Xiao Hu

http://xiaohu.info

Email: hu440@purdue.edu
Mobile: +1-832-276-2101

Professional Summary

I am a M.S. student in Computer Engineering major at Purdue University. My research broadly connects to the fields of low-power computer vision, UAV, human-computer interaction,, fairness in artificial intelligence, machine learning, and full-stack web development. I also have experience in crowdsourcing techniques and drone operations.

Education

- **Purdue University - Bachelor of Science** Aug 2016 – **May 2020**
  Major: Computer Science; Minor: Mathematics *GPA: 3.31/4*
- **Purdue University - Master of Science** Jun 2020 – **May 2022**
  Computer Engineering *GPA: 3.67/4*

Skills

- **Programming Languages:** Python, JavaScript, SQL, Java, C/C++, Assembly Language
- **Skills:** Computer Vision, Full-stack Web Development, Crowdsourcing Design, Dataset Visualization, Technical Writing

Publications

1. Xiao Hu, Ayden Kocher, Ziteng Jiao, et al. **Efficient Object Tracking for UAV Video**. *IEEE International Conference on Artificial Intelligence Circuits and Systems* (AICAS 2022), Incheon, Korea.
2. Xiao Hu, Ziteng Jiao, Ayden Kocher, et al. **Optical Flow Oriented Multi-object Tracking on UAV**. *IEEE International Conference on Artificial Intelligence Circuits and Systems* (AICAS 2022), Incheon, Korea.
3. Co-author of **Low-power computer vision: Improve the efficiency of artificial intelligence**. *CRC Press*, 2022 PDF
4. Xiao Hu, Ming-Ching Chang, Yuwei Chen, et al. **The 2020 Low-Power Computer Vision Challenge**. *IEEE International Conference on Artificial Intelligence Circuits and Systems* (AICAS 2021), online. PDF
5. Abhinav Goel, Caleb Tung, Xiao Hu, James C. Davis, George K. Thiruvathukal, Yung-Hsiang. **Efficient Computer Vision on Edge Devices withPipeline-Parallel Hierarchical Neural Networks**. *27th Asia and South Pacific Design Automation Conference* (ASP-DAC 2022), online. PDF
6. Abhinav Goel, Caleb Tung, Xiao Hu, Haobo Wang, James C. Davis, George K. Thiruvathukal, Yung-Hsiang. **Low-Power Multi-Camera Object Re-Identification using Hierarchical Neural Networks**. *2021 ACM/IEEE International Symposium on Low Power Electronics and Design* (ISLPED 2021), online. PDF
7. Xiao Hu, Haobo Wang, Anirudh Vegesana, Somesh Dube, Kaiwen Yu, Gore Kao, et al. **Crowdsourcing Detection of Sampling Biases in Image Datasets**. In *Proc. The Web Conference (WWW 2020)*, Taipei, Taiwan. PDF
8. Sangpil Kim, Hyung-gun Chi, Xiao Hu, et al. **A Large-scale Mechanical Components Benchmark for Deep Neural Networks**. In *Proc. IEEE Conf. on Computer Vision and Pattern Recognition (CVPR 2020)*, Seattle, WA PDF
9. Sangpil Kim, Hyung-gun Chi, Xiao Hu, et al. **First-Person View Hand Segmentation of Multi-Modal Hand Activity Video Dataset**. In *Proc. British Machine Vision Association* (BMVC 2020), Manchester, UK. PDF

Experience

- **Purdue University - Graduate Research Assistant** Jun 2020 - Present
  - Working on MS thesis related to an optical flow oriented multi-object tracking solution on unmanned aerial vehicle.
  - Directing undergraduate students on conducting research projects related to autonomous flying.
- **Qualcomm - Software Engineer Intern** Jun 2021 - Aug 2021
  - Developed efficient computer vision algorithms for visual SLAM/tracking on the lightweight embedded platform.
  - Experimented classical and existing deep learning based computer vision techniques for multi-camera and moving-camera tracking localization that are utilized in autonomous driving and VR/AR headsets.
- **Purdue CAM2 Research Group - Undergraduate Research Assistant** Jun 2018 - Jun 2020
  - Leading undergraduate student research teams working on research projects related to crowdsourcing, fairness in AI, and UAV vision. Published several papers at conferences as the lead author.
- **2020 & 2021 Low Power Computer Vision Challenge (LPCVC) - Organizer** Nov 2018 - September 2021
  - Organized an online competition that aims to identify the best vision solutions that can simultaneously achieve high accuracy in computer vision and energy efficiency on the edge devices. Website: https://lpcv.ai/
  - Led a student team to collect data, set up the referee system, build the website with database on the server, and organize the workshops. Two conference papers summarizing the competition results were published.