

Achirarat Chottianchaiwat

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Personal Profile

Electrical Engineer with a Master's in Communication Engineering and Bachelor's in Industrial Electrical Engineering (Second-Class Honors). Combines research expertise in molecular communication, convex optimization, and signal processing with hands-on industry experience developing control systems (Toyota), testing GNSS trackers (Keysight), and implementing rail signaling solutions (ALSTOM). Proficient in MATLAB, C, and Python, with a passion for bridging theoretical innovation with practical engineering applications. Seeking a challenging engineering role to further grow and contribute to cutting-edge solutions.

Work Experience

Research Assistant, Molecular Communication Testbed Developer

Oct 2024 - Apr 2025

Resilient Communication Systems, TU Darmstadt

Darmstadt, Germany

- Implementing the offline and real time decoder for molecular communication test kit
- Implementing the Pocket Lab-on-Chip test kit

R&D Software Developer (Internship)

Oct 2022 - Mar 2023

Keysight Technologies Deutschland GmbH

Böblingen, Germany

- Integrating the RTCM/ RTK message from GSG-8 into US-CV2X stack.
- Testing the GNSS tracker for the GSG-8 system.
- Support GSG-8 Lab testing environment

Software Engineer

Sept 2020 - Oct 2021

ALSTOM Transportation Thailand

Bangkok, Thailand

- Software design, implementation, and subsystem integration in the signaling of the CITYFLO650 model (Gold line APM and Pink/Yellow monorail projects in Bangkok, Thailand) using C programming language
- Support site issues for Gold line APM skytrain
- Testing and tuning the train's propulsion and brake for drivability

Software Engineer

Jul 2017 - Aug 2020

Toyota Tsusho Denso Electronics Thailand (TDET)

Bangkok, Thailand

- Analyzing the vehicle function requirement and implementing software for vehicle function using MATLAB & SIMULINK.
- Testing Automotive Software with MILs (Model in the loop) and HILs (Hardware in the loop)
- Responsible as configuration manager to keep track of the software development process, software and paper versions
- Instructor for the software development, MATLAB library usability and software development process for newly graduated members

Q&A Engineer (Internship)

May 2016 - Aug 2016

Siam Kubota Corporation Thailand

Chonburi, Thailand

- Implementing and reading the value of the sensor from the vehicle transmitting to the headquarter at Chonburi, Thailand

Education

MSc. in Communication and Information Engineering

October 2021 - March 2025

Technische Universität Darmstadt

Darmstadt, Germany

- **Master's Thesis:** Optimization of Molecule Mixtures and Cross-Reactive Sensing Arrays in Molecular Communication

BEng. in Industrial Electrical Engineering (Second-Class Honors.)

May 2013 - May 2017

Thammasat University

Patumtani, Thailand

- **Bachelor's Thesis:** "Vehicle Datalogger" published in The 40th Electrical Engineering Conference (EECON-40), Thailand

Skills

Programming	MATLAB/ SIMULINK (Advanced), Python (Proficient), C/C++ (Proficient), SQL (Intermediate), LabView (Intermediate)
Miscellaneous	Linux, Shell (Bash/Zsh), Microsoft Office, Git, SVN, Jira, DOORS, Networking, AI, AUTOSAR, V2X
Soft Skills	Time Management, Teamwork, Problem-solving, Documentation, Engaging Presentation.

Languages

English	Full Professional proficiency (C1)
German	Intermediate (B1)
Thai	Native proficiency
Japanese	Intermediate (A2)

Achievements

2020	The representative of TDET company to attend the Capability Maturity Model Integration (CMMI) exam
2020	The representative of TDET company to attend “Denso’s Global New Year Message Event, Bangkok, Thailand”
2019	Earned the first-runner up award of TDET programming contest round 2/2019
2019	Attended the R&D meeting for developing new automobile functionalities at Denso’s Japan headquarters.
2016 - 2017	Elected as a student committee of the TU-PINE engineering program
2015	Elected as the area team leader in the Cheer club for the CU-TU traditional Football Match
2014	The representative of the faculty for joining the Robot design contest at Faculty of Engineering, Chulalongkorn University
2013 - 2017	Certificate of Academic Excellence, Faculty of engineering Thammasat university, 8 semesters of studying

Certificates

05/2021	Programming a Quantum Computer with Qiskit, Coursera Project Network
05/2021	Convolutional Neural Networks, deeplearning.ai
04/2021	Structuring Machine Learning Projects, deeplearning.ai
03/2021	NDG LINUX SERIES, NDG
01/2021	The Bits and Bytes of Computer Networking, Google
05/2020	Mathematics for Machine Learning: Linear Algebra, Imperial College London
05/2020	Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization, deeplearning.ai
04/2020	Neural Networks and Deep Learning, deeplearning.ai
04/2020	Introduction to Programming with MATLAB, Vanderbilt University
04/2020	Crash Course on Python, Google
02/2020	Essential SQL for Everyone, Born to Dev
11/2019	Learning LabVIEW, LinkedIn Learning
10/2019	Mind at work, Denso Training Academy
09/2019	On The Job Training (OJT), Denso Training Academy
07/2019	Python for Data Science, AI & Development, IBM

References available upon request.