Siyang Li

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Education

- **University of Southern California** — Los Angeles, USA
  Ph.D., Electrical Engineering — *Aug 2014 - Aug 2018*
  Supervisor: Prof. C.-C. Jay Kuo
  Thesis: Object Localization with Deep Learning Techniques

- **The University of Hong Kong** — Hong Kong, China
  B.Eng., Electronic and Communications Engineering — *Aug 2011 - Jun 2014*
  With first class honours, GPA: 4.13/4.30

Working Experiences

- **Google Inc.** — Mountain View, USA
  Software Engineer — *Sep 2019 - present*
  - Build large-scale object detectors with big data and deep learning techniques for multiple Google products including image search and Google Photo.
  - Design a panoptic segmentation system to support image processing and product recognition.

- **Google Inc.** — Mountain View, USA
  Research Intern on Video Object Segmentation — *May - Aug 2017*
  - Take advantage of instance embeddings and combine them with motion cues to segment moving objects in videos.
  - Outperform the state-of-the-art approaches by more than 2% in multiple benchmark datasets.

- **Google Inc.** — Mountain View, USA
  Research Intern on Weakly Supervised Object Detection — *May - Aug 2016*
  - Analyze the attention map of a trained deep convolutional neural network to find out which regions of the given image are the most influential to the classification results.
  - Introduce a semantic segmentation network to guide the detector to extend object locations from the discriminative regions.

Publications

- **Siyang Li**, Bryan Seybold, Alexey Vorobyov, Xuejing Lei, and C-C. Jay Kuo. "Unsupervised Video Object Segmentation with Motion-based Bilateral Networks". In Proceedings of the European Conference on Computer Vision (ECCV). Munich, Germany. Sep 2018.
- **Siyang Li**, Bryan Seybold, Alexey Vorobyov, Alireza Fathi, Qin Huang, and C-C. Jay Kuo. "Instance Embedding Transfer to Unsupervised Video Object Segmentation". In Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR). Salt Lake City, USA. Jun 2018.
- Heming Zhang*, **Siyang Li***, Shanshan Cai, Haoyu Jiang, and C-C. Jay Kuo. "Representative Fashion Feature Extraction by Leveraging Weakly Annotated Online Resources". In IEEE International Conference on Image Processing (ICIP). Athens, Greece. Oct 2018. (* indicates equal contribution)

- Ye Wang, Jongmoo Choi, Yueru Chen, Qin Huang, **Siyang Li**, Ming-Sui Lee, and C-C Jay Kuo. "Design Pseudo Ground Truth with Motion Cue for Unsupervised Video Object Segmentation" In Proceedings of the Asian Conference on Computer Vision (ACCV). Perth, Australia. Dec 2018
- Qin Huang, Chunyang Xia, **Siyang Li**, Ye Wang, Yuhang Song, and C-C. Jay Kuo. "Unsupervised Clustering Guided Semantic Segmentation". In IEEE Winter Conference on Applications of Computer Vision (WACV). Lake Tahoe, USA. Mar 2018.
- Hao Xu, **Siyang Li**, and C-C. Jay Kuo. "Semantic Image Segmentation Using Encoder-Decoder Architecture Assisted by Global and Local Attention Models (EDA-GLAM)". In IS&T International Symposium on Electronic Imaging, Burlingame, USA. Jan 2018. (Best Student Paper)
- Junting Zhang, Yuewei Na, **Siyang Li**, and C-C. Jay Kuo. "Efficient Segmentation-Aided Text Detection for Intelligent Robots". In IEEE Global Conference on Signal and Information Processing. Montreal, Canada. Nov 2017.
- **Siyang Li**, Xiangxin Zhu, Qin Huang, Hao Xu, and C-C. Jay Kuo. "Multiple Instance Curriculum Learning for Weakly Supervised Object Detection". In Proceedings of the British Machine Vision Conference (BMVC). London, UK. Sep 2017.
- Qin Huang, Chunyang Xia, Chihao Wu, **Siyang Li**, Ye Wang, Yuhang Song, and C-C. Jay Kuo. "Semantic Segmentation with Reverse Attention". In Proceedings of the British Machine Vision Conference (BMVC). London, UK. Sep 2017. (Oral)
- **Siyang Li**, Heming Zhang, Junting Zhang, Yuzhuo Ren, and C-C. Jay Kuo. "Box refinement: Object proposal enhancement and pruning". In IEEE Winter Conference on Applications of Computer Vision (WACV). Santa Rosa, CA, USA. Mar 2017.
- **Siyang Li**, and Edmund Y. Lam. "Efficient Autofocusing in Optical Scanning Holography". In The Japan Society of Applied Physics and The Optical Society Joint Symposia. Sapporo, Japan. Sep 2014. (Invited paper)

Projects

- **University of Southern California** — Los Angeles, USA
  Deep Learning for Fashion Item Recognition — *Jan 2016 - Dec 2017*
  - Customize multiple object detectors to localize fashion items and predict the fine-grained fashion category.
  - Train neural networks to predict the attributes of the fashion items.
- **The University of Hong Kong** — Hong Kong, China
  Autofocusing in Digital Holographic Imaging — *Sep 2013 - Jun 2014*
  - Develop an efficient autofocusing method and facilitate reconstruction in optical scanning holography.
- **École Polytechnique Fédérale de Lausanne (EPFL)** — Lausanne, Switzerland
  Data Compression in Smart Grid — *Jun - Aug 2012*
  - Incorporate state estimation method into double-precision floating-point number compression.
  - Design and implement an additional encoding scheme which improved the data compression ratio by 14% from conventional tools.

Honours

- Best Student Paper, IS&T International Symposium on Electronic Imaging 2018
- Annenberg Graduate Fellowship, USC 2014-2018
- WiSE Top-off Fellowship, USC 2014-2016
- Deans Honours List (for top 10% students, awarded three times), HKU 2012-2014
- Wong Fan Prize in Electrical and Electronic Engineering, HKU 2014
- Shun Hing J.V.C Scholarship, HKU 2014
- C.V. Starr Scholarship, HKU 2012
- Ho Fook Prize in Engineering, HKU 2011
- The 26th Chinese Physics Olympiad (CPhO), Silver Medal 2009

Professional Services

- Journal reviewer
  - IEEE Transactions on Multimedia, 2018
- Conference reviewer
  - IEEE Conference on Computer Vision and Pattern Recognition, 2019
  - IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2018, 2019
  - IEEE Global Conference on Signal and Information Processing (GlobalSIP), 2017
  - IEEE International Symposium on Circuits and Systems (ISCAS), 2016