SHIH-YANG SU

shihyang@cs.ubc.ca ◇ https://lemonatsu.github.io/

EDUCATION

Ph.D., Computer Science *Fall 2020 - May 2024 (expected)*
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

Gaussian Shadow Casting for Neural Characters
Luis Bolaños, **Shih-Yang Su**, Helge Rhodin
IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2024 [pdf]

Mirror-Aware Neural Humans
Daniel Ajisafe, James Tang, **Shih-Yang Su**, Bastian Wandt, Helge Rhodin
International Conference on 3D Vision (**3DV**), 2024 [pdf][project page]

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

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]

INVITED TALKS

From Videos to Animatable 3D Neural Characters: Eletronic Arts Vancouver (Nov 23, 2023)
Host: Ben Liang

PROFESSIONAL ACTIVITIES

Conference Reviewer: NeurIPS (2019, 2020, 2023), ICLR (2021, 2023), ICML (2020, 2021)