Hao(Alex) Xiao

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Summary

- Current UW student with internship experience in a startup and professional skills in both research and software development
- Familiar with various programming languages and development tools, self-motivated and hard-working

Education

University of Washington (UW) *Seattle, U.S.A*

M.S. In Electrical Engineering *Sep. 2017 - Mar. 2019(Expected)*

- GPA:3.90/4.0, Member of Information Processing Lab where the main research areas are computer vision and image processing

Shanghai Jiao Tong University (SJTU) *Shanghai, China*

B.S. In Electrical & Computer Engineering *Sep. 2013 - Jun. 2017*

- Major Score: 87.5/100 , Major GPA: 3.7/4.0, Ranking:15/176, Outstanding Graduate of SJTU
- Selected Coursework: C++ programming, Data Structure, Statistic Learning, Computer Vision, Algorithm and Complexity

Skills

Interests : Computer Vision, Video/Image Processing, Machine Learning, Deep Learning, Visualization, Web Development

Languages : C/C++, Python, Java, MATLAB, SQL, JavaScript, HTML **Tools** : OpenCV, Linux, Git, Vim, Bash, TensorFlow, Azure, AWS

Experiences

Clobotics Tech Corporation, Ltd *Seattle, U.S.A*

Machine Learning & Computer Vision Intern *Dec. 2017 - Present*

- Refactored the model training setup by utilizing multiprocessing pool to reduce time at assembling data and cropping images
- Improved classification accuracy by using super-resolution technique to do **fine-grained classification** (more than 2000 types)
- Trained an end-to-end fine-grained classification model by combining image super-resolution and classification into a single model

Information Processing Lab (IPL), UW *Seattle, U.S.A*

Graduate Research Assistant, Supervised by Prof. Jenq-Neng Hwang *Sep. 2017 - present*

- Realized a fully unsupervised online learning framework to achieve **multi-camera tracking** of people
- Designed multi-camera tracking of vehicle with a fusion of adaptive appearance, semantic features and comparison of license plates
- Participated in **NVIDIA AI City challenge 2018**, which held as a workshop at CVPR 2018, and achieved rank #1 in both Tack 1: Traffic Flow Analysis and Track 3: Multi-camera Vehicle Detection & Reidentification, among over 20 teams

Image, Video, and Multimedia Communication (IVM) Lab, SJTU *Shanghai, China*

Undergraduate Research Assistant, Supervised by Prof. Weiyao Lin *Sep. 2016 - Sep. 2017*

- Collected two challenging group re-identification datasets by applying social constraint structure learning to detect groups
- Developed a **multi-grain group re-identification** process which derives features for multi-grain objects and iteratively evaluates their importance to handle interferences from group dynamics
- Proposed a multi-order matching process by a personalized random walk scheme through a multi-order association graph, which integrates multi-grain information to obtain more reliable group matching results

Collaborate with ZTE Corporation as Software Engineer Intern and Project Leader *Sep. 2016 - Dec. 2016*

- Achieved a real-time object detection system by training detection model based on YOLO, which can classify normal and fallen people
- Utilized graph matching algorithm based on confident tracklets to develop multiple object tracking algorithm
- Implemented a **real-time intelligent tracking system** on video stream by combining detection and tracking algorithm, which can reliably detect abnormal events such as a person falling down in different scenarios and give real-time warning through a smartphone

Research Center of Intelligent Internet of Things (IIOT), SJTU *Shanghai, China*

Undergraduate Research Assistant and Team Leader, Supervised by Prof. Xinbing Wang *Sep. 2015 - Oct. 2016*

- Conducted the construction and maintenance of an academic search system: **Acemap**
- Adapted topic model to recognize the relationship between word topics and document topics, and applied for a patent: *Construction and Visualization of Heterogeneous Topic Web Based on Text Network*
- Designed a novel "interactive map" approach to visualize large-scale academic literatures and display the deep relationship among them

Publications

- **H. Xiao**, W. Lin, etc., "Group Re-Identification: Leveraging and Integrating Multi-Grain Information", Submitted in *ACM MM*, 2018
- Z. Tang, G. Wang, **H. Xiao**, A. Zheng and J.-N. Hwang, "Single-camera and inter-camera vehicle tracking and 3D speed estimation based on fusion of visual and semantic features" Accepted in *IEEE CVPR Workshop on the NVIDIA AI City Challenge*, 2018

Honors

Winner Team, Track 1 & Track 3 at the NVIDIA AI City Challenge Workshop at CVPR 2018 Apr. 2018

National First Prize, China Undergraduate Mathematical Contest in Modeling Jan. 2016

National First Prize, Chinese Mathematical Olympiad Dec. 2013