





WEI-CHENG LIN

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Education

National Taiwan Normal University (NTNU)

B.S in Electrical Engineering

- GPA: last-60: **3.98**

Sep. 2017 – Jan. 2022

Taipei, Taiwan

Saint Petersburg National ITMO University

Exchange Student Program in Computer Technology

Sep. 2019 – Jun. 2020

Saint Petersburg, Russia

Research Interest

- Computer Vision
- Image Processing
- Deep Learning
- 3D Vision

Experience

AI Multimedia Lab, NTNU – Advisor: Chia-Hung Yeh

Sep. 2020 – Jun. 2022

Research Assistant

Taipei, Taiwan


- Researched on 3D deep learning on point cloud and propose a novel neural architecture for point cloud upsampling.
- Collaborated with researchers to combine 2D pose estimation model with 3D pose estimation in lightweight design.
- Assisted other team with the project on building a efficient video steaming.

Service Systems Technology Center, ITRI



Sep. 2022 – *exp.* Aug. 2023

Image Analysis System Engineer

Hsinchu, Taiwan

- Developed a cross camera multi-person tracking system based on person ReID model. 
- Researched on gait recognition in order to learn a robust representation of person by introducing the gait information.

Publication

[1] C.-H. Yeh, **W.-C. Lin**. Enhanced Point Cloud Upsampling by Multi-branch Network and Attention Fusion. In *Proceedings of International Conference on Computer System, Information Technology, and Electrical Engineering (COSITE)*, 2021. [Best Paper Award] –  

Projects

Sentiment Analysis of Tweet about Amazon Forest Fire –

Jan. 2020

Course final project of "Social Media Data Analysis"

Saint Petersburg, Russia

- Developed a neural model to predict sentiment score and achieve 78 % accuracy on validation set.
- Crawled 40k tweet data including keywords by Twint to analyze the public response to Amazon Fire by our model.

Fraud Detection on Credit Card Transaction –

Jan. 2021

Course final project of "Pattern Recognition"

Taipei, Taiwan

- Experimented several unsupervised algorithms to try out the best performance on Kaggle dataset.
- Performed three types of pre-processing techniques for the extreme unbalanced dataset.

Vehicle Speed Estimation and Lane Changing Detection –

Apr. 2021

Coursework of "Pattern Recognition"

Taipei, Taiwan

- Integrated DeepSORT with Yolov3 to track vehicles and define two virtual lines to check car speed between two lines.
- Utilized background extraction to find the lane and determine the lane changing by calculating the slope of vehicle.

Archery Detection –

May 2021

Coursework of "Robotic Vision"

Taipei, Taiwan

- Implemented color-based algorithm and Hough circle algorithm to find the contours of the archery.
- Designed a new pipeline by adding morphology operation and achieve better performance.

Applications of Image Processing –

Jan. 2022

Coursework of "Advanced Image Processing"

Taipei, Taiwan

- Implemented different operation on a raw image, and build an APP containing these functions by PyQT toolkit.
- Provided customized operations like histogram visualization, wavelet transform, histogram equalization, and convolution on my developed APP.

Technical Skills

Languages: Python, C/C++, Shell Scripting

Libraries & Toolkits: Pytorch, Tensorflow, OpenCV, Open3D, Git, \LaTeX

Honors & Rewards

2021 **Excellent Student Scholarship**, Department of Electrical Engineering, NTNU

2019 **Scholarships for exchange student program**, College of Technology and Engineering, NTNU

Service

Journal: International Journal of Pattern Recognition and Artificial Intelligence (IJPRAI)