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Yuhao Mao

Education

2017-Now, Zhejiang University, CKC Honors College, China

Applied Mathematics & Finance

- Academic rank: 1/139, GPA: 3.96/4.0
- 2017-2019 Provincial Scholarship

Research

December 2019-now, *Transfer Attack: An Empirical Evaluation in Real Settings*, NESA Lab, College of Computer Science, Zhejiang University

- Intends to study transferability across various attacks

August 2019, *Certifying Robustness of Deep Neural Networks*, NESA Lab, College of Computer Science, Zhejiang University

- Generalized former methods
- Explored some interesting properties of vanilla-trained DNNs and robust-trained DNNs in their robust space measured by asymmetry
 - Robust space of vanilla-trained DNNs, in most cases, have no shape but a distorted ball covering the main object. However, correct objects, though slightly modified, can be classified by human eyes in the robust space of robust-trained DNNs. It applies to various datasets, such as MNIST and Fashion MNIST.
 - Illumination of robustness asymmetry in the pixel level shows mysterious bimodal, occasionally multimodal pattern.

Experience

July, 2019, *Machine Learning Summer Program*, Massachusetts Institute of Technology

- Attend academic courses and experience courses about traditional machine learning, deep learning and reinforcement learning.
- Led team to finish a project considering artist style classification:
 - involved typical state-of-art models, such as Resnet, Googlenet, VGG, etc.
 - Utilizing ensemble learning, developed a model which achieves almost the same performance as state-of-art model with much simpler architecture.
 - with data augmentation skills, achieved best performance among 16 teams.

June, 2019, *4th Annual Honors International Faculty Institute Workshop*, Texas Christian University

- Speak, give presentation and attend lectures as one of four students specially invited.

Programming

Extremely familiar

- Python
- Latex
- C

Familiar

- MATLAB
- R
- HTML

Amateur Interests

Financial analysis, math education, music, volleyball, table tennis, reading