoRA, Wi-Fi, and WAN. Cryptography and Network Security.	
ICT750 Digital Signal Processing and Internet of Things	**3(3-0-9)**
Digital signal processing theory, video and audio processing, discrete-time signals and systems, linear time-invariant systems, sampling of continuous-time signals and convolution, finite and infinite impulse response filter designs, discrete Fourier transform, fast Fourier transform algorithms, relations between Fourier transforms: discrete-frequency Fourier transform, Fourier series, discrete-time Fourier transform, and discrete Fourier transform. Image and speech coding and decoding, trans-multiplexers, filter banks, channel estimation and equalization, synchronization, array processing, power spectral estimation, adaptive filtering, analog digital converter and digital analog converter algorithms, digital signal processing on Internet of Things.	
ICT760 Data Science and Intelligence Processing	**3(3-0-9)**
Introduction and application of data science, data mining and data analytics; classification, regression, clustering, and association rule mining. Eigenvalues, singular values, PCA, gradient descent, stochastic gradient descent, and block coordinate descent. MapReduce programming model. Human interface, computer graphic, concept and design of human-computer interface, trends of human interface design, graphic user interface, interactive software design, hardware technology for human interface, presenting and animating two and three dimensional objects. AR/VR concept, Digital Twin concept, Human sensory information processing.	
ICT770 Control Theory and Smart Control	**3 (3-0-9)**
Control system theory, control system description, State space description of systems, Sampling of systems, Stability, Robustness, Controllability and Observability, State space design, Pole placement dynamics of typical controlled systems, Introduction to advanced control topics: optimal control, Adaptive control systems. Smart analytic tools for predicting system response and performance, applications for artificial intelligence and internet of things, Smart control system; Examples of applications for railway control systems; Design of a cyber-physical system.	

Research Activities and Others (Overview)

Special Seminar	Sep. – Oct.
NECTEC laboratory visit	October
Application to Tokyo Tech	November
ICICTES conference	May
Company visit	April-May
Sports day	January

Railway Curriculum

- SW for Embedded System was modified to include railway component



Professors /Advisors / Researchers

- The list of professors from each institute is given in the guideline.
- The summary is as follows.
  - 23 NECTEC Researchers / Professors
  - 28 Tokyo Tech Professors
  - 30 KU Professors
  - 20 SIIT Professors

Research Group in SIIT/ICT

- **RF/IF Signal Processing for Next Generation Communication Systems**
- **Dynamic Wireless & Mobile Network**
- **Intelligent Informatics**
- **Sensor network**
- **Image Processing Laboratory**
- **Robotics and Mechatronics Laboratory**
- **Bio Medical Engineering**
- **Service Innovation**

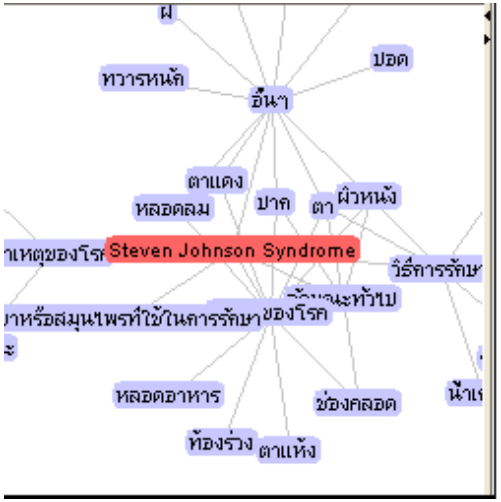
Research Group in KU/EE

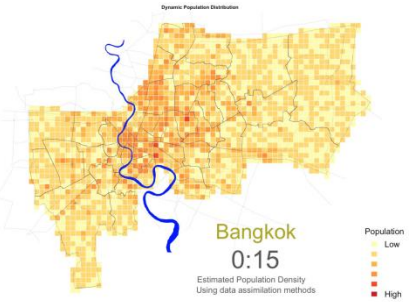
- **Embedded System Design**
- **Agritronics**
- **Digital Signal Processing**
- **Biometric**
- **Bio Sensor**
- **Power Electronics**

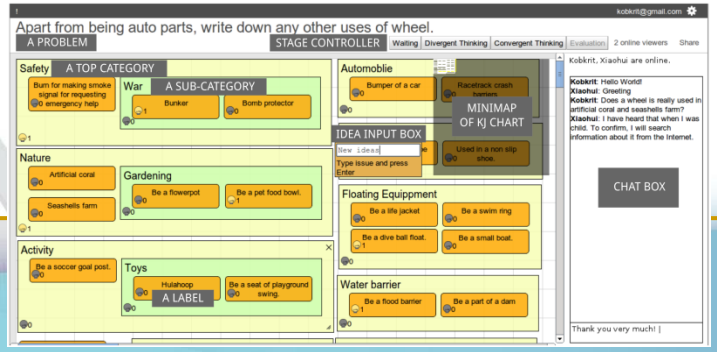
Intelligent Informatics and Service Innovation

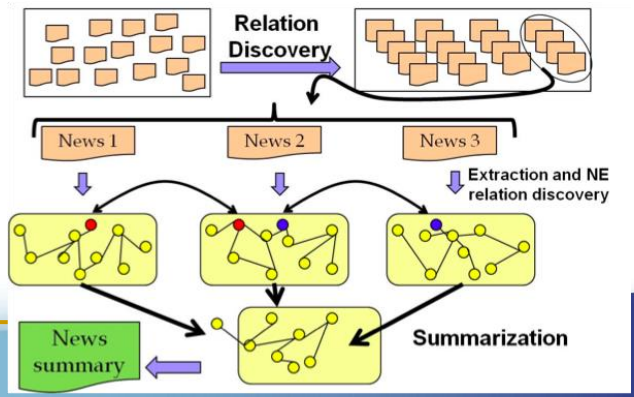
Current Projects (examples):

- Medical Database Web Browse to see medical information
- Automatic idea networking from documents
- Online brainstorming & creativity support groupware
- Mining Large Scale Human Mobility Data for Intelligent Urban System Development
- Dynamic population estimation (BKK)
- Flood area detection from change of population distribution in the area







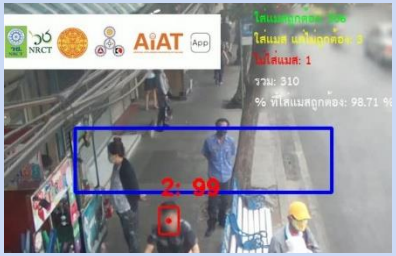


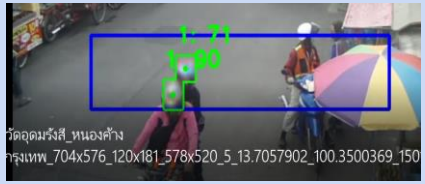
Mask Detection

CCTV Camera




Mask Detection and Tracking





Counting

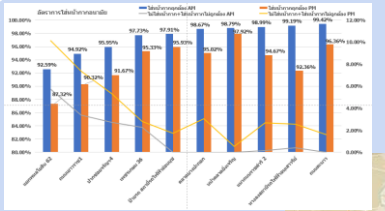
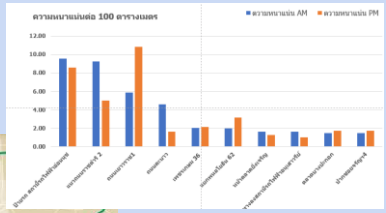
21/01/2563 17.00-18.00 หน้าตลาดยิ่งเจริญ	
คนใส่หน้ากาก	188
คนใส่หน้ากากไม่ถูกต้อง	3
คนไม่ใส่หน้ากาก	1
% ใส่หน้ากาก	97.92

21/01/2563 17.00-18.00 ปากซอยจรัญ 4	
คนใส่หน้ากาก	242
คนใส่หน้ากากไม่ถูกต้อง	8
คนไม่ใส่หน้ากาก	14
% ใส่หน้ากาก	91.67
% ไม่ใส่หน้ากาก+ไม่ถูกต้อง	8.33

21/01/2563 07.00-08.00 หน้าตลาดยิ่งเจริญ	
คนใส่หน้ากาก	100
คนใส่หน้ากากไม่ถูกต้อง	2
คนไม่ใส่หน้ากาก	0
% ใส่หน้ากาก	98.04
% ไม่ใส่หน้ากาก+ไม่ถูกต้อง	1.96

21/01/2563 07.00-08.00 ปากซอยจรัญ 4	
คนใส่หน้ากาก	213
คนใส่หน้ากากไม่ถูกต้อง	8
คนไม่ใส่หน้ากาก	14
% ใส่หน้ากาก	95.95
% ไม่ใส่หน้ากาก+ไม่ถูกต้อง	4.05

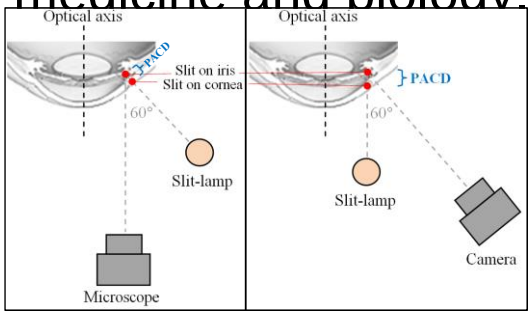
และแผนที่


Biomedical Engineering

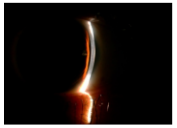
Objective

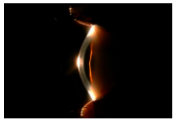
- Biomedical Engineering Center (BioMed SIIT) integrates fundamentals from engineering, computer science, medical science and mathematics to solve applied problems in medicine and biology.

