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RESEARCH INTERESTS	<i>Machine Learning, Artificial Intelligence, Natural Language Processing and Computer Vision</i>	
EDUCATION	Chulalongkorn University , Bangkok, Thailand <i>Bachelor of Engineering, Computer Engineering</i> <i>First Class Honors (Rank: 5/115)</i> Graduated in July, 2019	GPAX: 3.90/4.00
TECHNICAL SKILLS	C/C++, Python, Java, Prolog, PHP, JavaScript, HTML, CSS, SQL, ReactJS, NodeJS, Git, Flask, MongoDB, Docker	
WORK EXPERIENCE	Software Engineer (Graduate Trainee) <i>Refinitiv — Thomson Reuters — Thailand</i>	Jun 2019 - Present
	<ul style="list-style-type: none"> Develop readable and maintainable code for a global-scale inter-bank foreign exchange system. Integrate post-trade deal tracker service with Thomson Reuters' existing modules to build a novel cloud-based FinTech solution. Work as a team player based on agile methodology across diverse cultures. 	
	Teaching Assistant <i>Faculty of Engineering — Chulalongkorn University — Thailand</i>	Feb 2019 - May 2019
	<ul style="list-style-type: none"> Assisted Assoc. Prof. Atiwong Suchato in teaching 2110221 Computer Engineering Essentials. Prepared materials as well as graded several coursework items. Helped students with their in-class activities. 	
	Research Intern <i>Numao Laboratory — Osaka University — Japan</i>	May 2018 - Jul 2018
	<ul style="list-style-type: none"> Worked in a research lab with Prof. Masayuki Numao as my supervisor. Applied machine learning techniques, e.g. CNN and SVM, to recognize emotions from brainwave patterns. Was involved in some parts of signal processing using EEGLAB. 	
	Part-time Physics Tutor <i>Private Tutor — Thailand</i>	Aug 2015 - Nov 2015
	<ul style="list-style-type: none"> Taught physics individually to a high school student to improve his physics grade. Prepared didactic materials for each session. 	
PUBLICATIONS	Subject-Independent Emotion Recognition During Music Listening Based on EEG Using Deep Convolutional Neural Networks <i>Panayu Keelawat, Nattapong Thammasan, Boonserm Kijisirikul, Masayuki Numao</i> IEEE International Colloquium on Signal Processing & Its Applications (CSPA), 2019	
	Spatiotemporal Emotion Recognition using Deep CNN Based on EEG during Music Listening <i>Panayu Keelawat, Nattapong Thammasan, Masayuki Numao, Boonserm Kijisirikul</i> arXiv preprint arXiv: 1910.09719	
SELECTED PROJECTS	EEG-based Emotion Recognition During Music Listening <ul style="list-style-type: none"> Applied ML techniques to brainwaves retrieved from frontal lobe with a will to gain more insights from emotion recognition problem in EEG induced by music. Focused on subject-independent and subject-dependent emotion recognition regarding hemispheric differences by using CNN to obtain spatiotemporal inputs. 	

Cloud Speech-to-Text Service Benchmarking for Companies in Thailand

- A small research project of 2110498 Cloud Computing Technologies.
- Compared English speech-to-text services among Amazon Transcribe, Microsoft Azure Cognitive Service and Google Cloud Speech API.
- Analyzed and reported results with respect to metrics, such as accuracy, execution time and pricing.
- Link to blog (in Thai): <https://medium.com/@chaluviengchai/speech-to-text-aws-transcribe-vs-google-cloud-speech-api-vs-microsoft-azure-cognitive-f854d4087fdb>

Vision-based Crowd Density Reporting System

- Combined ML and Internet-of-Things (IoT) to produce a real-time crowd density reporting application.
- Developed a mobile application compatible with both iOS and Android.
- Deployed and tested in cafeteria, Faculty of Engineering.
- Received 1st runner-up in national IoT competition.

CU Event Hub

- Gathered all events in Chulalongkorn University (CU) into one place.
- Led backend team which covered both development and deployment on cloud.

DisSysSparta

- A part of 2110318 Distributed Systems Essentials.
- Created a chat website incorporating seamless fault tolerance employing primary and secondary nodes.

AWARDS AND HONORS

Best Presenter

CSPA 2019, Penang, Malaysia

Presented my research work on EEG-based emotion recognition during music listening at an international IEEE conference.

1st runner-up, IoT track, National Software Contest 2019

National Electronics and Computer Technology Center (NECTEC), Bangkok, Thailand

Integrated ML and sensor data to construct Vision-based Crowd Density Reporting System. Utilized CSRNet to perform the evaluation, and reported results via mobile application built with React Native.

1st runner-up, CU Toyota Ha:mo Open Innovation Contest 2019

Toyota Motor Thailand and Chulalongkorn University, Bangkok, Thailand

Created a PoC along with a development plan for ad-hoc network communication to promote safety and ECO driving as a part of electric vehicle. This contest was a collaborative project between Toyota and Chulalongkorn University.

2nd runner-up, AIROBIC 2018

Artificial Intelligence Association Of Thailand (AIAT), Bangkok, Thailand

Joined a hackathon held by AIAT. Created a sentiment-aware chatbot for personalized banking transactions using DialogFlow, Keras, Flask and ReactJS.

CU Savings Coop Scholarship, 2016 - 2019

Chulalongkorn University Savings Cooperative Ltd., Bangkok, Thailand

Received scholarship according to outstanding academic performance in every year.

CERTIFICATION Deep Learning Specialization

By deeplearning.ai on Coursera

Certificate link: <https://www.coursera.org/account/accomplishments/specialization/certificate/HHLPGUG6T83V>