# 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

GPA: 3.95/4.00

Virginia Tech, Blacksburg VA, United States

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 Zollhöfer, 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