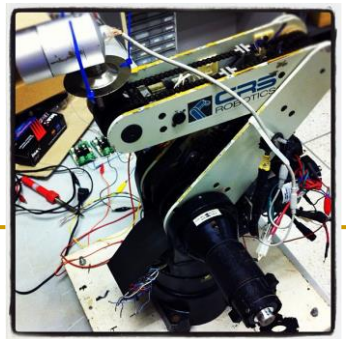


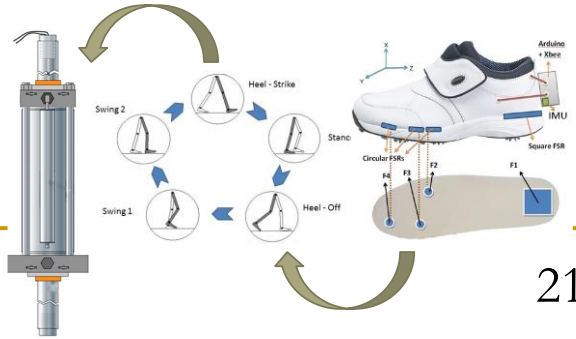
Research Areas

- Bioinformatics
- Biomedical engineering
- Optimization and numerical ranges medical image analysis
- Medical implants and CNC programming
- Biomedical instrumentation
- Smart prosthetics design





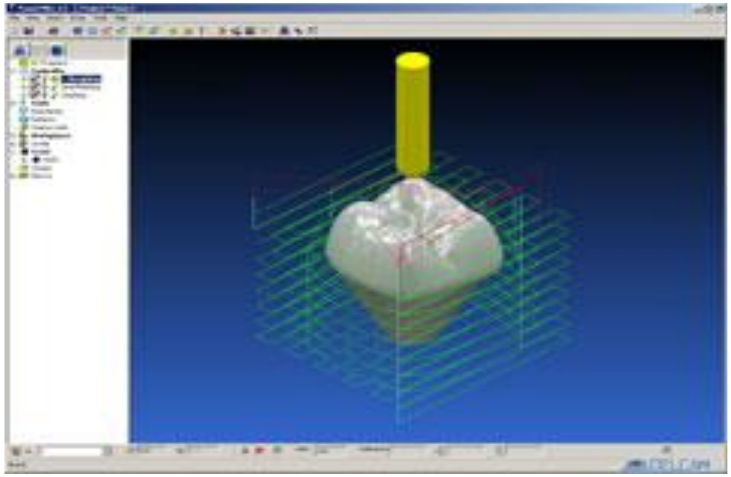


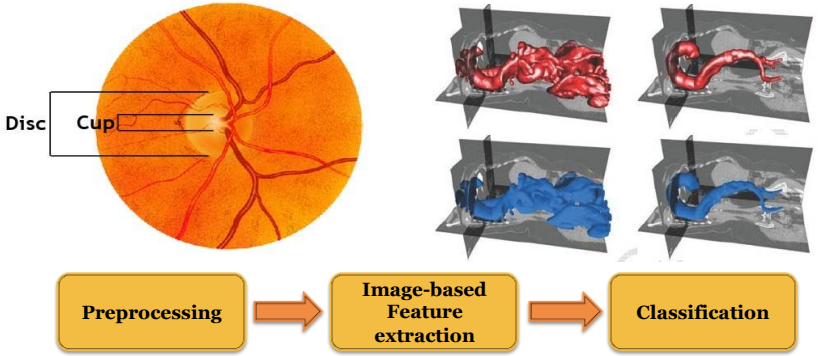


Biomedical Engineering

Current Projects (Examples)

- Diabetic Retinopathy Screen System
- Continuous Force Field Analysis and Generalized Vector Flow for Ultrasound Image Segmentation
- Five-Axis Computer Aided Manufacturing of Dental Implants
- Optimization of Tool Path of 5-axis Milling Machines in the Angular Space





- Automatic Eye-Tracking for Surgery and Diagnosis
- Automated Retinal Image Analysis for Glaucoma Detection
- Automatic Screening of Angle-Closure Glaucoma (ACG)
- Variable Damping Control of Intelligent Prosthetic Knee
- Networked Smart Shoe for Reliable Gait Analysis

Biomedical Engineering

Collaborations

- Asian Institute of Technology (AIT)
- Digital Imaging Research Center (DIRC) laboratory at Kingston University
- Thammasat Hospital
- St. Thomas Hospital
- Wat Raikhing Hospital
- National Electronics and Computer Technology Center

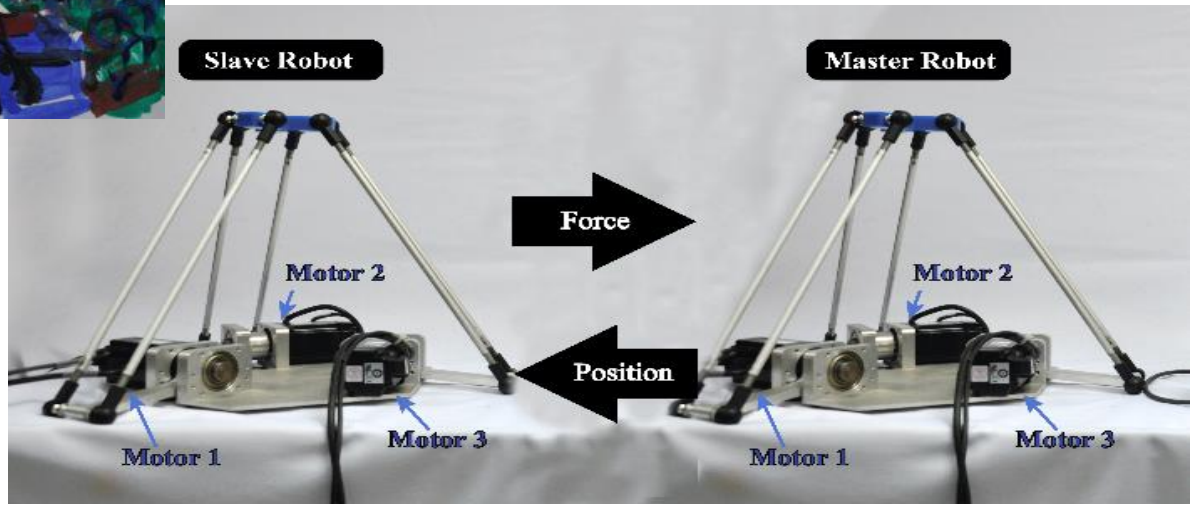
Electrical Engineering Dept.

