SHIH-YANG SU

at7788546@gmail.com

RESEARCH INTEREST

Currently, I am a research assistant at National Tsing Hua University, and my research interests lie in the following fields:

❖ Reinforcement Learning
❖ Machine Learning
❖ Computer Vision

In particular, I am seeking to develop intelligent autonomous robots, and accelerate the training speed of learning algorithms.

EDUCATION

2013.9 - 2017.6. **B.S. in Computer Science**

Dept.Computer Science, National Tsing Hua University, Taiwan

- Rank: 3/120 (top 3%)
- GPA: 4.16/4.30 (overall)

EXPERIENCES

2017.1 - **Research Assistant**

Dept. of Computer Science, National Tsing Hua University, Taiwan

- Reinforcement Learning
- Multi-agent Setting
- Gaming Agent

Supervisor: Prof. Chun-Yi Lee

2016.9 - 2017.1 **Teaching Assistant** - Hardware Lab., 2016 Fall

Dept. of Computer Science, National Tsing Hua University, Taiwan

Supervisor: Prof. Chun-Yi Lee

2016.7 - 2016.12 **Research Assistant**

Dept. of Computer Science, National Tsing Hua University, Taiwan

Project: Real-Time Object Detection on Embedded System

- Computer Vision
- Object Detection
- Deep Learning

Supervisor: Prof. Shang-Hong Lai

2016.7 - 2016.9 **Research Assistant**

Academia Sinica, Research Center for Information Technology Information

Project: Automatic Conversion of Pop Music into Chiptunes for 8-bit Pixel Art

- Machine Learning
- Music Information Retrieval

Supervisor: Prof. Yi-Hsuan Yang, Prof. Li Su

2015.7 - 2015.9 **Summer Internship** - Quality Assurance Team

Broadcom, Hsinchu, Taiwan

- Network Product Testing
- Performance Tuning

RESEARCH PAPERS

Peer-reviewed conference paper

- **S. Y. Su,** C. K. Chiu, L. Su and Y. H. Yang, "Automatic Conversion of Pop Music into Chiptunes for 8-bit Pixel Art," *2017 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), New Orleans, LA, 2017, pp. 411-415.* [link]

Under review

- Z. W. Hong, **S. Y. Su,** Y. S, Chang, T. Y. Shann and C. Y. Lee, "DPIQN: Deep Policy Inference Q-Network," **submitted to** *2018 Association for the Advancement of Artificial Intelligence (AAAI)*

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 Excellence Awards** (6 times) (2013-2017)
  Awarded to top 5% students in Dept. of Computer Science

- **Best Project Award** - In course Introduction to Multimedia

- **Best Poster Presentation Award** - In course Social Computing Application Design

RELATED COURSEWORK

- Large-Scale Machine Learning
- Design and Analysis of Algorithms
- Music Information Retrieval
- Probability
- Data Structures
- Introduction to Multimedia
- Software Engineering
- Linear Algebra

TECHNICAL SKILLS

Programming Language: Python, C/C++, Objective-C, Java, MATLAB
Deep Learning Framework/Library: Keras, Tensorflow, Pytorch

SELECTED PROJECTS

1. **DPIQN: Deep Policy Inference Q-Network:** https://github.com/williamd4112/infer-policy-feature
   Z. W. Hong, **S. Y. Su,** Y. S, Chang, T. Y. Shann and C. Y. Lee, "DPIQN: Deep Policy Inference Q-Network," **currently under review** for Association for the Advancement of Artificial Intelligence (AAAI) 2018.

2. **Pop-to-8bit:** https://github.com/LemonATsu/pop-to-8bit
   S. Y. Su, C. K. Chiu, L. Su and Y. H. Yang, "Automatic Conversion of Pop Music into Chiptunes for 8-bit Pixel Art" In International Conference on Acoustics, Speech and Signal Processing (ICASSP) 2017.

3. **Keras Image Captioning Model:** https://github.com/LemonATsu/Keras-Image-Caption
   S. Y. Su, Y. R. Lin, S. D. Yang, NTHU CS565500 final project, CIDErD score: 0.765, Rank 1 in course.

4. **Bridge-Building:** https://github.com/LemonATsu/Bridge-Building
   S.Y. Su, toy example for training Reinforcement Learning agent.

REFERENCES

Professor Chun-Yi Lee
Dept. Computer Science, National Tsing Hua University
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