Ziyue "Alan" Xiang

Research Assistant

Video and Image Processing Laboratory (VIPER),
School of Electrical and Computer Engineering,
Purdue University–West Lafayette

xiang71@purdue.edu
(+1)-765-494-3351
Chinese Mandarin, English, Cantonese
https://www.alanshawn.com
ziyue-alan-xiang
xziyue
alan-xiang
0000-0001-6054-5801
UKO6iCgAAAAJ
West Lafayette, Indiana, USA

Education

- **Ph.D. in Electrical and Computer Engineering** Aug. 2020–Present
  Purdue University, West Lafayette, Indiana, USA
- **Msc. in Computer Science** Aug. 2018–May 2020
  Syracuse University, Syracuse, New York, USA
- **Berkeley International Study Program** Aug. 2016–Dec. 2016
  University of California, Berkeley California, USA
- **Bsc. in Information and Computing Science** Sept. 2014–June 2018
  Sun Yat-sen University, Guangdong, China
  – Best undergraduate thesis award

Experience

- **Research Assistant** Aug. 2020–Present
  Video and Image Processing Laboratory (VIPER), ECE, Purdue University
  https://engineering.purdue.edu/~ips/
  – Conducting research under the SemaFor program
  https://engineering.purdue.edu/SEMAFOR/
  – Investigating reliable and cost-effective approach to counter deepfake and other types of media manipulation techniques that bring substantial threat to the credibility of information
- **Teaching Assistant** Jan. 2020–May 2020
  EECS, Syracuse University
  – Teaching assisant of *CIS-375: Discrete Mathematics* lectured by Prof. Andrew C. Lee
  – Responsible for grading, hosting office hours, and preparing recitation materials
  – Researched and practiced the transition to online learning during the COVID-19 pandemic
- **Research Assistant** Aug. 2018–July 2020
  SOS+CD Lab, iSchool, Syracuse University
  https://scienceofscience.org/
  – Developed techniques to detection figure manipuluation in scientific publications
  – Assisted in a successful grant application from US Office of Research Integrity
  – Participated in the organization of the first Computational Research Integrity Conference
  https://cri-conf.org/

Publication

2021

Ziyue Xiang, János Horváth, Sriram Baireddy, Paolo Bestagini, Stefano Tubaro, and Edward J. Delp (June 2021). "Forensic Analysis of Video Files Using Metadata". In: *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) Workshops*

2020

Ziyue Xiang and Daniel E. Acuna (2020). "Scientific Image Tampering Detection Based On Noise Inconsistencies: A Method And Datasets". In: *arXiv preprint arXiv:2001.07799*. URL: https://arxiv.org/abs/2001.07799

Daniel E. Acuna and **Ziyue Xiang** (2020). "Estimating a Null Model of Scientific Image Reuse to Support Research Integrity Investigations". In: *arXiv preprint arXiv:2003.00878*. URL: https://arxiv.org/abs/2003.00878

Projects

LaTeX

- **LaTeX 3 Tutorial**
  https://www.alanshawn.com/latex3-tutorial/

  One of the first practical tutorials for the LaTeX 3 programming language
- **The *luaprogtable* package**
  https://www.ctan.org/pkg/luaprogtable

  A LuaTeX package that provides programmable table interface

Computer Vision/Machine Learning

- **Better performance evaluation for image manipulation detection**
  https://www.alanshawn.com/tech/2020/02/20/mf-perf-eval.html

  Uncovering the problems of existing performance evaluation methods for image manipulation detection, calling for better techniques
- **Properties of robust features from MNIST**
  https://github.com/xziyue/robust_mnist_feature_py

  Extracting and studying the properties of robust features from the MNIST dataset, inspired by Andrew Ilyas, Shibani Santurkar, Dimitris Tsipras, Logan Engstrom, Brandon Tran, and Aleksander Madry (2019). "Adversarial examples are not bugs, they are features". In: *arXiv preprint arXiv:1905.02175*

Computer Network

- **VPN mechanism demonstration**
  https://www.alanshawn.com/vpn-demo/
- **WPANTAP: a TAP interface for Linux-wpan**
  https://github.com/xziyue/wpantap

Computer Graphics

- **The PyCG Series**
  https://www.alanshawn.com/pyopengl_series/

  A series of experiments with computer graphics algorithms in Python with the help of PyOpenGL and other tools

Skills

Python C++ Cython Lua HTML/CSS/JavaScript LaTeX Haskell Julia
Data Mining Data Visualization Machine Learning Computer Vision Linux Security Cybersecurity
tensorflow Apache Spark

Compilation timestamp: 2021-05-02T00:35:42.706666
Source: https://github.com/xziyue/cv_2021