7 core areas of MS/PhD research:

Communications
Control & Robotics
Electromagnetics
Electronics
Embedded Systems
Power & Energy Systems
Signal Processing

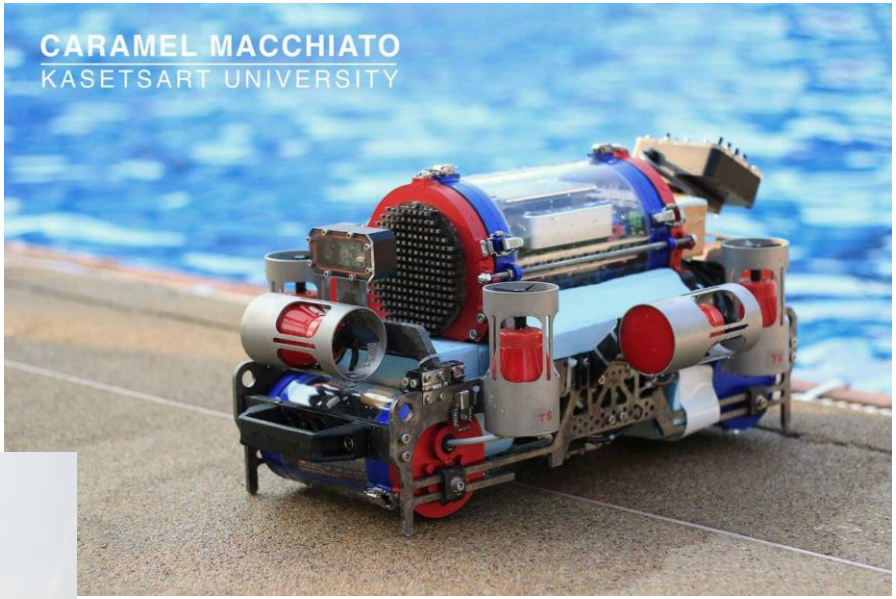
Communication Research

Control & Robotic Research



2nd place winner
robotart.org

Robotic Research

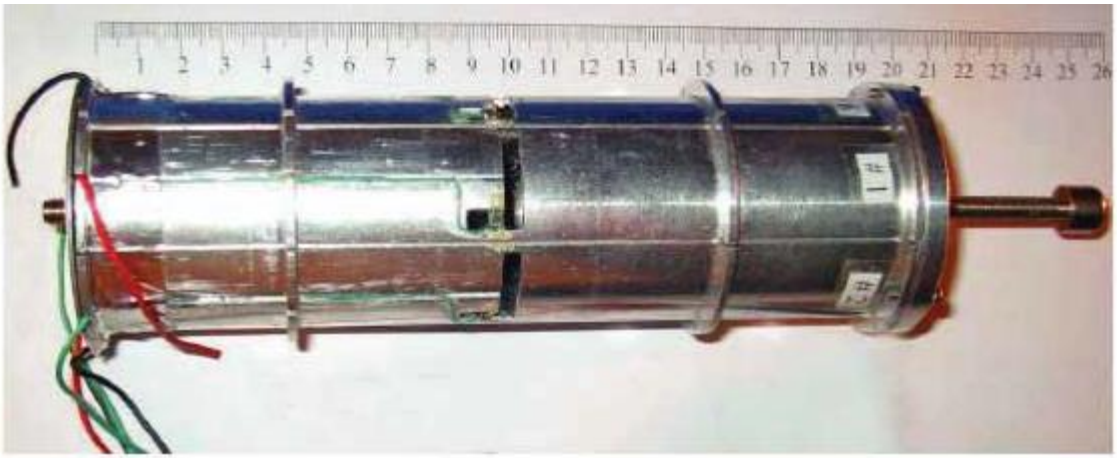


Earn prizes in international competitions

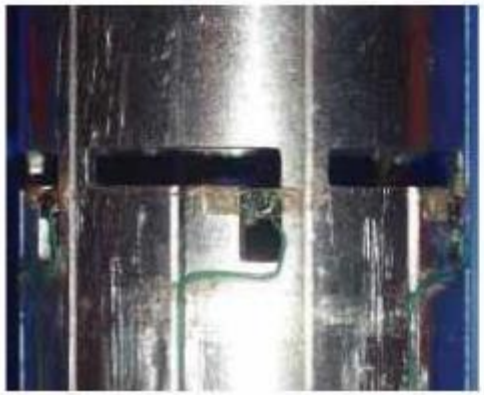
Embedded Systems Research

World RoboCup champion for 4 years

Electromagnetic Research



(a)



(b)

(c)

Electronics Research

LETTERS NATURE NANOTECHNOLOGY DOI: 10.1038/NNANO.2012.107

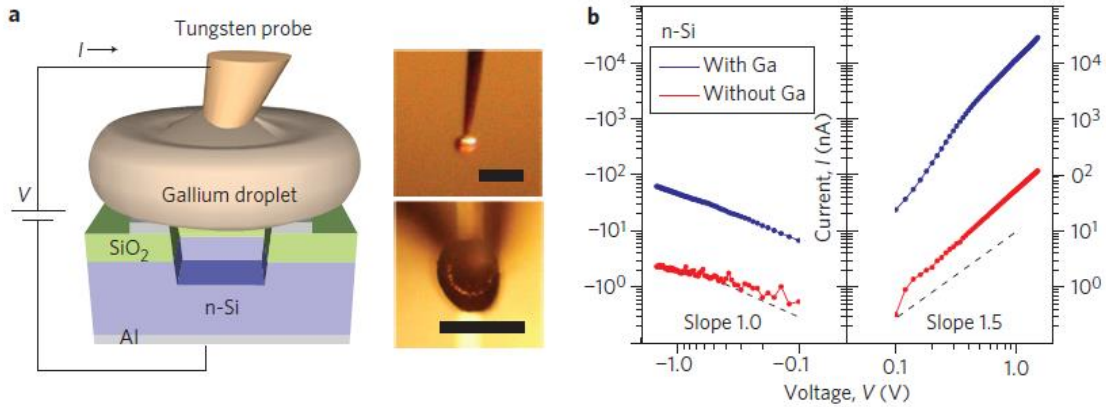
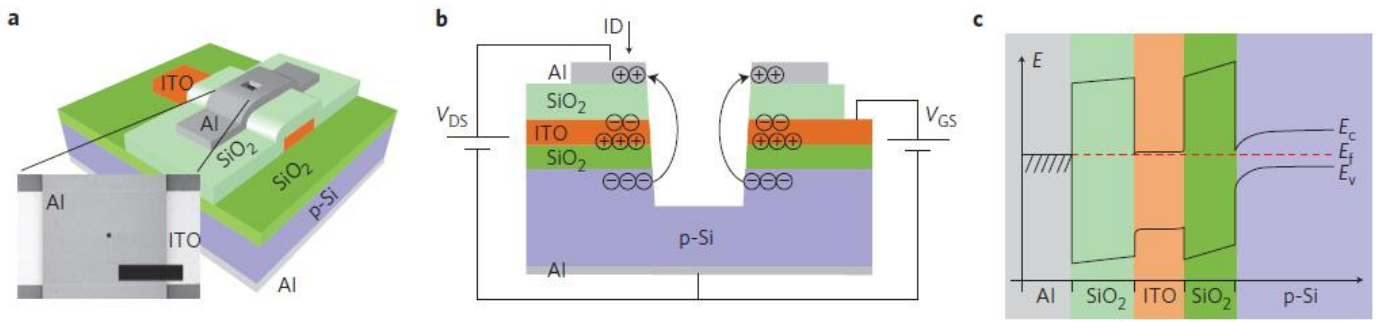
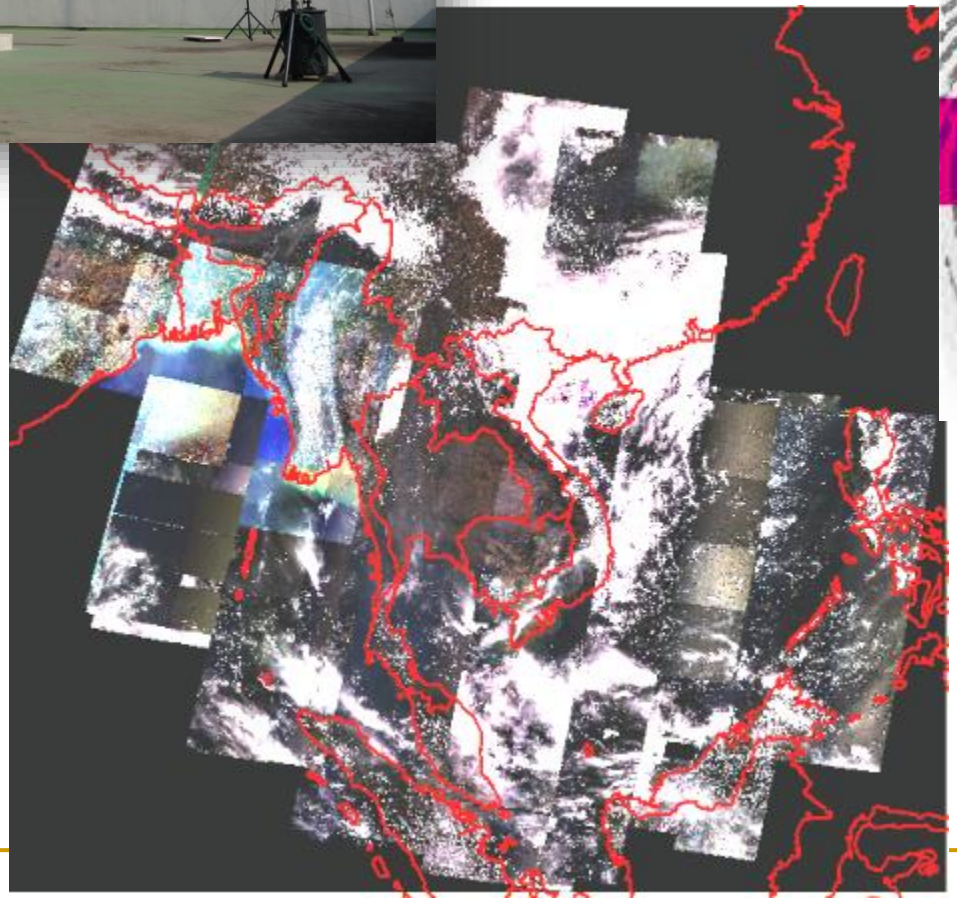


