Chun-Liang Li

李俊良

http://www.cs.cmu.edu/~chunlial

GHC 8013, 5000 Forbes Ave, Pittsburgh, PA 15213, United States

chunlial@cs.cmu.edu

Education

Carnegie Mellon University, Pittsburgh, PA, USA

Ph.D. in Machine Learning (School of Computer Science) *August 2014-August 2019*

Thesis: "Learning Transformation via Implicit Generative Models"

Advisor: Prof. Jeff Schneider and Prof. Barnabás Póczos

National Taiwan University, Taipei, Taiwan

M.S. in Computer Science & Information Engineering *June 2013*

Ranked 1st out of 136

B.S. in Computer Science & Information Engineering *June 2012*

Ranked 2nd out of 105

Research Interests

I am currently interested in **deep generative models**. I design theoretically guaranteed generative algorithms for different types of data, including text, images, point clouds and meshes, and different applications. The applications I studied not only include computer vision and natural language, but also science and art.

I have also worked on various topics, including neural network compression, adversarial attack, time series anomaly detection, large-scale kernel methods, Bayesian optimization, streaming PCA, muti-label learning and recommendation systems.

Selected Awards and Honors

IBM Ph.D. Fellowship *2018*

IJCAI Distinguished Student Paper Final List *2017*

- 3 out of 2,540 submissions

Working Experience

Research Internship, Facebook Reality Lab, USA *May 2018-Aug 2018*

- Mentor: Dr. Tomas Simon, Dr. Jason Saragih and Dr. Yaser Sheikh
- Topic: Learning to register and generate meshes with differentiable renderers

Research Internship, IBM T.J.Watson Research Center, USA *May 2017-August 2017*

- Mentor: Dr. Yu Cheng and Dr. Youssef Mroueh
- Topic: Sobolev GAN

Pre-Print (* denotes euqal contribution)

[26] **Chun-Liang Li***, Manzil Zaheer*, Yang Zhang, Barnabás Póczos and Ruslan Salakhutdinov "Point Cloud GAN", *under submission.*

Conference Publications

[25] **Chun-Liang Li**, Tomas Simon, Jason Saragih, Barnabás Póczos, Yaser Sheikh, "Self-supervised Fitting of Articulated Meshes to Point Clouds", to appear in *Proceedings of the Conference on Computer Vision and Pattern Recognition (CVPR)*, 2019.

[24] **Chun-Liang Li**, Wei-Chen Chang, Youssef Mroueh, Yiming Yang and Barnabás Póczos, "Implicit Kernel Learning", to appear in *Proceedings of the International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2019.

[23] Wei-Chen Chang, **Chun-Liang Li**, Yiming Yang and Barnabás Póczos, "Kernel Change-point Detection with Auxiliary Deep Generative Models", to appear in *Proceedings of the International Conference on Learning Representations (ICLR)*, 2019.

[22] Hsueh-Ti Liu, Michael Tao, **Chun-Liang Li**, Derek Nowrouzezahrai and Alec Jacobson, "Beyond Pixel Norm-Balls: Parametric Adversaries using an Analytically Differentiable Renderer", to appear in *Proceedings of the International Conference on Learning Representations (ICLR)*, 2019.

[21] Shashank Singh, Ananya Uppal, Boyue Li, **Chun-Liang Li**, Manzil Zaheer, and Barnabás Póczos, "Nonparametric Density Estimation under Adversarial Losses", in *Neural Information Processing Systems (NIPS)*, 2018.

[20] **Chun-Liang Li***, Yusha Liu* and Barnabás Póczos,"Classifier Two-Sample Test for Video Anomaly Detections", in *Proceedings of the British Machine Vision Conference (BMVC)*, 2018.

[19] Youssef Mroueh, **Chun-Liang Li***, Anant Raj*, Tom Sercu* and Yu Cheng "Sobolev GAN", in *Proceedings of the International Conference on Learning Representations (ICLR)*, 2018.

[18] **Chun-Liang Li***, Wei-Chen Chang*, Yu Cheng, Yiming Yang and Barnabás Póczos, "MMD GAN: Towards Deeper Understanding of Moment Matching Network", in *Neural Information Processing Systems (NIPS)*, 2017.

