

Asst. Prof. Dr. Sarucha Yanyong

Lecturer

Department of Robotics and AI, School of Engineering
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Nationality Thai
Date of Birth 2 January 1990

Professional Experience

- 2026.01 - Present **Assistant Professor**
Department of Robotics and AI, School of Engineering, King Mongkut's Institute of Technology Ladkrabang, Bangkok, Thailand
- 2026.03 - 2026.09 **Industrial Consultant (Agentic AI Systems)**
Seagate Technology (Thailand) Ltd., Teparak Plant
- Triple Helix Project (PMU-B & Seagate & KMITL Collaboration)
- 2025.09 - 2025.11 **Visiting Researcher, Wafer Process Technology Training**
Seagate Technology, Springtown Site, Northern Ireland, United Kingdom
- Triple Helix Project (PMU-B & Seagate & KMITL Collaboration), Year 1
- 2023.06 - 2026.01 **Full-time Lecturer**
Department of Robotics and AI, School of Engineering, King Mongkut's Institute of Technology Ladkrabang, Bangkok, Thailand
- Courses taught: ARTIFICIAL INTELLIGENCE (Graduate program), MOBILE ROBOTS, MICROPROCESSOR AND INTERFACE, and ADVANCED COMPUTER PROGRAMMING.
- 2022.12 - 2023.03 **Visiting Researcher**
Multimedia Computing Systems Laboratory, Sungkyunkwan University (SKKU), Seoul, Republic of Korea
- 2019.08 - 2022.12 **Adjunct Lecturer and Researcher**
King Mongkut's Institute of Technology Ladkrabang, Bangkok, Thailand
- Courses taught: Computer Programming and Mobile Robot.
- 2020.11 - 2022.10 **Software Engineer/Consultant**
Foster Engineering Co., Ltd., Bangkok, Thailand
- Developed web-based inventory management and data analytics systems for chemical manufacturing clients, including Unilever.
- Consulted on Docker-based deployment, data-transformation pipelines, and machine learning-based predictive control.
- Technologies: SAP, Docker, MongoDB, Microsoft SQL Server, PostgreSQL, NodeJS, Python, ReactJS, Windows Server, VMware vSphere, Wonderware InBatch, and SCADA platforms.
- 2014.10 - 2019.02 **Application Engineer**
Bombardier Transportation Signal Thailand Ltd. (now ALSTOM)
- Developed a Python-based automated testing framework for interlocking applications.
- Work package leader for Interlocking Application Development under the CITYFLO650 moving-block solution.
- Projects: MRT Purple Line (CITYFLO650), Thailand; BTS Green Line Extension (CITYFLO450), Thailand; Durban Re-signalling (CITYFLO200), South Africa; and Rail Systems Alliance CITYFLO650, Melbourne, Australia.

