

Yu-Ju Tsai

Curriculum Vitae

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📄 <https://liagm.github.io/>

Education

- Master of Science **National Taiwan University**, Taipei, Taiwan.
- 2017 - 2019, Computer Science and Information Engineering (CSIE)
 - Advisor: Ming Ouhyoung, Yung-Yu Chuang
 - Thesis: "*Estimate Disparity of Light Field Images by Deep Neural Network*"
 - GPA: 4.26/4.30, Rank: 4/131
- Bachelor of Science **National Taiwan University**, Taipei, Taiwan.
- 2013 - 2017, Computer Science and Information Engineering (CSIE)
 - GPA: 3.91/4.30

Publications

- AAAI 2020 **Attention-based View Selection Networks for Light-field Disparity Estimation.**
Yu-Ju Tsai, Yu-Lun Liu, Ming Ouhyoung, and Yung-Yu Chuang
In Proceedings of AAAI Conference on Artificial Intelligence (AAAI 2020) 📄 [Paper](#) 🔗 [Code](#)
- SIGGRAPH Asia 2017 **Affordable system for measuring motion-to-photon latency of virtual reality in mobile devices.**
Yu-Ju Tsai, Yu-Xiang Wang, and Ming Ouhyoung
In ACM SIGGRAPH Asia 2017 Posters (SA'17) 📄 [Paper](#)
- VRIC 2017 **Live Room Merger: A Real-Time Augmented Reality System for Merging Two Room Scenes.**
Chu-I Chao, Chien-Min Wang, Hsuan-Chi Kuo, Liang-Chi Tseng, Shih-Kai Lin, Yu-Ju Tsai, Ching-Chi Lin, and Da-Fang Chang
In Proceedings of the Virtual Reality International Conference - Laval Virtual 2017 (VRIC '17)
- SIGGRAPH 2016 **A modified wheatstone-style head-mounted display prototype for narrow field-of-view video see-through augmented reality.**
Pei-Hsuan Tsai, Yu-Hsuan Huang, Yu-Ju Tsai, Hao-Yu Chang, Masatoshi Chang-Ogimoto, and Ming Ouhyoung
In ACM SIGGRAPH 2016 Posters (SIGGRAPH '16) 📄 [Paper](#)
- SIGGRAPH 2016 **ThirdEye: a coaxial feature tracking system for stereoscopic video see-through augmented reality.**
Yu-Xiang Wang, Yu-Ju Tsai, Yu-Hsuan Huang, Wan-Ling Yang, Tzu-Chieh Yu, Yu-Kai Chiu, and Ming Ouhyoung
In ACM SIGGRAPH 2016 Posters (SIGGRAPH '16) 📄 [Paper](#)
Student Research Competition Bronze Price

Research and Work Experiences

- Research Assistant **Communications and Multimedia Lab, National Taiwan University**, Taipei, Taiwan.
Sep. 2019 - Present
Advisor: Yung-Yu Chuang
- Project: Multi-Object Tracking and Segmentation (MOTS)**
- Combined long-term point-based object representation and position-aware motion model guided by kalman filter to solve tracking problem.
- Project: Robotic grasping**
- Developed a pipeline with object segmentation, grasping and matching for robotic pick-and-place.
- Project: Light Field Disparity Estimation**
- Proposed a network with attention module to utilize all views of light field to estimate disparity maps and reach top performance on benchmark.
 - Paper is accepted to **AAAI 2020**.

Research Intern **VIVE R&D Team, HTC**, Taipei, Taiwan.

May. 2017 - Dec. 2018

Project: Indoor Fisheye Camera Depth Estimation and Calibration

Research Intern **Institute of Information Science, Academia Sinica**, Taipei, Taiwan.

Jul. 2016 - Aug. 2016

Advisor: Jan-Jan Wu

Project: Remote Augmented Reality Communication

- Developed a framework to merge two remote room by replacing target scene with 360 live video and displaying in a VR head-mounted device.
- Paper is accepted to **VRIC 2017**.

Undergraduate Research **Communications and Multimedia Lab, National Taiwan University**, Taipei, Taiwan.

Sep. 2015 - Jun. 2017

Advisor: Ming Ouhyoung

Project: Latency of Virtual Reality

- Proposed a low cost and easy built-up framework to measure motion-to-photon latency of virtual reality applications in mobile devices with acceptable accuracy.
- Poster is accepted to **SIGGRAPH Asia 2017**.

Project: Video See-Through Augmented Reality

- Proposed a coaxial camera system with beam-splitter lens module to solve tracking problem in stereoscopic video see-through augmented reality.
- Built a narrow field-of-view(FoV) display with higher pixel density for near-field video see-through augmented reality applications.
- Posters are accepted to **SIGGRAPH 2016**.

Professional Activities

Journal Reviewer ◦ IEEE Transactions on Image Processing (**TIP**)

Student Volunteer ◦ ACM SIGGRAPH Asia 2016, 2017, 2019

Honors and Awards

Award **Honorary Member**, The Phi Tau Phi Scholastic Honor Society of the Republic of China, 2019.
Top 3% of graduated students

Award **Excellent Teaching Assistants Awards**, CSIE, National Taiwan University, Apr. 2019.
For the course "*Neural Networks*" (Fall 2018)

Award **Presidential Awards**, CSIE, National Taiwan University, Jan. 2017, Jun. 2017.
Top 5% of students in one semester

Award **Bronze Price**, ACM SIGGRAPH Student Research Competition, 2016.
For our work "*ThirdEye: a coaxial feature tracking system for stereoscopic video see-through augmented reality*"

Teaching Experiences

Teaching Assistant **CSIE, National Taiwan University**, Taipei, Taiwan.

- CSIE 5052: Neural Networks (Fall 2018)
- CSIE 7633: Virtual Reality (Spring 2018)

References

Research Mentor **Yung-Yu Chuang**, Professor, National Taiwan University, Taiwan.

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M.S. Advisor **Ming Ouhyoung**, Adjunct Professor, National Taiwan University, Taiwan.

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