Figure 3 | Measurement of electron capture efficiency at anode edges. a, Schematic of channel top (aluminium electrode with a square opening) covered with a gallium droplet electrode (left). Optical micrograph of a gallium droplet pressed by a tungsten probe (right). Scale bars, 400 μm (top), 200 μm (bottom). **b**, Channel current measured with and without a gallium cover for a 0.5 × 0.5 × 1 μm^3 well sample formed on the n-Si substrate. The measured channel current was found to be two orders of magnitude greater than that without a cover.



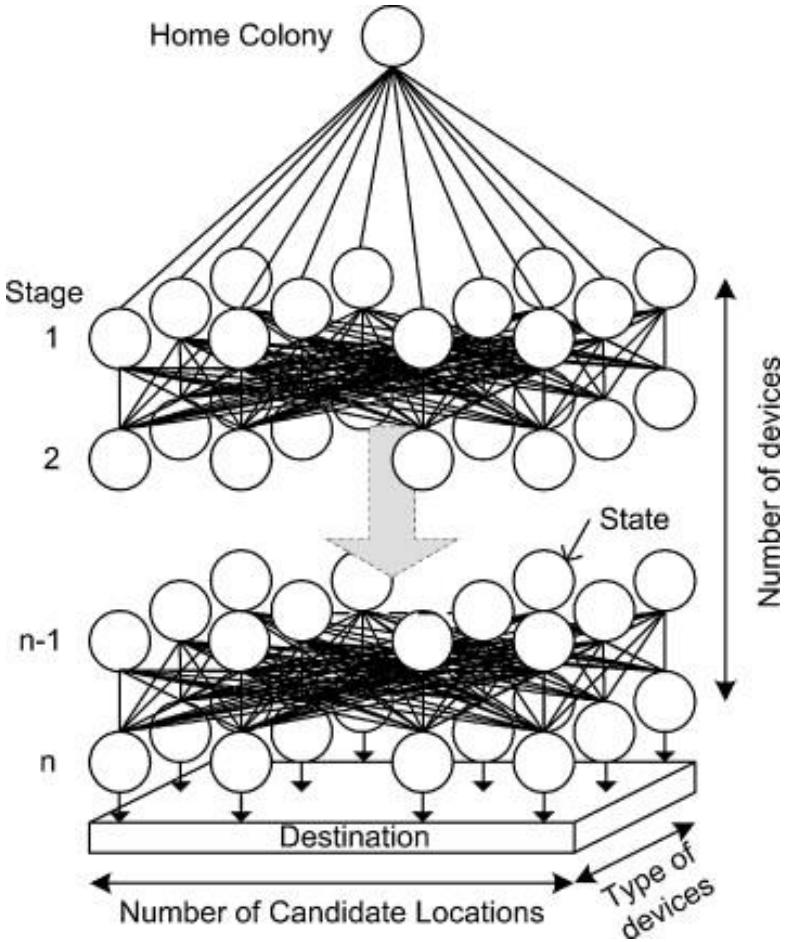
Journal's impact factor around 30

Signal Processing Research



Power & Energy Systems Research

Application of Ant Colony Optimization in designing a power system



One faculty member extensively worked in

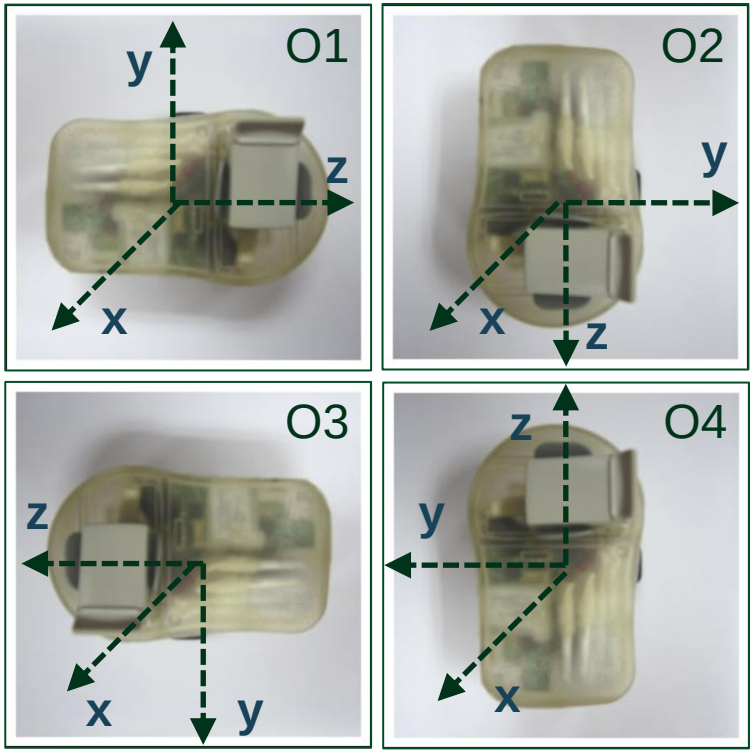
TAIST Tokyo Tech Research Topics

TAIST Tokyo Tech Research

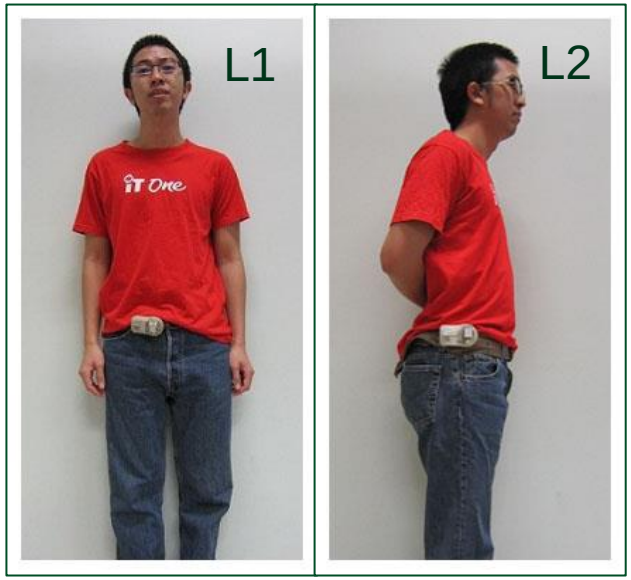
A Semantic-Based Reasoning Framework for Pervasive Sensing

