

Siyuan Shan

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Research Interests: Meta Learning, Set Modeling, Generative Adversarial Networks, Time Series Analysis

EDUCATION

University of North Carolina at Chapel Hill

PhD in Computer Science

Chapel Hill, NC

Aug. 2018 – May 2023

Beihang University

Bachelor in Biomedical Engineering

Beijing, China

Aug. 2013 – May 2017

Czech Technical University in Prague

Exchange Student

Prague, Czech Republic

Aug. 2015 – Jan 2016

PUBLICATION

Siyuan Shan, Yang Li, Junier Oliva. “Meta-Neighborhoods,” in *Neural Information Processing Systems (NeurIPS)* 2020.

Yang Li, Haidong Yi, Christopher M Bender, **Siyuan Shan**, Junier Oliva. “Exchangeable Neural ODE for Set Modeling,” in *Neural Information Processing Systems (NeurIPS)* 2020.

Meijun Liu, Jicong Zhang, Wenxiao Jia, Qi Chang, **Siyuan Shan**, Yegang Hu, Dangxiao Wang. “Enhanced executive attention efficiency after adaptive force control training: behavioural and physiological results,” in *Behavioural Brain Research* 2019.

Siyuan Shan, Yi Ren. “Automatic Audio Tagging with 1D and 2D Convolutional Neural Networks” in *Detection and Classification of Acoustic Scenes and Events* 2018.

Yan Xu, **Siyuan Shan**, Ziming Qiu, Zhipeng Jia, Zhengyang Shen, Yipei Wang, Mengfei Shi, I Eric, Chao Chang. “End-to-end subtitle detection and recognition for videos in East Asian languages via CNN ensemble,” in *Signal Processing: Image Communication* 2018.

Siyuan Shan, Wen Yan, Xiaoqing Guo, Eric I-Chao Chang, Yubo Fan, Yan Xu. “Unsupervised end-to-end learning for deformable medical image registration,” in *Arxiv* 2017.

EXPERIENCE

Graduate Researcher

Advisor: Junier Oliva

Aug 2018 – now

Chapel Hill, NC

- Develop a meta learning approach to achieve better discriminative learning performance across a wide range of classification and regression tasks
- Work on set modeling with Neural Ordinary Differential Equation (ODE) for point cloud classification, generation and temporal point cloud modeling

Research Intern at ByteDance AI Lab

Advisor: Jitong Chen

May 2020 – Aug 2020

Mountain View, CA

- Extending GANSynth for flexible instrument sound generation by interpreting the latent space of GAN
- Our model can control several key aspects of the generated sounds, such as velocity, duration, distortion and reverb

Kaggle Freesound General-Purpose Audio Tagging Challenge

Advisor: Yi Ren

Mar 2018 – May 2018

Beijing, China

- Combine 1D ConvNets to process raw audio and 2D ConvNets to process Mel Spectrogram for audio classification
- Our team ranked 16/558 (top 3%) among all participants

Undergraduate Research Assistant

May 2016 – July 2017

Advisor: Yan Xu

Beijing, China

- Work on unsupervised medical image registration using U-Net and Spatial Transformer Network
- Work on video subtitle detection based on color histogram and recognition using CNNs

Undergraduate Research Assistant

Feb 2016 – Apr 2016

Advisor: Jicong Zhang

Beijing, China

- Work on a project of exploiting patterns that are indicative of sustained attention from EEG data

TECHNICAL SKILLS

Languages: Python, C/C++, MATLAB, Latex

Deep Learning Frameworks: Pytorch, TensorFlow, Keras, Caffe

ACTIVITIES

Reviewer for NeurIPS 2019 Workshop on Sets & Partitions

Ranked 16/558 (top 3%) Kaggle Freesound General-Purpose Audio Tagging Challenge

AWARDS

Outstanding Graduates of Beihang University, 2017

National Scholarship, 2015