Kun **Su**

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Research Interests

Audio-Visual Learning: Latent representation disentanglement of video/audio (music), transformation and generation from video/audio (music) to audio (music)/video.
Computer Vision: Human and animal 2D/3D pose, motion prediction, action recognition, temporal segmentation.
Deep Learning: Unsupervised learning, self-supervised learning, interpretable embeddings, generative models, incremental learning, meta learning.

Education

Apr 2019 - Current
Ph.D.: Electrical & Computer Engineering
University Of Washington - Seattle, WA

1. Current GPA: 3.90

Sep 2017 - Mar 2019
Master of Science: Electrical & Computer Engineering
University Of Washington - Seattle, WA

1. Graduated with 3.92 GPA

Aug 2013 - May 2017
Bachelor of Science: Electrical Engineering
Rensselaer Polytechnic Institute - Troy, NY

1. Graduated magna cum laude
2. Graduated with 3.76 GPA

Publications

Conference Papers

1. **Su, Kun**, Xiulong Liu, and Eli Shlizerman. "*Audeo: Audio generation for a silent performance video*." ***Advances in Neural Information Processing Systems*** **(NeurIPS)** 33 (2020).

2. **Su, Kun**, Xiulong Liu, and Eli Shlizerman. "*Predict & cluster: Unsupervised skeleton based action recognition*." ***Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition*** **(CVPR)**. 2020.

3. You, Jie, Yufei Zhang, Mingchen Li, **Kun Su**, Fumin Zhang, and Wencen Wu. "*Cooperative parameter identification of advection-diffusion processes using a mobile sensor network*." In *2017* ***American Control Conference (ACC)***, pp. 3230-3236. IEEE, 2017.

4. Li, M., **Su, K.**, Zhang, Y., You, J. and Wu, W., 2016, November. *Experimental validation of diffusion coefficient identification using a multi-robot system*. In *2016* ***IEEE MIT Undergraduate Research Technology Conference (URTC)*** (pp. 1-4). IEEE.

Journal Papers

1. **Su, Kun**, and Eli Shlizerman. "*Clustering and Recognition of Spatiotemporal Features through Interpretable Embedding of Sequence to Sequence Recurrent Neural Networks*." ***Frontiers in Artificial Intelligence*** 3 (2020): 70.

2. Wu, W., You, J., Zhang, Y., Li, M. and **Su, K.**, 2020. *Parameter Identification of Spatial–Temporal Varying Processes by a Multi-Robot System in Realistic Diffusion Fields*. ***Robotica***, pp.1-20.

Workshop Papers

1. **Su, Kun**, and Eli Shlizerman. "*Dimension reduction approach for interpretability of sequence to sequence recurrent neural networks*." Understanding and Improving Generalization in Deep Learning, **ICML** 2019 Workshop.

Preprints

1. **Su, Kun**, Xiulong Liu, and Eli Shlizerman. "*Multi-instrumentalist Net: Unsupervised Generation of Music from Body Movements*." (2020)

2. Zheng, Yang, Jinlin Xiang, **Kun Su**, and Eli Shlizerman. "*BI-MAML: Balanced Incremental Approach for Meta Learning*." *arXiv preprint arXiv:2006.07412* (2020).

Teaching Experiences

Teaching Assistant

Practical Introduction to Neural Networks **(Graduate TA)**, ECE 596, University of Washington, 2019
Computer Components and Operations **(Undergraduate TA)**, ECSE 2610, Rensselaer Polytechnic Institute, 2016

Reviewing

Reviewer (workshop): Real Neurons & Hidden Units at NeurIPS 2019.

Internship

Robotic Simulation Intern, SUNPRO Mechanical & Electrical Engineering Co., Ltd. June-August 2016
1. Design a visual system to evaluate the welded components in the Nissan assembly line.
2. Design an educational base for beginners to industrial robots.

Skills

Deep Learning Frameworks: PyTorch, TensorFlow
Python Libraries: NumPy, scikit-learn, OpenCV, Librosa, pretty-midi
Other Tools: Linux Shell Script, Matlab, C/C++, LabView
Languages: English, Chinese, Cantonese