# Yu-Ju Tsai
*Curriculum Vitae*

✉ louis19950117@gmail.com
🖥 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**. |
| | <u>**Yu-Ju Tsai**</u>, 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**. |
| | <u>**Yu-Ju Tsai**</u>, 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, <u>**Yu-Ju Tsai**</u>, 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, <u>**Yu-Ju Tsai**</u>, 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, <u>**Yu-Ju Tsai**</u>, Yu-Hsuan Huang, Wan-Ling Yang, Tzu-Chieh Yu, Yu-Kai Chiu, and Ming Ouhyoung |
| | In ACM SIGGRAPH 2016 Posters (SIGGRAPH '16) 📄 Paper |
| | <span style="color:orange">**Student Research Competition Bronze Prize**</span> |

## 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 Prize**, 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. |
| | ✉ cyy@csie.ntu.edu.tw 🔗 Homepage |
| M.S. Advisor | **Ming Ouhyoung**, *Adjunct Professor*, National Taiwan University, Taiwan. |
| | ✉ ming@csie.ntu.edu.tw 🔗 Homepage |