

You-Feng (Arthur) Wu

Principal Engineer · Artilux Inc.

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Objective

I am a Principal Engineer at Artilux Inc. in Taiwan. My research goal is to achieve visual intelligence for real-world applications and to study advanced topics in machine learning and computer vision, with award-winning publications at ICPR, MAPR, and CVGIP. I currently focus on photon-level bio-sensing, depth completion, and intelligent edge computing.

Work Experience

Artilux Inc. — Hsinchu, Taiwan

Principal Engineer

Feb. 2026 – Present

Senior Software Engineer

Mar. 2022 – Feb. 2026

- **DCS** – Diffuse correlation spectroscopy for non-invasive blood-flow measurement.
- **TCSPC** – Time-correlated single-photon counting for time-resolved optical sensing.
- **Bio-sensing** – In-vivo SWIR-based non-invasive HRM / BPM / BGM (heart-rate, blood-pressure, and blood-glucose monitoring).
- **Depth completion** – Completing sparse, noisy ToF depth measurements with RGB guidance to obtain dense depth maps.
- **Neural SLAM** – Real-time joint camera tracking and dense surface reconstruction from RGB-D sensors.
- **On-device AI inferencing** – Deploying models to Qualcomm chipsets using SNPE.

KaiKuTeK Inc. — Taipei, Taiwan

Machine Learning Engineer

Feb. 2020 – Mar. 2022

- **Rapid gesture recognition** – Robust impulse-like event localization with extremely short reaction times.
- **Sub-action exploration** – A one-size-fits-all HCI solution extracting generic sub-actions shared across datasets.
- **Quantization-aware training** – Co-designed training and quantization procedures to preserve end-to-end model accuracy.
- **Long-tailed gesture recognition** – Alleviated the category-imbalance problem across gesture classes.
- **Temporal coherency** – Explicitly enforced coherency by encouraging similarity of temporally adjacent frames.
- **SDK ML team leadership** – Led the SDK machine learning team, supported customers, and deployed the Python API to an AWS cloud training platform.

Education

National Chung Cheng University — Chiayi, Taiwan

Sep. 2017 – Jun. 2019

M.Sc. in Electronic Engineering (GPA 4.14 / 4.30)

National Kaohsiung University of Applied Sciences — Kaohsiung, Taiwan

Sep. 2013 – Jul. 2017

B.Sc. in Electronic Engineering

Master Thesis

DEN: Disentangling and Exchanging Network for Depth Completion

Research directions: depth inpainting, disentangled representation learning · PyTorch

- Proposed the DEN framework, which utilizes the RGB image to guide the depth completion task.
- Dealt with mixed-depth pixels by introducing a novel depth representation, GDC.
- Combined cross-entropy and mean-square losses to improve the precision of depth estimation.
- Applied the sparse depth image as a reference so that spatial scale offset is no longer a significant problem.

Publications

You-Feng Wu, Vu-Hoang Tran, Ting-Wei Chang, Wei-Chen Chiu, and Ching-Chun Huang, “DEN: Disentangling and Exchanging Network for Depth Completion”, in ICPR, Sep. 2020. [\[Paper\]](#) [\[Code\]](#)

You-Feng Wu, Hoang Tran Vu, and Ching-Chun Huang, “Semi-supervised and Multi-task Learning for On-street Parking Space Status Inference”, in MAPR, May 2019. [\[Paper\]](#) [\[Code\]](#)

You-Feng Wu, Vu-Hoang Tran, Ting-Wei Chang, Wei-Chen Chiu, and Ching-Chun Huang, “Sensor-based On-street Parking Space Status Inference upon a Semi-supervised and Multi-task Learning Network”, in CVGIP, Aug. 2018.

Selected Projects

Computer Vision Applications · *Python*

- A multi-task network for scene segmentation and depth-map refinement used in an RGB-D robot.
- A study of active SLAM for a cleaning robot using an omnidirectional camera.

Geomagnetic Sensor Application · *Python, C++*

- Automatic management of roadside parking spaces based on deep learning, geomagnetic sensor networks, and LoRa communication.

Technical Skills

Machine Learning and Data Science: PyTorch, TensorFlow

Edge AI Deployment: ONNX, SNPE, TensorFlow Lite

Programming Languages: Python, C++, Java

Developer Tools: Vim, PyCharm, VS Code, MATLAB

Technologies / Frameworks: Linux, Git, Docker

Honors and Awards

Master Thesis Award, Honorable Mention — Image Processing and Pattern Recognition Society (IPPR), Taiwan, 2020.

Best Paper Award — Multimedia Analysis and Pattern Recognition (MAPR), 2019.

Patents

You-Feng Wu. 2023. General gesture detection method and general gesture detection device. Taiwan Patent I810564, filed May 14, 2021. [\[Link\]](#)

You-Feng Wu. 2022. Headset apparatus with gesture recognition function. Taiwan Patent I786678, filed Jun. 11, 2021. [\[Link\]](#)

You-Feng Wu. 2022. Range Doppler angle sensing method and device. Taiwan Patent I756122, filed Apr. 30, 2021. [\[Link\]](#)

You-Feng Wu. 2021. Impulse-like gesture recognition method and impulse-like gesture recognition system. Taiwan Patent I748778, filed Dec. 2, 2020. [\[Link\]](#)

You-Feng Wu. 2020. Impulse-like gesture recognition method and impulse-like gesture recognition system. U.S. Patent Application 17/084,986, filed Oct. 30, 2020. Patent pending.