Win Kent Ong

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Google Scholar: Citations 60 LinkedIn Github

Education

October 2023 - October 2025 **University of Malaya, Malaysia**
Master's of Computer Science (Research)
Thesis Title: Federated Feature Unlearning
Proposed a federated feature unlearning framework that enables privacy-preserving feature removal using only local client data. Introduced a novel feature sensitivity metric and demonstrated state-of-the-art performance in preserving model utility while ensuring robust and scalable unlearning, with results published at **NeurIPS 2024** and **MICCAI 2025 (Oral Presentation)**.

May 2019 - May2023 **Tunku Abdul Rahman University and Management Technology, Malaysia**
Bachelor of Mechatronics Engineering with Honours (CGPA: 3.5796/4.0)
Thesis Title: Deep Learning-Based Detection of Diseases in Oil Palm Trees
Developed a deep learning framework for early detection of Basal Stem Rot (BSR) disease in oil palm trees using UAV imagery, enabling timely intervention and yield protection. Advanced precision agriculture through AI and remote sensing, with results published in the top-tier journal **Computers and Electronics in Agriculture**.

Scholarship and Awards

2025 **MICCAI 2025 Travel Grant**
Awarded by UM to support attendance at MICCAI 2025, Daejon, South Korea.

2024 **NeurIPS 2024 Travel Grant**
Awarded by UM to support attendance at NeurIPS 2024, Vancouver, Canada.

2023 **University of Malaya Scholarship Scheme**
Independently authored a successful research proposal and awarded a fully funded Master's scholarship covering tuition and monthly stipend.

2023 **Best Thesis Award**
Recognized with the Best Thesis Award among the Bachelor of Mechatronics Engineering graduating class of 2023.

2022 **President's List**
Achieved President's List recognition twice for maintaining a GPA above 3.9.

2021 **Dean's List**
Achieved Dean's List recognition twice for maintaining a GPA above 3.75.

Publications

28th International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2025) Oral Presentation
Maverick: Collaboration-free Federated Unlearning for Medical Privacy
WK Ong, CS Chan

38th Annual Conference on Neural Information Processing Systems (NeurIPS 2024)
Ferrari: Federated Feature Unlearning via Optimizing Feature Sensitivity
HL Gu*, **WK Ong***, CS Chan, LX Fan (* Equal Contribution)

Computers and Electronics in Agriculture

Early symptom detection of basal stem rot disease in oil palm trees using a deep learning approach on UAV images
WK Ong, WC Tan, LC Tay, WK Lai

IEEE Transactions on Knowledge and Data Engineering
Ten challenging problems in federated foundation models
T. Fan, HL Gu, XM Cao, CS Chan, …, **WK Ong** et al.

(Under Review) IEEE Transactions on Pattern Analysis and Machine Intelligence
Feature Unlearning in Federated Learning via Feature Sensitivity Optimization
WK Ong, HL Gu, CS Chan, LX Fan

Experience

May 2025 - Present **AI Engineer**
MI Equipment Sdn Bhd

- Developed algorithm for semiconductor defect dimension measurement.
- Built a semi-supervised method for defect segmentation and labelling.
- Designed a robust OCR algorithm for semiconductor inspection via adversarial training.
- Generated synthetic defects using diffusion models to enhance inspection robustness.

October 2023 - May 2025 **Research Assistant**
Center of Image and Signal Processing Lab, University of Malaya, Malaysia

- Researched Trustworthy AI with focus on fairness, robustness, and privacy.
- Led a team on Machine Unlearning, developing efficient algorithms.
- Involved in publications, grant writing, and PhD proposal preparation.
- Mentored undergraduate interns in coding and research.
- Contributed to publications and conference submissions.

Research Skills

Deep Learning & Neural Networks
Strong foundation in deep learning, neural networks, and optimization methods.

Computer Vision & Image Processing
Skilled in image analysis, object detection, and semantic segmentation.

Trustworthy & Privacy-Preserving AI
Developed algorithms for privacy, fairness, and robustness in distributed ML.

Applied AI Research
Applications in agriculture, medical, security, and privacy domains.

Technical Proficiency
Python, C++, PyTorch, TensorFlow, OpenCV and scientific computing libraries.

Language Proficiency
Proficient in English and Mandarin for technical and professional communication.

Referees

Prof. Chee Seng Chan (Master's Supervisor)	Faculty of Computer Science and Information Technology, University of Malaya, Malaysia cs.chan@um.edu.my
Prof. Weng Kin Lai (FYP Supervisor)	Faculty of Engineering and Technology, Tunku Abdul Rahman University and Management Technology, Malaysia laiwk@tarc.edu.my