

# SHIH-YANG SU

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

## EDUCATION

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### 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

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### NPC: Neural Point Characters from Video

Shih-Yang Su, Timur Bagautdinov, Helge Rhodin

International Conference on Computer Vision (ICCV), 2023 [pdf][project page]

### DANBO: Disentangled articulated neural body representations via graph neural networks

Shih-Yang Su, Timur Bagautdinov, Helge Rhodin

European Conference on Computer Vision (ECCV), 2022 [pdf][project page]

### A-NeRF: Articulated neural radiance fields for learning human shape, appearance, and pose

Shih-Yang Su, Frank Yu, Michael Zollhöfer, Helge Rhodin

Neural Information Processing Systems (NeurIPS), 2021 [pdf][project page]

### 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

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### Research Intern - Reality Labs Research

May 2023 - Aug 2023

Mentor: Dr. Jason Saragih

- Working on 3D generative models

### Research Intern - Reality Labs Research

May 2022 - Sep 2022

Mentor: Dr. Timur Bagautdinov

- Working on realistic body rendering with budgeted data

### 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

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

**Student Volunteer:** NeurIPS (2018, 2019)

## TEACHING

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**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

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**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*