

Curriculum Vitae

Wei-Hong LI

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Brief Biography

Mr. Wei-Hong Li is currently a PhD student in the School of Informatics at the University of Edinburgh supervised by Prof. Hakan Bilen. His research focuses on computer vision and machine learning. He has completed his master and bachelor at Sun Yat-sen University (one of **top ten** ones in China) supervised by Prof. Wei-Shi Zheng. During his master program, he has had a visiting study at Queen Mary University of London (UK) where he focused on video search with Prof. Sean Gong.

Education

◇ **Sept 2018 – present,**

PhD student at the University of Edinburgh (UK).

Supervised by [Prof. Hakan Bilen](#)

◇ **Oct 2017 – March 2018,**

Visiting student at Queen Mary University of London (UK).

Supervised by [Prof. Sean Gong](#) and [Prof. Wei-Shi Zheng](#)

◇ **June 2015 – July 2018,**

M.Sc. in School of Electronics and Information Technology at Sun Yat-sen University.

Supervised by [Prof. Wei-Shi Zheng](#).

◇ **September 2011 – June 2015, GPA 3.8/4.0,**

B.Sc. in Intelligence Science and Technology, Sun Yat-sen University

Thesis: **Tracking Multiple Targets in Group Activity Scene.**

Supervised by [Prof. Wei-Shi Zheng](#) from January 2015 to May 2015.

Publication List

- ◇ **Wei-Hong Li**, Zhuowei Zhong, Wei-Shi Zheng, “One-pass Person Re-identification by Sketched Online Discriminant Analysis”. (In peer reviewed at *IEEE Transactions on Image Processing*)

- ✧ **Wei-Hong Li**, Benchao Li, Wei-Shi Zheng, “PersonRank: Detecting Important People in Images”. Proceedings of *International Conference on Automatic Face and Gesture Recognition, 2018*. (Accepted Oral Paper)
- ✧ **Wei-Hong Li**, Yafang Mao, Ancong Wu, Wei-Shi Zheng. " Correlation based Identity Filter: An Efficient Framework For Person Search", Proceedings of *International Conference on Image and Graphics, 2017*. (Oral, Best Paper Award)
- ✧ Yuting Mai, **Wei-Hong Li**, Yongyi Tang, Xixi Bi, Wei-Shi Zheng. "Sketch metric learning", Proceedings of *International Joint Conference on Neural Networks, 2016*.
- ✧ Zhaoyu Lu and Ziqi Luo and Huicheng Zheng and Jikai Chen and **Wei-Hong Li**. "A Delaunay-Based Temporal Coding Model for Micro-expression Recognition", Proceedings of *Asian Conference on Computer Vision, 2014*.

Project Experience

- ✧ **October 2017 – March 2018: Visiting Student in Computer Vision Group at Queen Mary University of London in the UK**
 - *Royal Society Newton Advanced Fellowship Program on Person Re-Identification In-The-Wild*
 - Goal: Video Person Search is to automatically identify a query person in surveillance videos , which has a vast quantity of practice application on computer-human interaction. Existing person re-id models focus on well selected data which makes these models unscalable to the real-world scenarios. Our aim is to design a deep learning framework for **video person search** in a realistic scenarios. In our context, our model will have an ability to avoid some hammed effects caused by failure of pedestrian detectors or multi-target trackers.
 - Results:
 - We are targeting a top conference paper acceptance in this year.
 - *Research Project on Learning Deep Feature Representation for Image-based Important People Detection*
 - Goal: Important People Detection is to detect the important people in images, which can aid building up intelligent system to automatically capture important people in events and etc. Existing important people detection models rely on cumbersome multi-solution framework which is commonly comprised of a person detector, a feature extractor and an importance score classifier and there is not any method explored designing deep learning framework for importance representation to detecting important people in images. We have already designed an architecture for jointly detecting persons and detecting important people in a single static image. Beyond to this, our model is able to learn a semantic feature representation for important people inference.
 - Results:
 - We are targeting a top conference paper acceptance in this year.

