Tong Wu
APT1E 730 Interdrive, University City, MO 63130-3594
tongwu@wustl.com | 765-720-4989

EDUCATION

Washington University in St. Louis – *GPA 4.0/4.0*   *WashU Graduate Affiliation Scholarship*   St. Louis, MO
Bachelor/Master of Science in Computer Science and Mathematics Double Major;   Sep 2018-May 2021
Relevant Coursework: Adversarial AI (A), Computer Vision, Bayesian Machine Learning (A), Analysis of Imaging Data (A)

DePauw University, College of Liberal Arts – *GPA 3.94/4.0*   *Dean's List, DePauw Merit Scholarship*   Greencastle, IN
Bachelor of Arts; Pre-Engineering Major; Math Minor;   Sep 2016-May 2018
Relevant Coursework: Statistical Computing (A), Data Structures (A), Object-Oriented Software Development (A)

RESEARCH EXPERIENCE

Defending against Physically Realizable Attacks on Image Classification   St. Louis, MO
Research Assistant supervised by Prof. Yevegeniy Vorobeychik   Dec 2018-Present
- Built robust Convolutional NN on face recognition and traffic sign classification, submitted to ICLR 2020, the paper is available at https://arxiv.org/pdf/1909.09552.pdf
- Demonstrated that the state-of-the-art robust model exhibit limited effectiveness against three highest profile physical attacks
- Proposed a new abstract model, ROA, in which an adversary places a small crafted rectangle that fools the image classifier
- Adversarial Training using our ROA achieved much better robustness against physically realizable attacks than the SOTA

Image Denoising with Bayesian Model Selection   St. Louis, MO
Research Project   Jan 2019-May 2019
- Implemented Image Denoising algorithms with Gradient Descent of Total Variation as well as Low-Pass Fourier Filtering
- Formulated the Radial Base Kernel Regression by constructing a prior belief of the weights and likelihood of data
- Applied the Bayesian Model Selection to improve the efficiency and result of Image Denoising greatly

WORKING EXPERIENCE

Washington University in St. Louis   St. Louis, MO
Teaching Assistant of Machine Learning   Jan 2019-Present
- Hold regular office hour every week, helped students on course materials especially theoretical analysis of machine learning
- Advised and helped students build machine learning algorithms including Logistic Regression, Bagging and AdaBoost
- Graded students' lab assignments and exams; primarily checking the mathematical proof and coding efficiency and functionality.

Beiqi Foton Motor Co., Ltd.   Beijing, CN
Summer Marketing Intern   May 2017-Aug 2017
- Researched extensively on government policies regarding Battery Electric Vehicle and predicted sales from the analysis results
- Conducted analysis on core company competencies including battery aging, engine efficiency, and customer service etc.
- Assisted in marketing team's daily operations including translating over 100 pages market survey reports from English to Chinese

SKILLS, HONORS & INTERESTS

Programming Languages: (Proficient)Python, (Proficient)R, (Proficient)MATLAB, C++, experienced with Java, Mathematica
Framework & Other Techniques: Pytorch, TensorFlow, Keras, MatConvNet, Numpy, Pandas, OpenCV as well as Linux
Honors: Michigan Competition/MATH Challenge 3/74, Putnam Mathematical Competition top 10%
Language: Mandarin (Native Proficiency), English (Proficient)
Others: DePauw Science Research Fellow, Participant of Chinese Go Game association, Certification of Neural Networks and Deep Learning on Coursera, Volunteer of Beijing Museum of Natural History