

Ning-Hsu Wang

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Education

National Tsing Hua University

Jan. 2018 – Aug. 2020

Master of Science in Electrical Engineering, advised by Prof. Min Sun, GPA: 4.3/4.3

Hsinchu, Taiwan

National Chiao Tung University

Sep. 2013 – Jun. 2017

Bachelor of Science in Mechanical Engineering, GPA: 3.41/4.0

Hsinchu, Taiwan

Technical Skills

Programming: Python, C/C++, HTML/CSS

Tools/Libraries: PyTorch, TensorFlow, OpenCV, Scikit-Learn, Vim, Linux, Git, L^AT_EX

Software/Hardware: LabVIEW, Matlab, LTSpice, ANSYS-Fluent, AutoCAD, Solidworks, Arduino, 8051

Experience

MediaTek | Computer Vision Research Intern

Feb 2020 – Mar 2021

- Worked on research topics related to stereo matching and depth estimation on images with bokeh effects (shallow DoF).
- Presented a new dataset for model training on blurred images.
- Proposed a new unsupervised training technique on depth estimation.

VSLab, National Tsing Hua University | Graduate Research Student

Jan 2018 – August 2020

- Led the 360° Stereo Project, advised by Prof. Min Sun, Prof. Wei-Chen Chiu and Dr. Yi-Hsuan Tsai (ICRA 2020).
- Presented two 360° stereo datasets as well as a novel DNN targeting depth estimation on 360° stereo images.
- Worked on Planar Reconstruction, co-advised by Prof. Hwann-Tzong Chen (CVPR 2021 Oral).
- Proposed a new benchmark and a new method leveraging the phenomenon of indoor human structures and 360° images for indoor panorama planar reconstruction.

Young Entrepreneurs of the Future, Epoch Foundation | Technical Lead

Jan. 2018 – Jul. 2018

- Led the technical team in a nationwide startup competition.
- Won the Second Place Award in the Garage Party stage. (Garage Party, Elevator Pitch, Workshop)

Publications

- [1] **Ning-Hsu Wang**, Ren Wang, Yu-Lun Liu, Yu-Hao Huang, Yu-Lin Chang, Chia-Ping Chen, Kevin Jou, “Bridging Unsupervised and Supervised Depth from Focus via All-in-Focus Supervision”, in Submission 2021.
- [2] Cheng Sun, Chi-Wei Hsiao, **Ning-Hsu Wang**, Min Sun, Hwann-Tzong Chen, “Indoor Panorama Planar 3D Reconstruction via Divide and Conquer”, CVPR 2021 Oral.
- [3] **Ning-Hsu Wang**, Bolivar Solarte, Yi-Hsuan Tsai, Wei-Chen Chiu, Min Sun, “360SD-Net: 360° Stereo Depth Estimation with Learnable Cost Volume”, ICRA 2020.

Selected Projects

3D Horror Scene: Horror Style Transfer Using 360° Views and 3D Reconstruction

- Collected horror scene data for model training.
- Implemented **CycleGAN** for style transfer and **LayoutNet** for 360° layout reconstruction.

Design and implementation of Logistic UAV (Unmanned Aerial Vehicle)

- Designed and implemented the UAV mechanism, unloading mechanism, motor control system and surveillance system.
- Demonstrated the UAV control for unseen location object unloading.

Object Searching Robot Design

- Designed and implemented the KNR mechanism and ultrasonic avoidance system.
- Programmed the motor control, sensor feedback and image processing in LabVIEW.

Honors and Awards

Honorary Member of The Phi Tau Phi Scholastic Honor Society of the Republic of China

2020

Appier Conference Scholarship for Top Researches on Artificial Intelligence

2020

Arctic Code Vault Contributor (GitHub)

2020