A 3D accelerometer placed on a Pulse Oximetry (SpO_2) sensor

Sampling rate: 5o Hz

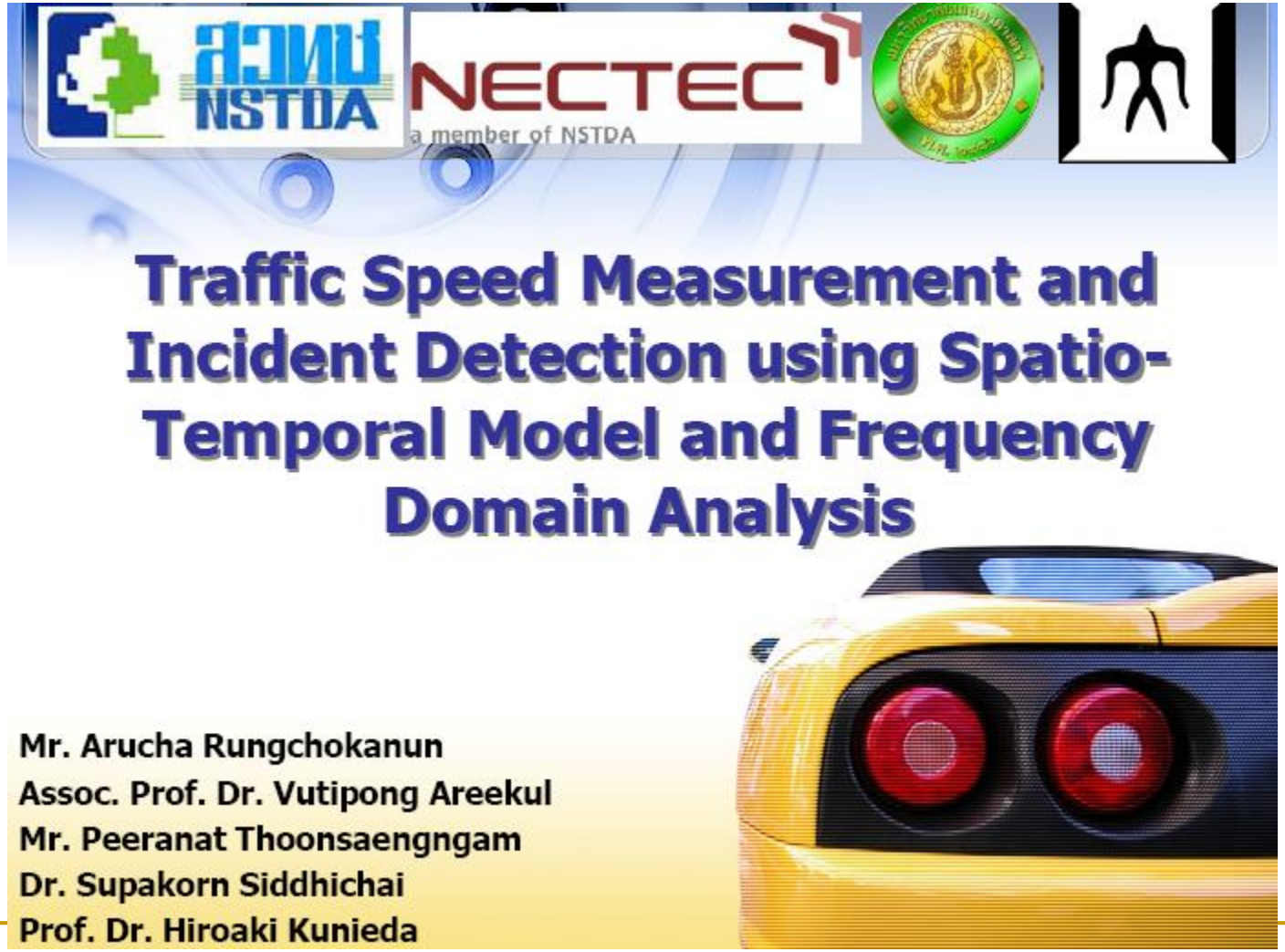


Four device orientations



Two device locations

Traffic Speed Measurement and Incident Detection

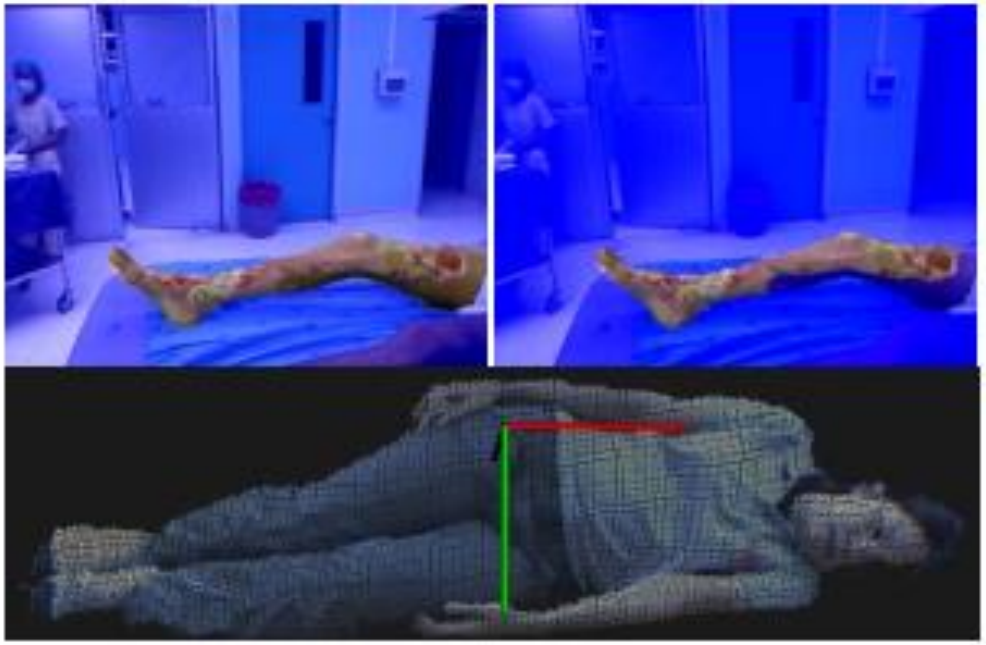


Kinect Application – Image Processing

Kinect Quality Enhancement for Triangular Mesh Reconstruction with a Medical Image Application

Young Investigator Award from IRNet

Amornrat Kongma, Miti Ruchanurucks, Panjawee Rakprayoon (KU), Teera Phatrapornnant (NECTEC), Yasuharu Koike (Tokyo Tech), Ikuhisa Mitsugami (Osaka University), Siriluck Kullawaniteewat (Nopparat Rajathanee Hospital), Hanim Maria (Institut Teknologi Sepuluh Nopember)

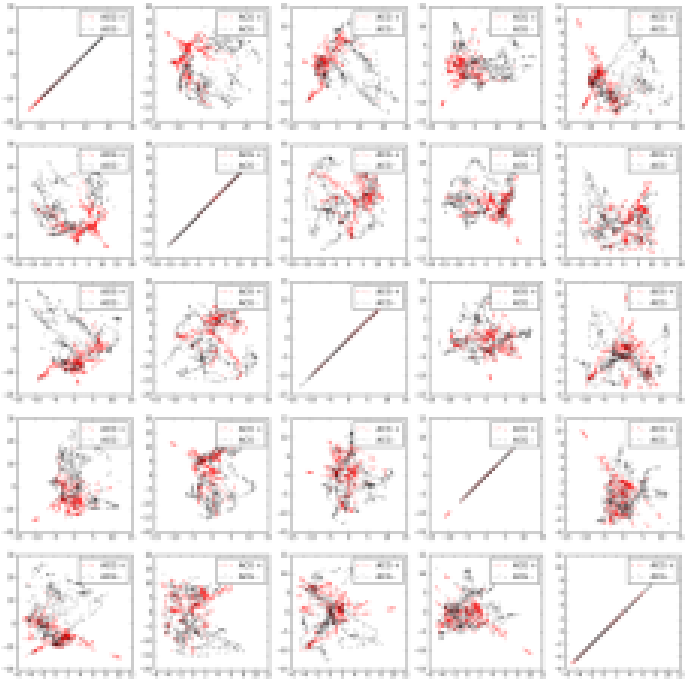


Medical Image Processing with Eye Image

Enhancement of Van HERICK's Method for Automatic Diagnosis of Angle-Closure Glaucoma

7th International Conference of Information and Communication Technology for Embedded Systems (IC-ICTES 2016), 20-22 March 2016, Bangkok, Thailand, pp. 7-13.

Ardakani Ilya Sadeghi, Waree Kongprawechnon, Thanaruk Theeramunkong (SIIT), Pished Bunnun (NECTEC), Tsuyoshi Isshiki (Tokyo Tech), Anita Manassakorn (CU)



According to ophthalmological speculations, Angle Closure Glaucoma (ACG) is going to be a major risk to Asian demography's vision in the coming years. Therefore, devising plans and infrastructures to encounter this hazardous sight disease gained higher priorities. One of the challenges, is the ability to provide the screening and diagnosis facilities for remote, and unprivileged areas. As a solution, a relatively portable platform of automatic ACG screening is designed and developed by National Electronics and Computer Technology Center (NECTEC), a member of National Science and Technology Development Agency (NSTDA).

