

Kevin (Ke-Yun) Lin

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Research Interests

Computer vision, machine learning, natural language processing, and their applications to large-scale visual search, video understanding, and language generation.

Education

- University of Washington**, Seattle, WA 2016 – 2020 (expected)
Ph.D. student in Electrical Engineering
Advisors: Prof. Ming-Ting Sun, Dr. Zhengyou Zhang, Dr. Xiaodong He
GPA: 3.86/4.00
- National Taiwan University**, Taipei, Taiwan 2012 – 2014
M.S. in Computer Science
Graduate Institute of Networking and Multimedia
Advisors: Prof. Yi-Ping Hung, Prof. Chu-Song Chen
GPA: 4.18/4.30
- National Taiwan University of Science and Technology**, Taipei, Taiwan 2008 – 2012
B.S. in Electronic and Computer Engineering
Minor degree in Applied Linguistics
GPA: 3.94/4.00

Experience

- University of Washington**, Seattle, WA
Research Assistant Sept. 2016 – present
– Designed generative adversarial networks for synthesizing human-like language descriptions.
– Unsupervised deep networks for learning binary descriptors for matching and retrieval.
- Microsoft Research**, Redmond, WA
Research Intern Nov. 2017 – present
– Working on fundamental computer vision research problems.
– Mentors: Zhengyou Zhang, Zicheng Liu, Lijuan Wang
- eBay Inc.**, San Francisco, CA
Research Intern Summer 2017
– Designed generative models for learning representations for fine-grained visual search.
– Mentors: Robinson Piramuthu, Fan Yang, Xioasong Wang
- Academia Sinica**, Taipei, Taiwan
Research Assistant Sept. 2014 – Aug. 2016
– Innovated supervised deep hashing approaches for large-scale image search. The approaches have been broadly deployed in several tech companies such as eBay and Yahoo.
– Supervisor: Chu-Song Chen

- Advanced Digital Sciences Center**, Singapore
 Research Engineer Summer 2015
 – Designed unsupervised deep neural nets for learning binary local descriptors.
 – Supervisor: Jiwen Lu
- Yahoo! Inc.**, Taipei, Taiwan
 Software Engineering Intern Summer 2014
 – Developed multi-modal search approaches for clothing recommendation.
 – Mentor: Jen-Hao Hsiao
- National Taiwan University**, Taipei, Taiwan
 Research Assistant Sept. 2012 – June 2014
 – Developed abandoned luggage detection approaches for visual surveillance.
 – Supervisor: Yi-Ping Hung, Chu-Song Chen

Selected Publications

1. H.-F. Yang, K. Lin, C.-S. Chen. Supervised Semantics-Preserving Hash via Deep Convolutional Neural Networks. *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, 40(2):437-451, 2018.
2. K. Lin*, D. Li*, X. He, Z. Zhang, M.-T. Sun. Adversarial Ranking for Language Generation. In *Advances in Neural Information Processing Systems (NIPS)*, 2017.
3. K. Lin, J. Lu, C.-S. Chen, J. Zhou. Learning Compact Binary Descriptors with Unsupervised Deep Neural Networks. In *Proc. IEEE Conf. Computer Vision and Pattern Recognition (CVPR)*, 2016.
4. H.-F. Yang, K. Lin, C.-S. Chen. Cross-batch Reference Learning for Deep Classification and Retrieval. In *Proc. ACM Multimedia (ACM MM)*, 2016. (full paper)
5. K. Lin, H.-F. Yang, J.-H. Hsiao, C.-S. Chen. Deep Learning of Binary Hash Codes for Fast Image Retrieval. In *Proc. IEEE Conf. Computer Vision and Pattern Recognition Workshop (CVPRW) on Deep Vision: Deep Learning in Computer Vision*, 2015.
6. K. Lin, H.-F. Yang, K.-H. Liu, J.-H. Hsiao, C.-S. Chen. Rapid Clothing Retrieval via Deep Learning of Binary Codes and Hierarchical Search. In *Proc. ACM Int'l Conf. Multimedia Retrieval (ICMR)*, 2015.
7. K. Lin, S.-C. Chen, C.-S. Chen, D.-T. Lin, Y.-P. Hung. Abandoned Object Detection via Temporal Consistency Modeling and Back-Tracing Verification for Visual Surveillance. *IEEE Transactions on Information Forensics and Security (TIFS)*, 10(7):1359-1370, 2015.
8. K. Lin, H.-F. Yang, C.-S. Chen. Flower Classification with Few Training Samples via Recalling Visual Pattern from Deep CNN. In *Proc. IPPR Conf. Computer Vision, Graphics, and Image Processing (CVGIP)*, 2015. (Huang Jan S. Memorial Excellent Paper Award)
9. S.-C. Chen, K. Lin, C.-S. Chen, Y.-P. Hung. Location-Aware Object Detection via Coherent Region Grouping. In *Proc. IEEE Int'l Conf. Acoustics, Speech and Signal Processing (ICASSP)*, 2015. (oral presentation)
10. K. Lin, S.-C. Chen, C.-S. Chen, D.-T. Lin, Y.-P. Hung. Left-Luggage Detection from Finite-State-Machine Analysis in Static-Camera Videos. In *Proc. Int'l Conf. Pattern Recognition (ICPR)*, 2014.
11. S.-C. Chen, C.-W. Hsu, S.-Y. Lin, K. Lin, Y.-P. Hung. Teleport: Space Navigation by Detecting the Self-motion of A Mobile Device. In *Proc. ACM SIGGRAPH Asia Posters*, 2013.

12. K. Lin, M.-C. Shie. Biologically Inspired 3D Trajectory Prediction System Using a Moth Flight-to-light Tracking Model. In *Proc. IEEE Int'l Conf. Signal and Image Processing Applications (ICSIPA)*, 2011.

Awards and Honors

- **Adobe Research Fellowship Finalist**, 2017
- **NIPS Travel Grant**, 2017
- **Rushmer Innovator Fellowship**, University of Washington, 2016-2017
- **Yahoo Research Grant**, Yahoo Taiwan, 2015-2016
- **Honorable Mention of the MS Thesis Award**, IAPR Taiwan Association, 2015
- **Huang Jan S. Memorial Excellent Paper Award**, IAPR Taiwan Association, 2015
- **ICASSP Travel Grant**, IEEE Signal Processing Society, 2015
- **Best Paper Award**, IEEE Int'l Conf. Internet of Things, 2014
- **First Prize with 16,600 USD Award**, 8th Utechzone Machine Vision Prize, Live Facial Data Recognition, Gender, Age, Face, Facial Expression Recognition, 2013
- **Best Student Paper Award**, IEEE Int'l Conf. Signal and Image Processing Applications, 2011
- **Undergraduate Research Fellowship**, National Science Council, 2011-2012
- **Presidential Award**, 5 times, GPA in the top 5% of the students in Dept. of ECE, NTUST, 2008-2012

Skills

- Programming Language: C/C++, Matlab, Python, Shell Script, \LaTeX
- Tools: Vim, Caffe, Torch, PyTorch, MXNet, AMTurk, Tensorflow, Google Cloud
- View codes on Github: <https://github.com/kevinlin311tw>