

Haotian Ma

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Department of Physics

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Research Interests

My research interests cover from theoretical methods in deep learning to symbolic system. Particularly, I focus on interpretability of neural networks. In addition, I am interested in deep learning with symbolic based methods.

Education

Southern University of Science and Technology, China

Department of Physics. Major GPA: 3.8.

Some core courses: Advanced Mathematics(92); Methods of Mathematical Physics(94); Analytical Mechanics(92); Discrete Mathematics(92); Experiment of Modern Physical Technology(92); Quantum Mechanics I(90); Academic English III(96); Academic English IV(91);

Research Experience

Research Intern at UCLA, Los Angeles

Present

VCLA lab. Advisor: Prof. Song-Chun Zhu and Prof. Ying Nian Wu.

Research Assistant at Shanghai Jiao Tong University, Shanghai

2018-2019

John Hopcroft Center for Computer Science. Advisor: Prof. Quanshi Zhang and Prof. Liyao Xiang.

Publications

Interpreting CNNs via Decision Trees (CVPR2019)

Quanshi Zhang, Yu Yang, **Haotian Ma**, Ying Nian Wu

Complex-Valued Neural Networks for Privacy Protection (ICLR2020)

Liyao Xiang, Hao Zhang, **Haotian Ma**, Yifan Zhang, Jie Ren, Quanshi Zhang

Quantifying Layerwise Information Discarding of Neural Networks (preprint)

Haotian Ma, Yinqing Zhang, Fan Zhou, Quanshi Zhang

Explaining AlphaGo: Interpreting Contextual Effects in Neural Networks (preprint)

Zenan Ling, **Haotian Ma**, Yu Yang, Robert C. Qiu, Song-Chun Zhu, Quanshi Zhang

Deep Quaternion Features for Privacy Protection(preprint)

Hao Zhang, Yiting Chen, Liyao Xiang, **Haotian Ma**, Jie Shi, Quanshi Zhang

Visual graph mining for graph matching (Volume 178, January 2019, Pages 16-29, CVIU)

Quanshi Zhang, Xuan Song, Yu Yang, **Haotian Ma**, Ryosuke Shibasaki

Awards and honors

International Genetically Engineered Machine competition 2018(Silver prize)

An interdisciplinary competition involving interdisciplinary cooperation in mathematics, synthetic biology, computer science and statistics, organized by MIT.

ASC Student Supercomputer Challenge 2018(Top 10%)

A competition including cluster installation, benchmark test and specific domain issues.

Philosophy summer camp of Nankai University (Top1 among all science students of China)

High school summer camp for independent enrollment, difficult philosophical problems included.