Energy Consumption Analysis

ANN Approach for Predicting Economic Trends based on Electric Energy Consumption during Natural Disaster Period

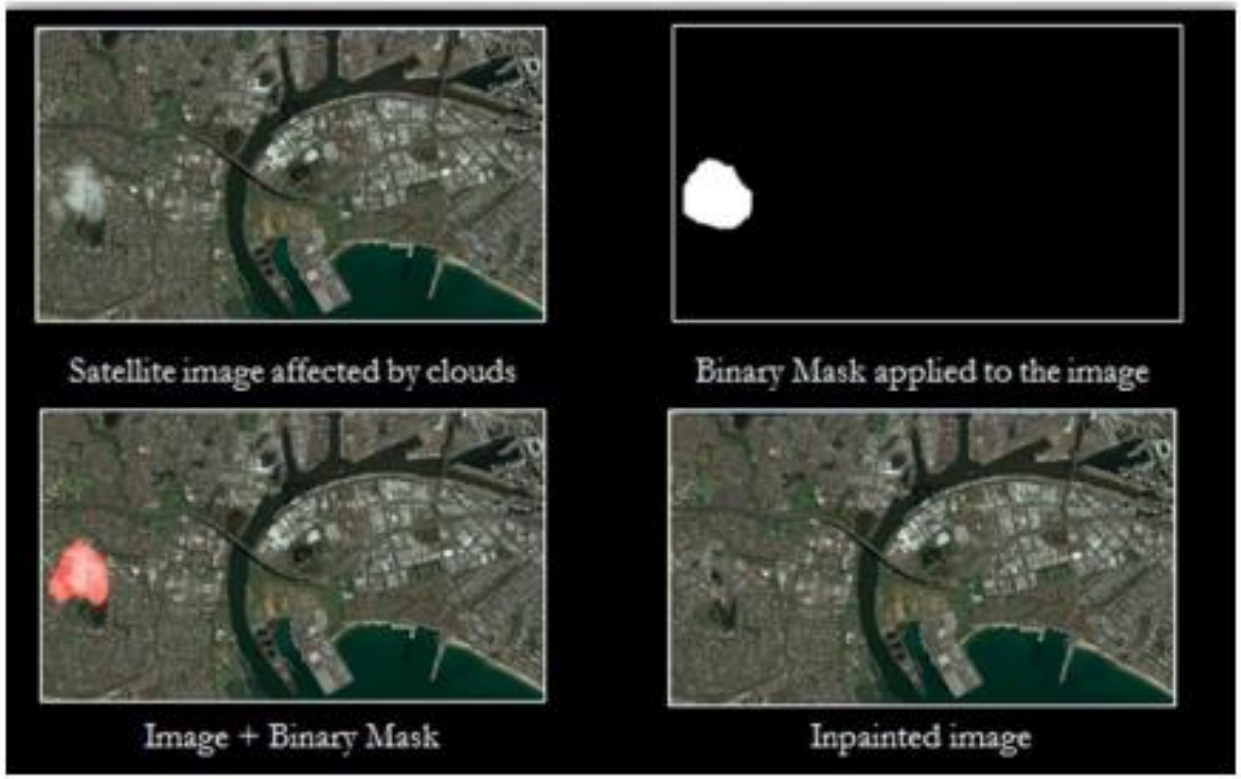
The eleventh 2016 International Conference on Knowledge Information and Creativity Support System (The KICSS 2016)

Akanit Kwangkaew, Virach Somlertlamvanich (SIIT, TU), Siriya Skolthanarat (NECTEC), Itsuo Kumazawa (Tokyo Tech)

Remote Sensing Application

Performance Evaluation of Different Image Inpainting Techniques and Identification of Inpainting in Remotely Sensed Images using Neural Networks

Luqman Ali, Teerasit Kasetkasem (KU), Thitiporn Chanwimaluang (NECTEC), Hiroki Nakahara (Tokyo Tech)



List of thesis and research topics (I)

- **Human Language Technology and Its Embedded System**
  - NECTEC: Ananlada Chotimongkol, Chai Wutiwiwatchai, Prakasith Kayasith, Premnath Dubey, Thepchai Suprithi
  - Tokyo Tech: Takao Kobayashi, Manabu Okumura, Takahiro Shinozaki
  - SIIT-KU: Thanaruk Theeramunkong, Virach Sornlertlamvanich
- **Power Electronics, Control Systems and Manufacturing Systems**
  - NECTEC: Jiittiwut Suwatthikul, Natchpong Hatti, Nattapon Chayopitak, Siriya Skolthanarat, Udom Lewlomphaisarl, Wutthiphat Covanich
  - Tokyo Tech: Hideaki Fujita, Makoto Hagiwara
  - SIIT-KU: Waree Kongprawechnon, Kiatiyuth Kveeyarn, Trin Saengsuwan, Vichai Surapatana, Dulpichet Rerkpraeedapong, Parnjit Damrongkulkamjorn, Siriroj Sirisukprasert, Komsan Hongesombut, Jantanee Rungrangpitayagon, Weerawoot Kanokbannakorn, Siwapon Srisonphan
- **Wireless Communication and Its Applications**
  - NECTEC: Kamol Kaemarungsi, Phisanu Duangtanoo, Sornthep Vannarat, Waranyoo Phiwthongkham
  - Tokyo Tech: Ryutaro Matsumoto
  - SIIT-KU: Somsak Kittipiyakul, Wachira Chongburee
- **Image Processing, Computer Vision and Its Embedded Systems**
  - NECTEC: Pished Bunnun, Teesid Leelasawassuk
  - Tokyo Tech: Hirohiko Kaneko, Itsuo Kumazawa
  - SIIT-KU: Stanislav S. Makhanov, Bunyarit Uyyanonvara, Toshiaki Kondo, Natsuda Kaothanthong, Vutipong Areekul, Srijidtra Charoenlarpnopparut, Teerasit Kasetkasem, Somying Thainimit

List of thesis and research topics (II)

- **Signal Processing and Its Embedded System**
  - NECTEC: Chusak Thanawattano
  - Tokyo Tech: Kazuhiko Fukawa, Nobuhiko Sugino,
  - SIIT-KU: Poonlap Lamsrichan, Ekachai Phaisangittisagul, Pisut Raphisak
- **Integrated Circuit, Embedded System Design and Real Time System**
  - NECTEC: Teera Phatrapornnant
  - Tokyo Tech: Yuko Hara-Azumi, Tsuyoshi Isshiki, Hiroki Nakahara, Atsushi Takahashi, Shuichi Ueno,
  - SIIT-KU: Natavut Kwankeo, Chugiat Garagate, Dusit Thanapatay, Patamaporn Sripadungtham, Nithiphat Teerakawanich
- **Geographical Information System and Location-based**
  - Tokyo Tech: Shigeru Kakumoto
  - SIIT-KU: Teerayut Horanont, Mongkol Raksapatcharawong
- **Information and Communication Theory and Application**
  - Tokyo Tech: Tomohiko Uematsu, Katsunori Yamaoka
  - SIIT-KU: Chalie Charoenlarpnopparut, Komwut Wipusitwarakun, Nirattaya Khamsemanan, Gun Srijuntongsiri, Prapun Suksompong, Usana Tuntoolavest, Denchai Worasawate, Woradorn Wattanapanitch

List of thesis and research topics (III)

- **Human Information Processing**
  - Tokyo Tech: Yasuharu Koike
- **Human Interface, Virtual Reality and Haptics**
  - Tokyo Tech: Shouichi Hasegawa, Takamichi Nakamoto, Natsue Yoshimura
- **Sensor Network and Applications**
  - NECTEC: Khongpan Rungprateepthaworn
- **Agricultural application and Its Embedded System**
  - NECTEC: Rachaporn Keinprasit,
- **Software Engineering and Embedded Programming**
  - NECTEC: Rangsarit Vanijjirattikhan
- **Knowledge Engineering and Expert System**
  - SIIT-KU: Ekawit Nantajeewarawat, Cholwich Nattee, Pakinee Aimmanee, Nguyen Duy Hung
- **Robotics and Mechatonics**
  - SIIT-KU: Itthisek Nilkhamhang, Miti Ruchanurucks, Chowarit Mitsantisuk, Kanjanapan Sukvichai
- **Microelectronics, Electromagnetic Wave, and Antenna**
  - SIIT-KU: Banlue Srisuchinwong, Nattaka Homsup, Waroth Kuhirun, Wiroonsak Santipach

