

Kang-Yang Huang

COMPUTER VISION · ARTIFICIAL INTELLIGENCE · MULTIMEDIA

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Summary

Kang-Yang Huang received his master's degree in computer science at National Taiwan University (NTU) in July 2025, where he is a member of the AIMM group in CMLab, supervised by Prof. Wen-Huang Cheng and Prof. Hong-Han Shuai. His research focuses on the intersection of Computer Vision and Deep Learning. Initially, he specialized in lightweight Deep Learning models, but he is now expanding his interests to generative Artificial Intelligence (GenAI), particularly in areas such as text-to-image generation, image editing, and visual-language models (VLMs). Kang-Yang's academic excellence is underscored by his receipt of the Hon Hai Technology Award and NTU Lam Research Paper Award and Outstanding Student Scholarship, two prestigious accolades for students. Furthermore, he has been honored as a member of the Phi Tau Phi Scholastic Honor Society, recognizing his distinction in the Department of EECS. His value to the CMLab extended beyond exceptional leadership. As a core member, he provided critical infrastructure support through GPU server maintenance and the construction of high-performance PCs. I am eager to apply my skills in deploying cutting-edge GenAI models for real-world applications.

Education

National Taiwan University (NTU)

Taipei, Taiwan

M.S. IN COMPUTER SCIENCE

Feb. 2023 - Jul. 2025

- Advisor: Prof. Wen-Huang Cheng & Prof. Hong-Han Shuai
- Hon Hai Technology Award, NTU Lam Research Paper Award and Outstanding Student Scholarship
- Member of the Phi Tau Phi Scholastic Honor Society
- GPA: 4.2/4.3; Average score: 96/100; Rank: 5/51
- Master Thesis: Multimodal Interpretable Deepfake Detection Benchmark for MLLM
- Courses: Computer Vision Practice with Deep Learning, Applied Deep Learning, Artificial Intelligence, Deep Learning for Medical Imaging

National Yang Ming Chiao Tung University (NYCU)

Hsinchu, Taiwan

B.S. IN UNDERGRADUATE HONORS PROGRAM OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCE

Sep. 2017 - Sep. 2021

- Exchange student at RWTH Aachen University (Germany) from Apr. to Sep. in 2019
- Academic Achievement Award in 2020 Fall Semester
- Member of the varsity Badminton team at NYCU.

Publications (Selected)

Conference Proceedings

- K.-Y. Huang*, J.-Y. Jiang-Lin*, L. Lo, Y.-N. Huang, T. Lin, J.-C. Wu, H.-H. Shuai, and W.-H. Cheng. "ReCorD: Reasoning and Correcting Diffusion for HOI Generation." ACM International Conference on Multimedia (MM), 2024. Poster Presentation [[📄 Paper](#), [🔗 Project Page](#)]
- K.-Y. Huang, J.-Y. Jiang-Lin, L. Zou, L. Lo, S.-P. Yang, Y.-W. Tseng, K.-H. Lin, C.-L. Chen, Y.-T. Ta, Y.-T. Wang, P.-C. Chen, H. Xie, H.-H. Shuai, and W.-H. Cheng. "Evaluating Perception, Detection, and Hallucination for Interpretable DeepFake Detection." Submitted to top-tier international computer vision conference, 2025.
- K.-H. Lin, Y.-W. Tseng, K.-Y. Huang, J.-C. Wu, and W.-H. Cheng. "InstructFLIP: Exploring Unified Vision-Language Model for Face Anti-spoofing." ACM International Conference on Multimedia (MM), 2025. Oral Presentation [[📄 Paper](#), [🔗 Project Page](#)]
- H.-H. Chou, R. Xu, K.-Y. Huang, J.-C. Wu, H.-H. Shuai, and W.-H. Cheng. "Dual Memory-Guided Probabilistic Model for Weakly-Supervised Anomaly Detection." International Joint Conference on Artificial Intelligence Workshop (IJCAI W.), 2024. Oral Presentation [[📄 Paper](#)]
- L. Xue, K.-Y. Huang, R. Chao, J.-C. Wu, H.-H. Shuai, Y.-H. Li, and W.-H. Cheng. "Learning Efficient Interaction Anchor for HOI Detection." IEEE International Conference on Multimedia and Expo (ICME), 2024. Oral Presentation [[📄 Paper](#)]
- C.-H. Wang, K.-Y. Huang, J.-C. Chen, H.-H. Shuai, and W.-H. Cheng. "Heterogeneous Federated Learning through Multi-branch Network." IEEE International Conference on Multimedia and Expo (ICME), 2021. Oral Presentation [[📄 Paper](#)]

