SHIH-YANG SU

<https://lemonatsu.github.io/>

EDUCATION

Ph.D., Computer Science *Fall 2020 - Present*
The University of British Columbia, Vancouver BC, Canada
Advisor: Prof. Helge Rhodin
- Human Motion Learning, Character Control and Animation

M.Sc., Computer Engineering *Aug 2018 - May 2020*
Virginia Tech, Blacksburg VA, United States GPA: 3.95/4.00
Advisor: Prof. Jia-Bin Huang
- Visual Representation Learning, Embodied Vision Learning

B.Sc., Computer Science *Sep 2013 - Jun 2017*
National Tsing Hua University, Hsinchu, Taiwan GPA: 4.16/4.30, Rank: 3/120 (top 2.5%)
Advisor: Prof. Shang-Hong Lai, Prof. Chun-Yi Lee
- Object Detection on Embedded System, Multi-agent Reinforcement Learning

PUBLICATIONS

- **A-NeRF: Surface-free human 3D pose refinement via neural rendering**
  Shih-Yang Su, Frank Yu, Michael Zollhöefer, Helge Rhodin
  Neural Information Processing Systems (**NeurIPS**), 2021 (to appear)

- **3D photography using context-aware layered depth inpainting**
  Meng-Li Shih, Shih-Yang Su, Johannes Kopf, Jia-Bin Huang
  IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2020 [pdf][project page]

- **Graph generation with variational recurrent neural network**
  Shih-Yang Su, Hossein Hajimirsadeghi, Greg Mori
  Neural Information Processing Systems (**NeurIPS Workshop**), 2019 [pdf]

- **Diversity-driven exploration strategy for deep reinforcement learning**
  Zhang-Wei Hong, Tzu-Yun Shann, Shih-Yang Su, Yi-Hsiang Chang, Chun-Yi Lee
  Neural Information Processing Systems (**NeurIPS**), 2018 [pdf]

- **Virtual-to-real: Learning to control in visual semantic segmentation**
  Zhang-Wei Hong, Yu-Ming Chen, Hsuan-Kung Yang, Shih-Yang Su, Tzu-Yun Shann, Yi-Hsiang Chang, Brian Hsi-Lin Ho, Chih-Chieh Tu, Yueh-Chuan Chang, Tsu-Ching Hsiao, Hsin-Wei Hsiao, Sih-Pin Lai, Chun-Yi Lee
  International Joint Conference on Artificial Intelligence (**IJCAI**), 2018 [video][pdf]

- **A deep policy inference Q-network for multi-agent systems**
  Shih-Yang Su*, Zhang-Wei Hong*, Tzu-Yun Shann*, Yi-Hsiang Chang, and Chun-Yi Lee
  (∗: equal contribution)
  International Conference on Autonomous Agents and Multiagent Systems (**AAMAS**), 2018 [pdf]

- **Automatic conversion of pop music into chiptunes for 8-bit pixel art**
  Shih-Yang Su, Cheng-Kai Chiu, Li Su, and Yi-Hsuan Yang
  International Conference on Acoustics, Speech and Signal Processing (**ICASSP**), 2017 [pdf]

RESEARCH AND WORK EXPERIENCE

Research Intern - Borealis AI   May 2019 - Aug 2019

Mentor: Dr. Hossein Hajimirsadeghi, Prof. Greg Mori

· Worked on graph structure generation with variational inference [pdf]
· Worked on graph convolutional network for banking application

Research Assistant - Virginia Tech   Fall 2018

Advisor: Prof. Jia-Bin Huang

· Developed compact optical flow estimation model with implicit occlusion reasoning
· Worked on visual navigation algorithm in Habitat environment

Research Assistant - National Tsing Hua University   Jan 2017 - April 2018

Advisor: Prof. Chun-Yi Lee

· Developed algorithm for multi-agent collaborative/competitive scenarios [pdf]
· Proposed ways to improve exploration for RL agent [pdf]
· Worked on virtual-to-real learning for vision-based robot navigation [pdf]

Research Assistant - National Tsing Hua University   Fall 2016

Advisor: Prof. Shang-Hong Lai

· Deployed algorithms on embedded system for real-time object detection

Research Assistant - Academia Sinica   Summer 2016

Advisor: Dr. Yi-Hsuan Yang, Dr. Li Su

· Developed algorithms for converting pop music into 8-bit song [pdf]

Quality Assurance Team Intern - Broadcom   Summer 2015

PROFESSIONAL ACTIVITIES

Conference Reviewer: NeurIPS (2019, 2020), ICLR (2021), ICML (2020, 2021)

Student Volunteer: NeurIPS (2018, 2019)

TEACHING

Teaching Assistant - ECE / CS 6524 Deep Learning   Fall 2019

Teaching Assistant - ECE5424 / CS5824: Advanced Machine Learning   Spring 2019

Teaching Assistant - Hardware Laboratory   Fall 2016

AWARDS

ZyXEL Outstanding Student Scholarship

Awarded to outstanding student in college of Electrical Engineering and Computer Science

Excellent Graduation Project Award

Awarded to top 5 graduation projects in Dept. of Computer Science

Academic Achievement Awards (5 times, 2013-2017)

Awarded to top 5% students in Dept. of Computer Science