OWEN XIJIE HUANG

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EDUCATION

Shanghai Jiao Tong University — Shanghai China
B.S. in Measurement, Control Technology, and Instrumentation — *Sept 2016 June 2020*
School of Electronics Information and Electrical Engineering

- 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 — Los Angeles, USA
Visiting Research Student — *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. Achieved 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 certain data

PUBLICATIONS

Transferable Interactiveness Knowledge for Human-Object Interaction Detection
Yong-Lu Li, Siyuan Zhou, **Xijie Huang**, Liang Xu, Ze Ma, Hao-shu 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

SELECTED 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
8th place in ICCV Person In Context Human-Object Interaction Challenge 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)