Publications

- 2025 **Experimental realization of PSO-based hybrid adaptive sliding mode control for force impedance control systems**
Sarucha Yanyong and Somyot Kaitwanidvilai. Results in Control and Optimization, 19, 100548.
- 2024 **Localization for Outdoor Mobile Robot Using LiDAR and RTK-GNSS/INS**
Thepsit Thepsit, Poom Konghuayrob, Anakkapon Saenthon, and Sarucha Yanyong. Sensors and Materials, 36(4), 1405-1418.
- 2024 **Hybrid Deep Learning and FAST-BRISK 3D Object Detection Technique for Bin-picking Application**
Taweesoontorn Taweesoontorn, Sarucha Yanyong, and Poom Konghuayrob. Sensors and Materials, 36(4), 1389-1404.
- 2023 **Autonomous Modular Harvesting System for Vertical Aeroponic Farming**
Asnapetch Panit, Ruangrit Chalermpong, Tongsri Napat, Dissanayaka Supuni, and Sarucha Yanyong. IEEE ROBIO 2023.
- 2023 **A Novel Robust Adaptive Control for PMDC Servo Motor Incorporating Recursive Least Square and Particle Swarm Optimization**
Sarucha Yanyong and Somyot Kaitwanidvilai. IMECS 2023.
- 2023 **Adaptive Force Control Using a Standard Deviation-based Hybrid Approach**
Maethinee Songthai, Sarucha Yanyong, and Somyot Kaitwanidvilai. IMECS 2023.
- 2023 **Energy Prediction of Cleanroom-type Differential Drive Mobile Robot Based on Recurrent Neural Network**
Sarucha Yanyong, Poom Konghuayrob, and Somyot Kaitwanidvilai. Sensors and Materials, 35.
- 2023 **Sensor Fusion of Light Detection and Ranging and iBeacon to Enhance Accuracy of Autonomous Mobile Robot in Hard Disk Drive Clean Room Production Line**
Sarucha Yanyong, Somyot Kaitwanidvilai, Rattapoom Parichatprecha, and Poom Konghuayrob. Sensors and Materials, 35.
- 2013 **PSO based adaptive force controller**
Somyot Kaitwanidvilai, Sarucha Yanyong, and Anakkapon Saenthon. IMECS 2013.
- 2011 **Hybrid adaptive impedance force controller using bang-bang and particle swarm optimization approaches**
Sarucha Yanyong and Somyot Kaitwanidvilai. IEEE-ROBIO 2011.

Awards and Scholarships

- 2024 - Won 1st prize, Japan RoboCup Logistics League.
- 2023 - Best Paper Award, 2023 IAENG International Conference on Electrical Engineering.
- Won 1st prize and best technique, Mobile Robot for Logistics Major League, Roboinnovator Challenge 2023.
- 2022 - Gold Award, IoT Device category, 18th Asian Conference on Computer Aided Surgery and Medicine (ACCAS 2022), for the IoT-based Oxygen High Flow device.
- 2019 - Graduate Scholarship, Thailand Research Fund (TRF).
- 2010 - Outstanding Service Award, university-nominated award for Vice President of Robot Club, Faculty of Engineering, KMITL.

Invited Speaker and Professional Training Experience

- 2026.06 **Invited Lecturer, Machine Vision Training**
THAI-SMART Triple Helix Project (PMU-B, Seagate, and School of Engineering, KMITL)

2026	Invited Lecturer, Predictive Maintenance & Agentic AI Intelligent Automation Skills Development Project, depa Digital Manpower Fund - Three cohorts: Mar 21-22, Apr 6-7, and Apr 29-30.
2025	Invited Lecturer, AI/ML Training Program for Machine Learning and Semiconductor Workforce Development PMU-B
2025	Invited Lecturer, AI/ML and Large Language Models (LLMs) Seagate Technology (Thailand)
2025	Invited Speaker, AI Visionaries: Leading the Future of Intelligence for Executive Dialogue Datalytics.ai, Malaysia Digital
2025	Invited Speaker, Application of AI and Robotics Tools in Education Coding Thailand Project, Digital Economy Promotion Agency (depa), Lower Northern Region, Phitsanulok
2025	Invited Lecturer, Mobile Robot Training ROS Thailand Open
2024	Invited Speaker, Smart City Forum: Innovative and Livable City for All Ministry of Higher Education, Science, Research and Innovation (MHESI) and Bangkok Metropolitan Administration
2024	Invited Lecturer, Edge AI Workshop Arduino Day 2024
2024	Invited Lecturer, Autonomous Mobile Robot Fundamentals (Secondary Education Level) Maker Lab, CIC Skill Development and Learning Center, Phuket
2023	Invited Lecturer, Image Processing and AI Training Provincial Police Region 2
2020	Invited Lecturer, Non-Degree Program: Mobile Robot Robotics and AI Engineering, School of Engineering, KMITL
2020	Invited Lecturer, Computer Vision Training Hutchison Ports Thailand
2020	Invited Lecturer, Internet of Things (IoT) Training Hutchison Ports Thailand