◇ **January 2015 – September 2017: Research Student in Intelligence Science and System Lab at Sun Yat-sen University**

- *Research Project on Online Person Re-identification*
 - Goal: Existing person re-id models are dominated by offline learning algorithms. He aims at developing an succinct online person re-identification that can be trained on streaming data and high dimensional feature capture by computer human interaction system with high efficiency.
 - Results:

Our proposed method can approximate the performance of the offline method with extremely high speed.
Rigorous theoretical analysis on how SoDA approximates the offline FDA was presented.
A paper is under peer reviewed at TIP.
- *Research Project on Image-based Important People Detection*
 - Goal: Detecting important people in images is inherent challenging due to the existence of a great variety of variations on pose, action, appearance of persons and occasions. In this project, he proposed to detect important people in images automatically by analyzing interactions among persons, which estimated from different types of cues, including visual and spatial clues.
 - Results:

The PersonRank framework was developed for high accurate important people detection.
Formed two large image-based dataset for important people detection.
A paper is accepted by the FG 2018.
- *Research Project on Person Search for Surveillance System*
 - Goal: Towards person re-identification in the wild, identifying the query person in whole gallery images instead of cropped bounding boxes. Existing methods are based on a simple two-stage search strategy. In order to search the query person in the wild and apply existing person re-id to computer human interaction, he developed an efficient person search framework that address pedestrian detection and re-identification simultaneously.
 - Results:

A Correlation Filter based framework for Person Search was proposed.
A paper was accepted by ICIG 2017.
Best paper award by ICIG 2017
A patent is published: CN107085713A.
- *Research Project on Object Tracking*
 - Goal: A sketch matrix learning method for object tracking.
 - Results: A paper was accepted by IJCNN 2016.

◇ **November 2013 – November 2014: Undergraduate Student at Sun Yat-sen University**

- *National Innovation Project*
 - Program: Micro-expression Recognition
 - Results: A paper was accepted by ACCV workshop.

- *Robotic Vision Course for computer human interaction*
 - Goal: Develop a computer vision algorithm to enable a robot, which senses surroundings through the camera on the smart phone, to detect obstacles (e.g., traffic cones in different color and manual bridge) and lines on the track, and to select the shortest path.
 - Results:
 - The robot is able to navigate fast and smoothly within the lines.
 - He learnt some important computer vision models and tools (e.g., OpenCV).

Awards

- ◇ Student Fellowship for **visiting study** from the *Royal Society Advanced Newton Fellowship Program* and the *Natural Science Foundation of China*
- ◇ **Best Paper Award** by *International Conference on Image and Graphics, 2017*
- ◇ Five times Academic Excellence Award at Sun Yat-Sen University (twice in Master and three times in Bachelor)
- ◇ Twice second prize on *Chinese RoboCup Competition, 2014*
- ◇ The first prize on *Chinese RoboCup Competition, 2013*

Academic Activities

- ◇ Conference Attendance
 - *Asian Conference on Computer Vision, Singapore, 2014*
 - *Chinese Conference on Computer Vision, 2015*
 - *International Conference on Image and Graphics, 2017*

Programming/Software/Operation System Skills

- ◇ Matlab programming, C++/Visual Studio, Python
- ◇ Deep learning tools, such as MatConvNet, Tensorflow (Google), Pytorch(Facebook).
- ◇ Linux (Centos, Ubuntu)

Teaching Experience/Language Skills

- ◇ Teaching Assistant
 - March 2017 to July 2017 (Graphical Theory and Applications)
- ◇ Fitness trainer.
- ◇ Fluent in English. Native speaker of Chinese and Teochew dialect.

Hobbies

- ◇ Fitness. He is extremely enthusiastic about workout and has been fitness for three years. He enjoys challenging himself every training day and figure out the best training strategy as well as nutrition plan. With 3 years of experience, he is now an amateur bodybuilder and a fitness trainer. He is willing to help persons around him to be in shape.
- ◇ Playing badminton. He enjoys playing badminton every week.
- ◇ Reading. *Harry Potter* and *Children Take Your Time* are his favourite books.