THOMAS HUANG

Curriculum Vitae

thomas.huang@vision.ee.ethz.ch • thomasehuang.com • Citizenship: United States

RESEARCH INTERESTS

Computer vision and deep learning.

EDUCATION

Jul. 2021 – Jun. 2025 (expected) **ETH Zürich, Switzerland**
Ph.D. in Information Technology and Electrical Engineering
- Advisor: Prof. Fisher Yu

Sep. 2019 – May 2021 **University of Michigan (UofM), Ann Arbor**
M.S.E in Computer Science and Engineering
- Cumulative GPA: 4.0/4.0.
- Advisor: Prof. Honglak Lee

Sep. 2015 – May 2019 **University of Michigan, Ann Arbor**
B.S.E in Computer Science and Data Science
- Graduated with highest distinction (Summa Cum Laude)
- Cumulative GPA: 3.99/4.0, Major GPA: 4.0/4.0
- Relevant Courses: Machine Learning, Deep Learning, Reinforcement Learning, Computer Vision, Web Systems, Artificial Intelligence, Operating Systems, and Data Structures and Algorithms

HONORS AND AWARDS

- Dean's Honor List (Fall'15, Winter & Fall'16, Fall'17, Winter'18), University Honors (Winter'16, Fall'17, Winter'18), James B. Angell Scholar ('18, '19)
- NSF Graduate Research Fellowship (2018): Honorable Mention
- Richard H. Orenstein Fellowship in Memory of Murray Orenstein (2019)

PUBLICATIONS

1. Xin Wang, **Thomas E. Huang***, Benlin Liu*, Fisher Yu, Xiaolong Wang, Joseph E Gonzalez, Trevor Darrell, Robust Object Detection via Instance-Level Temporal Cycle Confusion, International Conference on Computer Vision (ICCV), 2021 (Acceptance rate: 25.9%)
2. Wonkwang Lee, Whie Jung, Han Zhang, Ting Chen, Jing Yu Koh, **Thomas Huang**, Hyungsuk Yoon, Honglak Lee, Seunghoon Hong, Revisiting Hierarchical Approach for Persistent Long-Term Video Prediction, International Conference on Learning Representations (ICLR), 2021 (Acceptance rate: 28.7%)
3. Xin Wang*, **Thomas E. Huang*,** Trevor Darrell, Joseph E. Gonzalez, Fisher Yu, Frustratingly Simple Few-Shot Object Detection, International Conference on Machine Learning (ICML), 2020 (Acceptance rate: 21.8%)
4. Seunghoon Hong, Xinchen Yan, **Thomas Huang**, Honglak Lee**,** *Learning Hierarchical Semantic Image Manipulation through Structured Representations*, Advances in Neural Information Processing Systems (NeurIPS), Montreal, Canada, 2018. (Acceptance rate: 20.8%)

RESEARCH EXPERIENCE

Jul. 2021 – Current **Researcher**, Computer Vision Lab, ETH Zürich
- Advisor: Prof. Fisher Yu

Sep. 2019 – Jun. 2021 **Researcher**, AI Lab, UofM
- Advisor: Prof. Honglak Lee

Jun. 2019 – Jun. 2020 **Research Intern**, Berkeley DeepDrive (BDD) Lab, UC Berkeley
- Advisor: Dr. Fisher Yu
- Worked on few-shot object detection and domain robustness.

Apr. 2018 – Sep. 2019 **Undergraduate Research Assistant**, AI Lab, UofM
- Advisor: Prof. Honglak Lee
- Worked on the project on object-level image manipulation using a novel deep hierarchical generative framework as a participant in the Summer Undergraduate Research in Engineering (SURE) program. Evaluated performance, explored applications, and demonstrated the capabilities of our proposed framework. Implemented the interactive image-editing demo, an interface that allows users to edit images by manipulating objects in the images. Worked on data-driven image editing, which utilizes generations from our framework for data augmentation.

Jan. 2018 – Apr. 2018 **Undergraduate Research Assistant**, ARM Lab, UofM
- Advisor: Prof. Dmitry Berenson
- Worked on a project of using deep learning methods to infer the complete shape of objects given only a partial view. Successfully built a pipeline for generating training data and integrated a shape reconstruction network with a robot. Wrote an extensive report that described the methods used, results and findings, and future directions of the research. Gave an invited presentation on this project to over 100 undergraduate students in the Intro. to Machine Learning course.

Apr. 2016 – Sep. 2016 **Research Intern**, BioInMech Lab, Ritsumeikan University, Japan
- Advisor: Prof. Shugen Ma
- Developed a framework for communication between Mathematica and hardware interfaces for robots to be used by other researchers, with a focus on extensibility and ease of integration.

Sep. 2015 – Apr. 2016 **Undergraduate Research Assistant**, S. M. Wu Manufacturing Research Center, University of Michigan
- Advisor: Prof. Xiaoning Jin
- Researched the use of sound sensors to detect leakage in pipes. Utilized LabVIEW to collect experimental data and analyzed the data using analytical tools in MATLAB.

WORK EXPERIENCE

May 2017 – Aug. 2017 **Software Engineering Intern**, Salesforce, San Francisco

TEACHING

Sep. 2020 – Dec. 2020 **EECS 545: Machine Learning (GSI)**, UofM
Jan. 2019 – Apr. 2019 **EECS 445: Introduction to Machine Learning (Head TA)**, UofM
Sep. 2018 – Dec. 2018 **EECS 445: Introduction to Machine Learning (TA)**, UofM
Jan. 2018 – Apr. 2018 **EECS 445: Introduction to Machine Learning (TA)**, UofM