Research and Development Project Experiences

2023 - 2024	Machine Learning-Assisted Pet Food Vending Machine Funded by King Mongkut's Institute of Technology Ladkrabang. Role: AI Researcher.
2023 - 2024	Intelligent Anti-robbery Police System in Chachoengsao Funded by Program Management Unit Competitiveness (PMUC). Role: AI Researcher.
2022 - 2023	Development of Smart and Green Damping Block for Noise Reduction of Railway Track (Eco-Smart Damping Block) Funded by Program Management Unit Competitiveness (PMUC). Role: Researcher (IoT and Smart System).
2022 - 2023	The Autonomous Food Serving Robot on Train Funded by Program Management Unit Competitiveness (PMUC). Role: Researcher (Mobile Robotics).

2020 - 2021	IoT-based Oxygen High Flow device Funded by Thailand National Metal and Materials Technology Center (MTEC). Role: Researcher (Embedded System and Backend).
2020 - 2021	Smart vaccine inventory system Funded by Ministry of Public Health of Thailand. Role: Researcher (Software Developer).
2021	Autonomous UVC robot for COVID-19 sanitizing Funded by KMITL Research and Innovation Services (KRIS). Role: Researcher (Mobile Robotics).
2020	The Autonomous Food Serving Robot for COVID-19 patients Funded by KMITL Research and Innovation Services (KRIS). Role: Researcher (Mobile Robotics).
2019	Cycle time improvement on press machine with adaptive robot system Funded by Yarnapund PCL and Thailand Research Fund (TRF). Role: Researcher (Computer vision and IoT system).
2019	Cassava starch packing improvement with the adaptive palletizing robot system Funded by Northeastern Starch (1987) Co., Ltd. and Thai Research Fund (TRF). Role: Researcher (Control system).
2019	Articulated robot for a car's window drive cable assembly machine Funded by Thai Steel Cable PC (TSC) and National Science and Technology Development Agency (NSTDA). Role: Researcher (IoT system).
2015 - 2019	Autonomous Intelligent Vehicle for cleanroom type Funded by Seagate Technology (Thailand) Ltd. and Thai Research Fund (TRF). Role: Researcher (ROS GUI part).
2014	Visual inspection system for HSA Metrology Funded by Seagate Technology (Thailand) Ltd. Role: Researcher (Computer vision).

Education

2019 - 2023	Doctor of Engineering (D.Eng.) in Electrical Engineering King Mongkut's Institute of Technology Ladkrabang - GPA: 4.00 (Outstanding) - Thesis: Dynamic Energy Efficient Path Planning for Multiple Automatic Intelligent Vehicles in Hard Disk Drive Manufacture.
2012 - 2014	Master of Engineering (M.Eng.) in Electrical Engineering King Mongkut's Institute of Technology Ladkrabang - Thesis: Hybrid Impedance Force Controller using Bang-bang and Particle Swarm Optimization Approach.
2008 - 2012	Bachelor of Engineering (B.Eng.) in Mechatronics Engineering King Mongkut's Institute of Technology Ladkrabang - Vice-president of Robot Club KMITL batch #13. - Internship program at Seagate Technology (Thailand) Co., Ltd.

Skills

Software frameworks and libraries: .NET Framework, NodeJS, ReactJS, NextJS, ElectronJS, FastAPI, Qt, Robot Operating System (ROS), PyTorch, TensorFlow, YOLO, pandas, and XGBoost.
Databases: Microsoft SQL Server, MySQL, PostgreSQL, OpenSearch, and MongoDB.
Data communication: MODBUS Protocol, TCP/IP, Serial, I2C, SPI, and OneWire.
Operating systems: Windows Server (2003, 2008, 2012) and Ubuntu.

Programming languages: C, C++, C#, Python, JavaScript, and HTML.

DevOps tools: Docker, GitLab CI/CD, GitHub Actions, and VMware ESXi.

Embedded platforms: Raspberry Pi 3, BeagleBone Black, STM32, dsPIC, Arduino, and Controllino Arduino for Industrial.

Other software and tools: Wonderware InBatch, MATLAB, and Power BI.