Kasemsit Teeyapan ผศ.ดร. เกษมสิทธิ์ ตียพันธ์

Assistant Professor, Ph.D. · Department of Computer Engineering, Chiang Mai University

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Professional Summary

Assistant Professor at the Department of Computer Engineering, Faculty of Engineering, Chiang Mai University. Current research focuses on forensic odontology and computer vision-based reading of medical devices, alongside broader work in medical image analysis, computer vision, and machine learning.

Education

2012 - 2018
Chiang Mai, Thailand

Ph.D.
Chiang Mai University
Electrical Engineering
Thesis: “Twin Hyper-ellipsoidal Support Vector Classifier”
Advisor: Prof. Dr. Nipon Theera-Umpon

2007 - 2008
Atlanta, GA, USA

M.S.
Georgia Institute of Technology
Electrical and Computer Engineering

2001 - 2005
Chiang Mai, Thailand

B.Eng.
Chiang Mai University
Electrical Engineering (First-class Honors, Gold Medal)

Experience

2026 - PRESENT
Chiang Mai, Thailand

Founder
Pixpulse Innovation Co., Ltd.
A HealthTech startup developing and commercializing PixPulse, computer-vision software that reads bedside patient monitors and converts the displayed vital signs into structured digital data for ICU care.

2018 - PRESENT
Chiang Mai, Thailand

Department of Computer Engineering, Faculty of Engineering, Chiang Mai University
Assistant Professor (Dec 2022 – present)
Lecturer (Jul 2018 – Dec 2022)

2017 - 2017
Leuven, Belgium

Doctoral exchange student
Skeletal Biology and Engineering Research Center, KU Leuven Campus Group T
Worked with Veerle Bloemen on single-cell tracking and image processing.

2009 - 2011
Atlanta, GA, USA

Graduate Research Assistant
Humanoid Robotics Lab, Georgia Institute of Technology
Worked with Mike Stilman to develop Golem Krang, a two-wheeled dynamically-stable humanoid robot, focusing on modeling and control that exploit the robot’s natural dynamics.

2005 - 2005
Ayutthaya, Thailand

Lens production engineer
Nikon (Thailand) Co., Ltd.
Supervised the manufacturing processes of interchangeable lenses.

Publications

International Journals

ISD

Deep learning-based method for estimating age from periapical radiographs of upper incisors in a Thai population
Praewpannarai Khruasarn, Kasemsit Teeyapan, Sangsom Prapayasatok, and Sakarat Nalampang
Imaging Science in Dentistry, Dec 2025

JAMS

Application for acoustic assessment: A pilot study in Parkinson's patients
Worapol Boonyaban, Piyawat Trevittaya, Nipon Theera-Umpon, Kasemsit Teeyapan, Chayasak Wantaneeyawong, and Anuwat Boonsong
Journal of Associated Medical Sciences, Oct 2024

IJERPH

Fuzzy K-nearest neighbor based dental fluorosis classification using multi-prototype unsupervised possibilistic fuzzy clustering via cuckoo search algorithm
Ritipong Wongkhuenkaew, Sansanee Auephanwiriyakul, Nipon Theera-Umpon, Kasemsit Teeyapan, and Uklid Yeesarapat
International Journal of Environmental Research and Public Health, 2023

JIFS

A twin-hyperellipsoidal support vector classifier
Kasemsit Teeyapan, Nipon Theera-Umpon, and Sansanee Auephanwiriyakul
Journal of Intelligent and Fuzzy Systems, Dec 2018

NCA

Ellipsoidal support vector data description
Kasemsit Teeyapan, Nipon Theera-Umpon, and Sansanee Auephanwiriyakul
Neural Computing and Applications, Dec 2017

International Conferences with Full Articles

KST

A Comparative Study of Deep Learning Models for Cabbage Detection and Counting in Drone Imagery
Panyapat Wongdee and Kasemsit Teeyapan
In 2025 17th International Conference on Knowledge and Smart Technology (KST), Feb 2025

CSBio

Deep learning-based approach for corneal ulcer screening
Kasemsit Teeyapan
In The 12th International Conference on Computational Systems-Biology and Bioinformatics (CSBio2021), Oct 2021

ICSEC

Abnormality Detection in Musculoskeletal Radiographs using EfficientNets
Kasemsit Teeyapan
In 2020 24th International Computer Science and Engineering Conference (ICSEC), Dec 2020

ICCSCE

Application of support vector based methods for cervical cancer cell classification
Kasemsit Teeyapan, Nipon Theera-Umpon, and Sansanee Auephanwiriyakul
In 2015 IEEE International Conference on Control System, Computing and Engineering (ICCSCE), Nov 2015

ICRA

Robot limbo: Optimized planning and control for dynamically stable robots under vertical obstacles
Kasemsit Teeyapan, Jiuguang Wang, Tobias Kunz, and Mike Stilman
In 2010 IEEE International Conference on Robotics and Automation, May 2010

