Chieh-Ying Lai

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EDUCATION

University of California, Santa Barbara   **Santa Barbara, CA**
M.S. Student Majoring in Computer Science   *Sept. 2023 – Jun. 2025*
National Chung Hsing University   **Taichung, Taiwan**
M.B.A in Management Information System, GPA: 4.12/4.3   *Sept. 2020 – Jun. 2022*
National Taichung University of Science and Technology (Elite Program)   **Taichung, Taiwan**
Bachelor of Information Management, GPA: 3.98 / 4.0   *Sept. 2018 – Jun. 2020*

SKILLS

- Programming Language: Python, PHP, JavaScript
- Operating System: Windows Server, Linux (GPU & Jetson Nano)
- Web Development: PHP Laravel, Python Django, React.js, MySQL, HTML5, JQuery, CSS
- Deep Learning: Pytorch, Keras, Pandas, Numpy, Semantic Segmentation, Object Detection
- Languages: Mandarin (native), English (fluent), Japanese (fluent, JLPT N1)

EXPERIENCE

National Chung Hsing Uni. / Occupational Safety and Health Administration, MOL   **Taichung, Taiwan**
Project Research Assistant / Student Lead   *Feb. 2021–Feb. 2022*

- Developed edge computing-assisted artificial intelligence safety identification technology improvement plan for structural steel construction.
- Implemented object detection and semantic segmentation models to detect unsafe behaviors and object placements in construction sites by using Python and Pytorch.
- Achieved a high F1-score for both helmet detection (93.51%) and hook detection (97%) and IoU for safety net segmentation (0.86) and guardrail segmentation (0.65).
- Led in training of deep learning models, deployment of models on edge devices, and data annotation.

National Chung Hsing Uni. / Taiwan Semiconductor Manufacturing Co., Ltd   **Taichung, Taiwan**
Project Research Assistant   *Aug. 2021–Dec. 2021*

- Constructed and built accurate and efficient deep learning models, including object detection models, dangerous behaviour detection, and data annotation.
- Achieved a high mean average precision (99.77%) and the average IoU (84.46%) of the object detection model.

ShangDa Plastic Inc.   **Miao-li, Taiwan**
Backend Developer   *Jun. 2020–Feb. 2021*

- Devised a Manufacturing Information Management System, enabling end-to-end digital management of customer information, raw material procurement, and inventory control processes.
- Constructed MVC backend with PHP Laravel Framework and MySQL, and created frontend with Vue.js.

Wanin International   **Taichung, Taiwan**
Co-op Full Stack Developer   *Mar. 2020–Dec. 2020*

- Established a Book Donation Management System and Official Website for Wanin International.
- Implemented MVC pattern backend and RESTful APIs by using PHP Laravel Framework.
- Designed the UI of the official website and developed customized responsive frontend with jQuery and Bootstrap.

PROJECTS

Personal Website

- Programmed a personal website using Django Rest Framework for the back-end and ReactJS for the front-end development.
- Deployed the personal website on an Amazon Web Services (AWS) EC2 container, utilizing AWS services, Gunicorn, and Nginx for server management and performance optimization.