Thesis and research example

Thesis Title
Mining Translation Pairs
About Traffic Event Reporting System
Towards a BSN-based gesture interface for intelligent home applications
Robust Image Processing in Embedded Systems
Development of an image stabilization for ophthalmic diagnosis and treatment
Text analysis for Thai text-to-speech synthesis system on embedded device
Speech Synthesizer for Thai Text-to-speech (ITS) system on embedded device
Computer vision (Body Scan) - Sterio Camera Image Matching

Thesis and research example

Thesis Title
Automatic Tele-Diagnostic System of Cardiac Sound.
High Performance of Eddy-current Dynamometers with FEL Controller
Portable Ultrasound Image Acquisition on Notebook PC
Automatic Tele-Diagnostic System of Codiac Sound
Downsizing Speech Recognition System for Embedded System

Thesis and research example

Thesis Title
ECG Paper Conversion Prototype
Estimation of alcohol percentage in gasoline-ethanol blended fuel by using artificial neural network
Modeling and Control of Linear PM Motors
Auto-calibration of stereo vision cameras for 3D body scan system
Wireless Dam Environmental Monitoring System
Data Compression in Wireless Sensor Network with Centralized Messaging
Design and Development of a Smart Data Logger for Hydrological Monitoring System

Thesis and research example

Thesis Title
Embedded Multi Sensor for hydrological Monitoring systems.
H∞ Loop Shaping Controller Design for Rejecting Disturbance on CNC Machine
The RoIP system prototype for Emergency Communication via IPSTAR Broadband Internet
An Automatic Fertilizer Applicator Using a GIS Database
Image processing for real-time fertilizer in agricultural field operations
Rainfall Pattern Estimate in Thailand Using FY2-C Satellite Data

Thesis and research example

Gesture analysis and development of an assistive device for speech-impaired disabilities
On-Line Thai Handwriting Recognition using the Novel RNN-based recognizer
Mobile Phone Touch Screen Keyboard Improvement
Research on Assistive Technology using Object Tracking
Recommending Thai news with the aid of twitter
The development of a context sensing system on iPhone.
Automatic Hemorrhage Detection for Diabetic Retinopathy

Thesis and research example

ECG data analysis and classification of ventricular and supraventricular tachycardia.
Design a framework for automated generation of database schema and streaming data obtained from BSN into the database.
Vessel Detection on Infant Retinal Image
Scaling the size of the object using active stereo camera
A semantic-based reasoning framework for pervasive sensing
Traffic Tracker System from Traffic Surveillance Camera

Thesis and research example

GPS Accuracy Enhancement Using Image Analysis
MEMS Scanner Application for Microscope
Data compression in multi-hop wireless sensor network
Study And Hardware Implementation of Data Compression For Ultrasound Imaging
Planar surface area estimation using camera and orientation sensor
Asynchronous and Non-invasive EEG signal in Brain-Machine Interfaces (BMIs) for Environmental Control
Fault diagnosis in Electrical System using wavelet transform
Crop classification in Thailand using Video Image Analysis
Traffic Incident Detection

Other Supports

- Thesis support from university (depend)
- Library (each university + NSTDA)
- Online resource (each university web site)
- English course
- NSTDA Scholarship

AIoT 2020 joint with iSAI-NLP 2020

https://isai-nlp-aiot2020.aiat.or.th/

This year's program (2022) is coming soon.

isai-nlp-aiot2020.aiat.or.th

The 15th International Symposium on Artificial Intelligence and Natural Language Processing (iSAI-NLP 2020) and International Conference on Artificial Intelligence & Internet of Things (AIoT2020)

November 18 - 20, 2020

Bangkok, Thailand

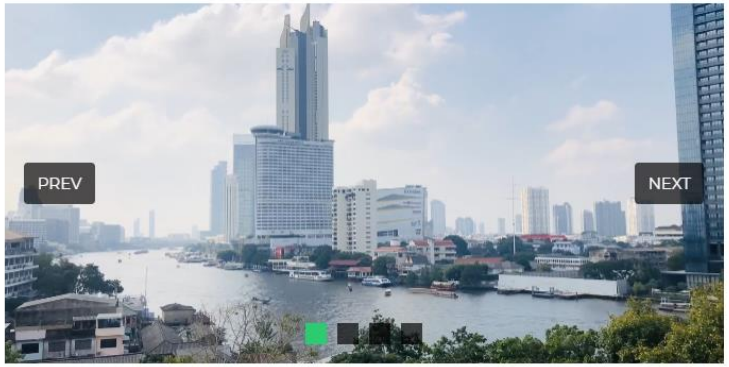
Program | Session Tracks | Submission & Registration | Organization | Destination Guides | Contact Us

The 15th International Joint Symposium on Artificial Intelligence and Natural Language Processing (iSAI-NLP 2020) and The International Conference on Artificial Intelligence and Internet of Things (AIoT 2020)

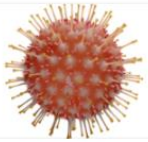
November 18 – 20, 2020, Bangkok, Thailand

iSAI-NLP 2020 aims to facilitate technology and knowledge exchange international researchers/scholars in the field of artificial intelligence and natural language processing. The iSAI-NLP 2020 will cover a board range of research topics in natural language processing, data analytic, machine learning, robotics, Internet of things, embedded systems, signal, image, speech processing and smart industrial technology.

AIoT 2020 aims to provide an international forum for researchers and industry practitioners. Our goals are to share their new ideas, original research results and practical development experiences related to artificial intelligence, smart technology, internet of things, and embedded system-related areas. The conference calls for research papers reporting original investigation results of