Humanoids

Optimized control strategies for wheeled humanoids and mobile manipulators
Mike Stilman, Jiuguang Wang, Kasemsit Teeyapan, and Ray Marceau
In 2009 9th IEEE-RAS International Conference on Humanoid Robots. Best paper award finalist , 2009

Short Peer-reviewed Conference Articles

Twin Support Vector based Classifier using Hyperellipsoids
Kasemsit Teeyapan, Sansanee Auephanwiriyakul, and Nipon Theera-Umpon
In International Conference on Green and Human Information Technology, Jan 2018

Twin Hyperellipsoidal Support Vector Classifier with Instance Reduction
Kasemsit Teeyapan, Sansanee Auephanwiriyakul, and Nipon Theera-Umpon
In International Conference on Information, System and Convergence Applications, Jan 2018

National Journal

การตรวจจับอาการง่วงนอนของผู้ขับขี่รถยนต์โดยใช้เทคนิคการประมวลผลภาพ (Driver Drowsiness Detection using Image Processing Techniques)
ศุภวิชญ์ ละม่อม, นิพนธ์ ธีรอำพน, ศันสนีย์ เอื้อพันธ์วิริยะกุล, and เกษมสิทธิ์ ตียพันธ์
วารสารวิชาการเทคโนโลยีสุขภาพประเทศไทย (Thai Journal of Health Technology), 2022

Research Grants

- **PixPulse: converting vital-sign images into a digital system integrated with electronic medical records (EMR)** — TED Youth Startup, Technology and Innovation-Based Enterprise Development Fund (TED Fund), Ministry of Higher Education, Science, Research and Innovation (MHESI) (2026–present). *Co-investigator.*
- **Innovation in auto-generating vital sign charts from monitor screen images** — Innovation Grant, Faculty of Medicine, Chiang Mai University (2025–2026). *Co-investigator.*
- **Musculoskeletal abnormality detection for upper extremity** — The Murata Science Foundation (2019). *Principal Investigator.*
- **Machine Learning System Prototype for Digital Power Plant** — Electricity Generating Authority of Thailand (2018–2019). *Researcher.*
- **Development of Sound Source Localization and Speech Detection for Dinsow Mini Robot** — Thailand Research Fund (2018–2019). *Researcher.*

Awards

2025 **Winner, MED CHICKATHON 2025 Pitching Competition**
Faculty of Medicine, Chiang Mai University

2017 **Erasmus+ / Erasmus Programme**
European Commission

2007 **Royal Thai Government Scholarship**
Ministry of Science and Technology, Thailand

2005 **Excellent Academic Award (Gold Medal)**
Chiang Mai University

2004 **Best Academic Achievement Award in Electrical Engineering**
The Engineering Institute of Thailand under H.M. the King's Patronage

2002 **Most Outstanding Freshman in Engineering**
Prof. Dr. Tab Nilanidhi Foundation

Teaching

- **Undergraduate**
  - 259201 Computer Programming for Engineers (Python)
  - 261102 Computer Programming (C++)
  - 261306 Computer Engineering Probability and Statistics
  - 261405 Advanced Computer Engineering Technology
  - 269400 Advanced Information Systems and Network Technology
  - 261459 Deep Learning

    - 261499 Selected Topics in Computational Intelligence (Deep Learning)
    - 269382 Data Analytics for Non-IT Majors
    - 269481 Project Design in Information Technology

- **Graduate**
    - 261795 Selected Topics in Computational Intelligence (Deep Learning)

Service

- **Journal reviewer**
    - IEEE Transactions on Neural Networks and Learning Systems
    - IEEE Transactions on Artificial Intelligence
    - Engineering Applications of Artificial Intelligence
    - Displays
    - International Journal of Computer Information Systems and Industrial Management Applications (IJCISIM)
    - ECTI Transactions on Computer and Information Technology (ECTI-CIT)
    - Science & Technology Asia
    - Journal of Science and Technology, Mahasarakham University

- **Conference reviewer**
    - FUZZ-IEEE 2024
    - APSIPA ASC 2022
    - IIHMSP-FITAT 2020
    - FSDM 2018

- **Conference organizer**
    - Registration Co-Chair, APSIPA ASC 2022, Chiang Mai, Thailand (Nov 2022)
    - IEEE CIBCB 2016, Chiang Mai, Thailand (Oct 2016)

Certificates

- **Deep Learning Specialization** - *deeplearning.ai (Coursera)* (2018)
- **Japanese-Language Proficiency Test N2** - *Japan Foundation* (2018)
- **Japanese-Language Proficiency Test N3** - *Japan Foundation* (2015)

Languages

Thai : Native speaker

English : Professional working proficiency

Japanese : JLPT N2

Interests

Forensic odontology, Computer vision-based medical device reading: Medical image analysis, Computer vision, Machine learning, Deep learning, AI for law, Data analytics, Robotics