

OWEN XIJIE HUANG

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EDUCATION

Shanghai Jiao Tong University

B.S. in Measurement, Control Technology, and Instrumentation
School of Electronics Information and Electrical Engineering

Shanghai China

Sept 2016 - June 2020

- Overall GPA: 89.40/100 (3.82/4.3) Ranking: 2/55 [[certification](#)]
- Advisor: [Prof. Cewu Lu](#), Machine Vision and Intelligence Group, SJTU
- Advisor: Prof. Manhua Liu, Department of Instrument Science and Engineering, SJTU

University of California, Los Angeles

Visiting Research Student

Los Angeles, USA

June 2019 - Sept 2019

- Research intern to UCLA ECE department (Cross-disciplinary Scholars in Science & Technology Program)
- Overall GPA: 4.0/4.0
- Best Presentation Award (Among 90 students in CSST Program)
- Advisors: [Prof. Mani B. Srivastava](#), Department of Electrical Computer Engineering, UCLA

RESEARCH INTERESTS

My research interests lie in the general area of machine learning, particularly in deep learning, security and privacy, applications in computer vision and internet of things. More concretely, My research interests focus on human-object interaction (HOI) recognition and backdoor adversarial attack of DNNs.

RESEARCH/PROJECT EXPERIENCE

Machine Vision and Intelligence Group, Department of Computer Science, SJTU

Undergraduate Research Assistant

Sept 2017 - Present

- Proposed [Transferable Interactiveness Network](#) to tackle the imbalanced distribution in human action recognition problems, especially human-object interaction detection problems
- Designed method that outperforms the previous state-of-the-art methods by 2.38, 3.06, and 2.17 mAP on three Default category sets on HICO-DET, 4.0 and 3.4 mAP on V-COCO
- Built the state-of-the-art dataset of human-object interaction **HAKE** [[Website](#)]. HAKE provides elaborate and abundant body part state labels for human instances in a large scale of images and videos.
- One [paper](#) has been accepted in CVPR2019, one [paper](#) uploaded on arxiv (co-author)

Networked Embedded Systems Laboratory, Department of Electrical Computer Engineering, UCLA

Undergraduate Research Assistant to Professor Mani Srivastava, ACM&IEEE Fellow

June 2019 - Present

- Designed an algorithm to detect Trojan backdoor in deep neural networks (i.e., whether a neural network has been compromised by malware that causes the model to produce incorrect results when the input includes special triggers for the backdoor.)
- Proposed a detection framework called **NeuronInspect**, using visual interpretability technique to effectively detect Trojan backdoors in deep neural networks without restoring the trigger and any backdoor samples.
- One paper in submission (first-author)

Fingerprint Group, Department of Instrument Engineering, SJTU

Undergraduate Research Assistant

Feb 2019 - Present

- Designed Generative Adversarial Network to denoise and enhance latent fingerprint images
- Optimized the fingerprint segmentation, feature extraction and recognition algorithm based on enhanced results. Achieve state-of-the-art matching accuracy on NIST-27 dataset.

IIoT Research Center, Department of Electrical Engineering, SJTU

Undergraduate Research Assistant

June 2017 - Sept 2017

- Analyzed the information of social network (weibo) using machine learning algorithm to build social connection profiles of users
- Optimized *jieba* word segmentation framework to improve its accuracy and efficiency on cer

PUBLICATIONS

Transferable Interactiveness Knowledge for Human-Object Interaction Detection

Yong-Lu Li, Siyuan Zhou, **Xijie Huang**, Liang Xu, Ze Ma, Haoshu Fang, Yanfeng Wang, Cewu Lu
IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2019 (Acceptance Rate: 25.15%)

HAKE: Human Activity Knowledge Engine

Yong-Lu Li, Liang Xu, Xinpeng Liu, **Xijie Huang**, Ze Ma, Hao-Shu Fang, Cewu Lu
Under Review

NeuronInspect: Detecting Trojan Backdoors in Deep Neural Networks via Visual Interpretability

Xijie Huang, Moustafa Alzantot, Mani.B.Srivastava
Under Review

ACADEMIC ACHIEVEMENTS

National Scholarship (Top 2% students in Shanghai Jiao Tong University)	2017
A Class Scholarship (Top 2% students in Shanghai Jiao Tong University)	2017
Second Prize in China Undergraduate Mathematical Contest in Modeling, Shanghai Division.	2017
Endress+Hauser Scholarship, Endress+Hauser Inc.	2018
B Class Scholarship (Top 10% students in Shanghai Jiao Tong University)	2018
Meritorious Winner [certificate] in MCM & ICM, Comap.	2018
First Prize in TIDY UP MY ROOM CHALLENGE at ICRA 2018 (Member of Kaibot Team)	2018
CSST Scholarship (USD \$5,343) [letter] University of California, Los Angeles	2019
Best Presentation Award [certificate] (UCLA-CSST)	2019
RongChang Academic Scholarship (Highest honor in Shanghai Jiao Tong University, Top 20 of 16000 students)	2019
A Class Oversea Research Fellowship	2019

EXTRACURRICULAR EXPERIENCES

Volunteer in Shanghai International Marathon	Oct, 2016
Volunteer in China-Korea Symposium on Artificial Intelligence and Brain Science	Oct, 2019

COMPUTER AND LANGUAGE SKILLS

Natural Languages	Chinese (native), English (fluent), Japanese(fluent)
Programming Languages	Python, MATLAB, C, C++, Java, HTML
Deep Learning Framework	TensorFlow, Keras, Caffe, PyTorch
Miscellaneous Skills	LaTeX, Altium Designer, Proteus, LabVIEW

STANDARD TEST

TOEFL	105 (Reading:28 Listening:30 Speaking:24 Writing:23)
GRE	322 (Q170+V152) + 3.5(AW)