News Update



COVID-19 Planning

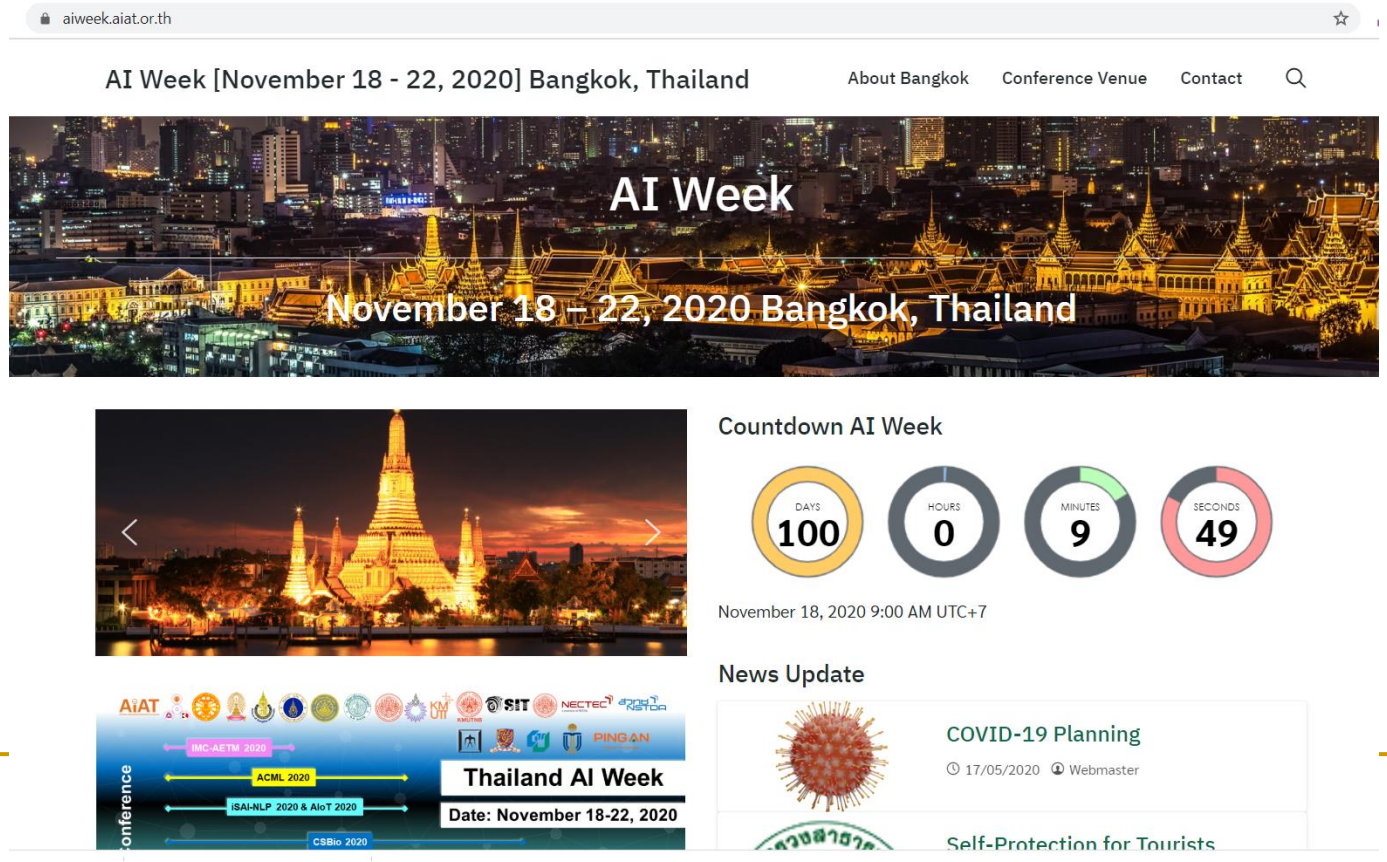
17/05/2020

Get to know COVID-19

22/04/2020

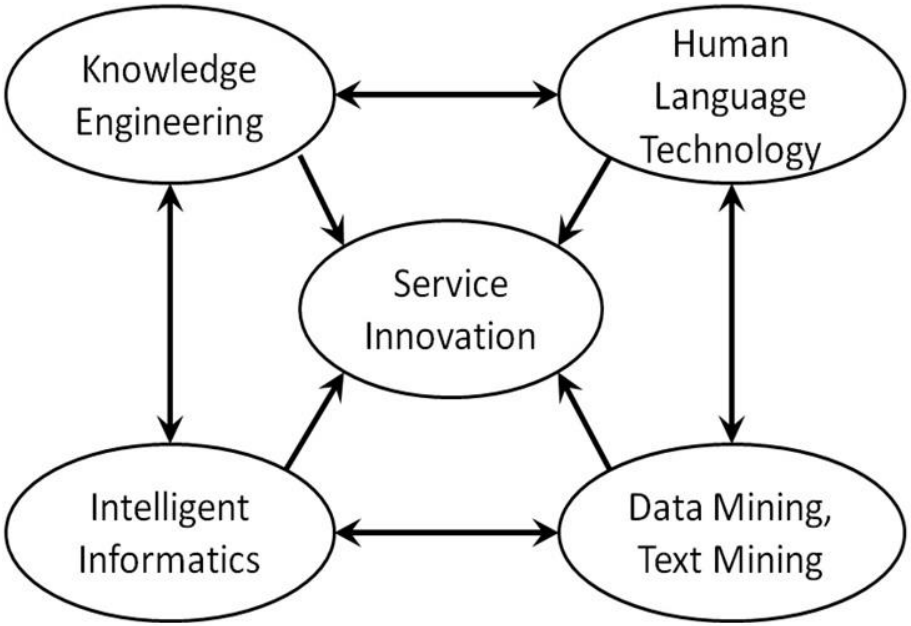
Recent Change

- Change from ICTES to AI&IoT
- Change the conference from ICICTES to AI&IoT and joint with iSAI-NLP 2020



Intelligent Informatics and Service Innovation

Goal: To be a leading research unit focusing on knowledge discovery and representation, and its application in service science



Functions and Responsibilities

1. Conduct fundamental research towards the advancement in the field of artificial intelligence, esp. knowledge discovery and knowledge representation
2. Produce high quality graduates to support the knowledge and service industry
3. Acquire funding for sponsored research

Dynamic Networks (DynaNet) Research Unit

Asst. Prof. Dr. Prapun Suksompong

Asst. Prof. Dr. Somsak Kitipiyakul

Focus: Developing novel methods in Dynamic networking environments

Members:

- 4 professors
- 13 graduate students (9 Ph.D, 4 Master)

Current Research Area:

- Sensor networks
- Mobile ad-hoc and vehicular networks
- Network virtualization
- Peer-to-peer and overlay networks
- Smart Grid
- Cognitive Radio networks

Faculty Members of EE, Kasetsart

Wachira Chongburee

Natavut Kwankeo

Teerasit Kasetkasem

Miti Ruchanurucks

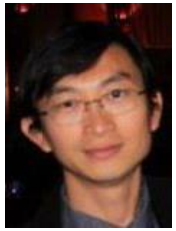
Denchai Worasawate

Usana Tuntoolavest

Pisut Raphisak

Siriroj Sirisukprasert

Thanakorn Khongdeach



Phunsak Thiennviboon

Poonlap Lamsrichan

Mongkol Raksapatcharawong

Waroth Kuhirun

Wiroonsak Santipach

Vutipong Areekul

Nuttaka Homsup

Watcharee Verrakachen

Srijidtra Charoenlarpnopparut

Somying Thainimit

Terapass Jariyanorawiss

Sirivat Poonvasin

Faculty Members of EE, Kasetsart

Ekachai Phaisangittisagul

Siwapon Srisonphan

Goonpawa Jamornmarn

Chugiat Garagate

Dusit Thanapatay

Busara Piriyanont

Dulpichet Rerkpreedapong

Nithiphat Teerakawanich

Weerawoot Kanokbannakorn

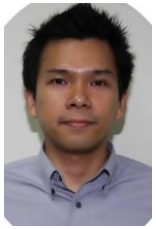
Kiatiyuth Kveeyarn

Trin Saengsuwan

Parnjit Damrongkulkamjorn

Yuthasak Urathamakul

Vichai Suraphat

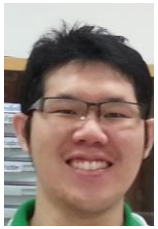


Sanchai Dechanupaprittha

Patamaporn Sripadungtham

Komsan Hongesombut

Sanee Tangsatit



Natthawut Chintaned

Peerayot Sanposh

Kanjanapan Sukvichai

Jantanee Rungrangpitayagon

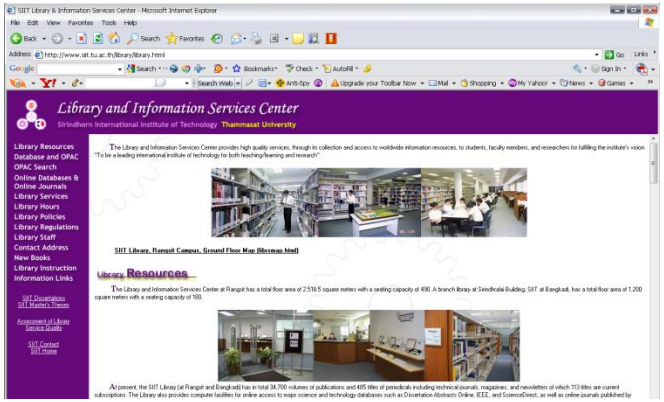
Chowarit Mitsantisuk

UNIVERSITY ENVIRONMENT

SIIT – School of Information, Computer and Communication Technology

- **20 faculty members in the fields of Power, Electronics, Control, Computer Science and Information Technology.**
- **Around 400 and 90 undergraduate and graduate students, respectively.**

SIIT Facilities

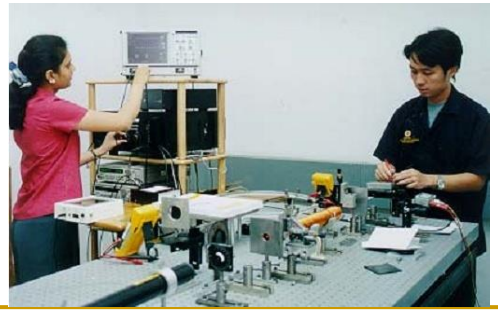


- **Library**
- **Computer Center**
- **Computer/Networking Labs**
- **Power/Electronic/Control/Communication Labs**
- **Research Laboratories**

Computer Lab. (Macintosh)

Networking Lab. (Macintosh)

Electronics/Feedback/Digital Circuit Lab.



Optical communication Lab.

KU – Electrical Engineering Department

- **50 faculty members in the fields of Power, Electronics, Control and Communication.**
- **Around 500 and 100 undergraduate and graduate students, respectively.**

Thanks and Welcome

Thanks to Supporters for Continuous Support on TAIST Tokyo Tech ICTES and AI&IoT program

NSTDA

Tokyo Institute of Technology

SIIT, Thammasat University

Kasetsart University

ICTES and AI&IoT Students, Welcome to TAIST Tokyo Tech Program