

Tung-I Chen

Curriculum Vitae

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📄 tung-i.github.io/

Education

- Ph.D. in CS **University of Massachusetts Amherst, Amherst, MA**
◦ College of Information and Computer Sciences, 2023 -
- M.S.in CS **National Taiwan University, Taipei, Taiwan**
◦ Computer Science and Information Engineering, 2019 - 2021
- B.S. in BME **National Cheng Kung University, Tainan, Taiwan**
◦ Biomedical Engineering, 2015 - 2019

Publications

- ICRA 2023 **CFVS: Coarse-to-Fine Visual Servoing for 6-DoF Object-Agnostic Peg-In-Hole Assembly**
Bo-Siang Lu, Tung-I Chen, H.-Y. Lee, Winston H Hsu
Accepted by International Conference on Robotics and Automation (ICRA), 2023 [\[Paper\]](#)
- ICRA 2023 **Coarse-to-Fine Point Cloud Registration with SE (3)-Equivariant Representations**
Cheng-Wei Lin, Tung-I Chen, H.-Y. Lee, W.-C. Chen, Winston H Hsu
Accepted by International Conference on Robotics and Automation (ICRA), 2023 [\[Paper\]](#)
- ECCV 2022 **D2ADA: Dynamic Density-Aware Active Domain Adaptation for Semantic Segmentation**
Tsung-Han Wu, Y.-S. Liou, S.-J. Yuan, H.-Y. Lee, Tung-I Chen, Winston H Hsu
Accepted by European Conference on Computer Vision (ECCV), 2022 [\[Paper\]](#)
- TMM 2021 **Dual-Awareness Attention for Few-Shot Object Detection**
Tung-I Chen, Y.-C. Liu, H.-T. Su, Y.-C. Chang, Y.-H. Lin, J.-F. Yeh, Winston H Hsu
Accepted by IEEE Transactions on Multimedia (TMM), 2021 [\[Paper\]](#) [\[Code\]](#)
- IROS 2021 **ODIP: Towards Automatic Adaptation for Object Detection by Interactive Perception**
Tung-I Chen, J.-W. Wang, Winston H Hsu
Accepted by International Conference on Intelligent Robots and Systems (IROS), 2021 [\[Paper\]](#) [\[Video\]](#)
- NIPS Workshop 2019 **Batch-Wise Dice Loss: Rethinking the Data Imbalance for Medical Image Segmentation**
Yu-Cheng Chang, Jhih-Yuan Lin, Min-Sheng Wu, Tung-I Chen, Winston H Hsu
Accepted by Medical Imaging meets NeurIPS, 2019 [\[Paper\]](#)

Research Summary

- 2023-2025 **Project: 3D Teleconferencing System**
(expected) Explore immersive video conferencing systems where virtual and physical participants meet, sit in their seats, face each other and have natural social interactions.
◦ Develop efficient human avatars that can be delivered/reconstructed efficiently
◦ Explore viewport prediction for 360° video streaming
◦ Enable 8K real-time video streaming using NVIDIA Video Codec SDK
- 2021-2022 **Project: Domain Adaptation and Anomaly Detection in Autonomous Driving**
Enhance the perception of autonomous vehicles by investigating DL models that can handle the unexpected and getting adapted to new environments with least effort
◦ Reduce the effort of fine-tuning semantic segmentation models by actively selecting the most effective samples

- Develop an anomaly-aware semantic segmentation model that enhances safety of autonomous driving by preventing overconfident prediction

2019-2021 **Project: Few-Shot Learning for Robotic Grasping**

Enable a robotic arm to successfully grasp previously unseen objects using only a small set of training samples

- Develop a few-shot object detector that can detect novel instances by searching similar features between the query and sample images
- Explore a framework where an object detector can collaborate with a robotic arm to generate annotated data without human labeling

Teaching and Research Experience

UMass CICS Fall 2023 **Teaching Assistant - CS578 Distributed Computing and Systems**
Keywords: Consistency and replication, Fault tolerance and consensus, PAXOS, ZAB

National Taiwan University 2021-2022 **Research Assistant - Communications and Multimedia Lab**
Keywords: Object Detection, Point Cloud Registration, 6-DoF Robotic Grasping

Skills

Programming **Python, C++, MATLAB**
Machine Learning **PyTorch, PyTorch3D, Tensorboard, ONNX**
Tools **AWS, FFmpeg, Docker, Git, NVENC/NVDEC, LaTeX**
Language **Mandarin (Native Speaker), English**

References

Ph.D. Advisor **Prof. Ramesh Sitaraman**
Professor, Department of CICS, University of Massachusetts Amherst, MA [\[Webpage\]](#)

Ph.D. Advisor **Prof. Mohammad Hajiesmaili**
Assistant Professor, Department of CICS, University of Massachusetts Amherst, MA [\[Webpage\]](#)

M.S. Advisor **Prof. Winston Hsu**
Professor, Department of Computer Sciences, National Taiwan University, Taiwan [\[Webpage\]](#)

B.S. Mentor **Prof. Yu-Hua Dean Fang**
Associate Professor, Radiology and Neurology, University of Alabama at Birmingham [\[Webpage\]](#)