Journal Articles

- C.-H. Wang, K.-Y. Huang, Y. Yao, J.-C. Chen, H.-H. Shuai, and W.-H. Cheng. "Lightweight Deep Learning: An Overview." IEEE Consumer Electronics Magazine (IEEE MCE), 2024. **Best Paper Awards** [[📄 Paper](#)]
- L. Zou, K.-Y. Huang, Y.-W. Tseng, L. Lo, J. Sanchez-Riera, J.-C. Wu, H.-H. Shuai, and W.-H. Cheng. "BAB-VAD: Breaking Ambiguity Barriers in Fine-Grained Video Anomaly Detection." Submitted to top-tier international computer vision journal, 2025.

Work Experience

Research Assistant

Taipei, Taiwan

RESEARCH CENTER FOR INFORMATION TECHNOLOGY INNOVATION (CITI), ACADEMIA SINICA

Jul. 2020 - Jul. 2021

- Advised by Dr. Jun-Cheng Chen
- Study heterogeneous Federated Learning, AI security: adversarial attack and defense, and Model Compression: Knowledge Distillation.

Projects

Multimodal Interpretable Deepfake Detection

National Taiwan Uni.

SUPPORTED BY NVIDIA ACADEMIC GRANT PROGRAM


Apr. 2025 - Present

- Assess the perception and interpretation detection capabilities of mainstream MLLMs, along with hallucination tendencies.
- Familiar with over 50 generative models, ranging from editing to generation, e.g., SD3 (ICML'24), MotionEditor (CVPR'24), PixArt- σ (ECCV'24), CogVideoX (ICLR'25), UNO (ICCV'25), Wan-Edit (ICCV'25), Phantom (ICCV'25), Step1X-Edit, Wan, OmniGen2, ControlNeXt, Hunyuancustom, LTX-Video, FLUX. 1, etc.
- Led the research team by scheduling timelines and optimizing task allocation based on member strengths, fostering a collaborative environment that accelerated project delivery.
- Design MLLMs against malicious usage of generative AI.
- Submitted to top-tier international computer vision conference.

Taiwan-LLM Tutor: Large Language Models for Taiwanese Secondary Education

National Taiwan Uni.

APPLIED DEEP LEARNING'S TERM PROJECT ADVISED BY PROF. YUN-NUNG CHEN

 Slides,  Code

- Developed a Taiwanese Mandarin LLM using QLoRA and instruction tuning.
- Devised Vision BERT by integrating RoBERTa and CLIP to perform VQA tasks.

Technical Skills

Programming&Tools	Python, LaTeX, Linux, Jupyter, and Vim
Frameworks&Libraries	PyTorch, TensorFlow, OpenCV, Scikit-learn, Pandas, and Numpy
Project Management	Git, Notion, and Weight&Bias

Language Skills

Chinese	Native
English	Effective Operational Proficiency, TOEFL iBT: 96/120

Writings

Submitted to NVIDIA Technical Blog

National Taiwan Uni.

INVITED BY NVIDIA

Oct. 2025 - Present

- Developed a unified framework evaluating DeepFake detection across 16 forgery types in image, video, and audio modalities.
- Assessed state-of-the-art Multimodal LLMs on three critical perspectives: Perception (artifact identification/localization), Detection (binary classification), and Hallucination (explanation reliability).
- Demonstrated the interdependence of accurate perception and model hallucinations in building trustworthy synthetic media defenses.

Extracurricular Activities

Teaching Assistant

National Taiwan Uni.

COMPUTER VISION PRACTICE WITH DEEP LEARNING AND ARTIFICIAL INTELLIGENCE

Feb. 2023 - Jul. 2025

Varsity Badminton Team

National Yang Ming Chiao Tung Uni.

REPRESENTATIVE OF MEICHU 2018

Sep. 2017 - Jun. 2018


Reference

Prof. Wen-Huang Cheng

National Taiwan Uni.

DEPARTMENT OF COMPUTER SCIENCE AND INFORMATION ENGINEERING

Professor, CSIE Associate Chair


-  wenhuang@csie.ntu.edu.tw
- Academic Advisor for Graduate and Undergraduate Studies

Prof. Hong-Han Shuai

National Yang Ming Chiao Tung Uni.

DEPARTMENT OF ELECTRONICS AND ELECTRICAL ENGINEERING

Professor, Associate Chairman

-  hhshuai@nycu.edu.tw
- Academic Advisor for Graduate and Undergraduate Studies