

Te-Wei (David) Chen

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EDUCATION

University of Illinois at Urbana-Champaign (UIUC)

Aug. 2022 - Dec. 2023

Master of Engineering in Electrical and Computer Engineering

National Chengchi University (NCCU)

Sep. 2017 - June 2021

Bachelor of Science in Mathematical Sciences

WORK EXPERIENCE

Rivian Automotive, Inc.

CA, USA

Machine Learning Intern

Aug. 2023- Present

- Built up CI/CD pipeline, test case, and tailored to team-specific requirements on GitLab
- Implemented and optimized machine learning operations in C++

Camera Imaging Intern

• Automation and Tool Development (Python, Flask)

May 2023 - Aug. 2023

- Automated the workflow for processing and visualized the End-Of-Line data and vendor testing data.
- Built a website enabling engineers to upload and review visualized data and compare data across batches
- Designed a GUI tool to measure exposure time in conditions where existing tools were insufficient

• Image Object Detection Accuracy Predictor (Python, MATLAB, Pytorch)

Jan. 2023 - May 2023

- Predicted images' performance on object detection tasks based on image quality
- Bridged the gap between feature detection, image quality assessment, and the object detection
- Analyzed the image quality (resolution, sharpness, noise, etc.) with SFR (spatial frequency response)

Oring Industrial Networking Corp.

Taipei, Taiwan

Software Engineering Intern

Sep. 2019 - Aug. 2020

- Designed a real-time DNN object detection model to count passing cars under different lighting conditions
- Addressed issues of low-resolution and poor-quality livestream videos with image enhancement algorithm

RESEARCH EXPERIENCE

Visual Information Processing Lab, NCCU

Taipei, Taiwan

Full-Time Researcher

Aug. 2021- Feb. 2022

• Far-Sighted BiSeNet V2 for Real-time Semantic Segmentation

Aug. 2021 - Nov. 2021

(Semantic segmentation, Self-attention, Docker, Pytorch, OpenCV)

- ❖ Accepted by the 17th IEEE International Conference AVSS as the first author
- Proposed an object-integrity aware model maintaining high accuracy with FPS 96 on 1024x 2048 images
- Developed novel self-attention modules and brought 3% (mIoU) enhancement to the base model

• RGB-Thermal Fusion Semantic Segmentation

Nov. 2021 - Feb. 2022

(Semantic segmentation, Cross-attention, Signal integration, Docker, Pytorch, OpenCV)

- Developed channel and spatial attention signal fusion modules, bringing 6.4% mIoU improvement to model
- Proposed a novel neural network achieved mIoU of 58.3%, an improvement of 3.7% over the SOTA method

SELECTED PROJECTS

Generative AI E-Learning Platform

Apr. 2023- Jun 2023

(Next.js, MySQL, RESTful API, LLM, Prompting Skills, SaaS)

Personal Project

- Developed an interactive e-learning platform leveraging Next.js for front-end development
- Optimized data fetching and server-side operations by building and integrating RESTful APIs
- Ensured efficient communication with a MySQL database for robust content management
- Built an interactive conversation window integrated with LLM APIs, e.g., OpenAI and Langchain APIs

TECHNICAL SKILLS

Programming Languages: C++, Python, MATLAB, Java, Javascript

Libraries: Pytorch, Keras, Scikit-learn, OpenCV

Toolkits: AWS, GCP, Docker, Git, ROS, Gazebo