[17] J. H. Rick Chang, **Chun-Liang Li**, Barnabás Póczos, B. V. K. Vijaya Kumar and Aswin C. Sankaranarayanan, "One Network to Solve Them All —Solving Linear Inverse Problems using Deep Projection Models", in *Proceedings of the International Conference on Computer Vision (ICCV)*, 2017. **(Oral Presentation, acceptance rate 45/2143 submissions)**

[16] Wei-Chen Chang, **Chun-Liang Li**, Yiming Yang and Barnabás Póczos, "Data-driven Random Fourier Feature using Stein Effect", to appear in *International Joint Conference on Artificial Intelligence (IJCAI)*, 2017. **(Distinguished Student Paper Final List, acceptance rate 3/2540 submissions)**

[15] Po-Wei Wang, **Chun-Liang Li** and J. Zico Kolter, "Polynomial optimization methods for matrix factorization", in *Proceedings of the AAAI Conference on Artificial Intelligence (AAAI)*, 2017.

[14] **Chun-Liang Li** and Barnabás Póczos, "Utilize Old Coordinates: Faster Doubly Stochastic Gradients for Kernel Methods", in *Proceedings of the Uncertainty in Artificial Intelligence (UAI)*, 2016.

[13] **Chun-Liang Li**, Kirthevasan Kandasamy, Barnabás Póczos and Jeff Schneider, "High Dimensional Bayesian Optimization via Restricted Projection Pursuit Models", in *Proceedings of the International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2016.

[12] **Chun-Liang Li**, Hsuan-Tien Lin and Chi-Jen Lu, "Rivalry of Two Families of Algorithms for Memory-Restricted Streaming PCA", in *Proceedings of the International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2016.

[11] **Chun-Liang Li** and Hsuan-Tien Lin, "Condensed Filter Tree for Cost-Sensitive Multi-Label Classification", in *Proceedings of the International Conference on Machine Learning (ICML)*, 2014.

[10] Jyun-Yu Jiang, **Chun-Liang Li**, Chun-Pai Yang and Chung-Tsai Su. "POSTER: Scanning-free Personalized Malware Warning System by Learning Implicit Feedback from Detection Logs," in *Proceedings of the ACM Conference on Computer and Communications Security (CCS)*, 2014.

[9] **Chun-Liang Li**, Chun-Sung Ferng, and Hsuan-Tien Lin, "Active Learning with Hinted Support Vector Machine", in *Proceedings of the Asian Conference on Machine Learning (ACML)*, 2012.

Journal Publications

[8] Francois Lanusse, Quanbin Ma, Nan Li, Thomas E. Collett, **Chun-Liang Li**, Siamak Ravanbakhsh, Rachel Mandelbaum and Barnabás Póczos, "CMU DeepLens: Deep Learning For Automatic Image-based Galaxy-Galaxy Strong Lens Finding", in *Monthly Notices of the Royal Astronomical Society (MNRAS)*, 2018

[7] **Chun-Liang Li**, Chun-Sung Ferng, and Hsuan-Tien Lin, "Active Learning with Hint Information," in *Neural Computation*, 2015.

[6] **C.-L. Li**, Y.-C. Su, T.-W. Lin, C.-H. Tsai, W.-C. Chang, K.-H. Huang, T.-M. Kuo, S.-W. Lin, Y.-S. Lin, Y.-C. Lu, C.-P. Yang, C.-X. Chang, W.-S. Chin, Y.-C. Juan, H.-Y. Tung, J.-P. Wang, C.-K. Wei, F. Wu, T.-C. Yin, T. Yu, Y. Zhuang, S.-D. Lin, H.-T. Lin and C.-J. Lin, "Combination of Feature Engineering and Ranking Models for Paper-Author Identification in KDD Cup 2013," in *Journal of Machine Learning Research (JMLR)*, 2015.

[5] W.-S. Chin, Y.-C. Juan, Y. Zhuang, F. Wu, H.-Y. Tung, T. Yu, J.-P. Wang, C.-X. Chang, C.-P. Yang, W.-C. Chang, K.-H. Huang, T.-M. Kuo, S.-W. Lin, Y.-S. Lin, Y.-C. Lu, Y.-C. Su, C.-K. Wei, T.-C. Yin, **C.-L. Li**, T.-W. Lin, C.-H. Tsai, S.-D. Lin, H.-T. Lin and C.-J. Lin, "Effective String Processing and Matching for Author Disambiguation," in *Journal of Machine Learning Research (JMLR)*, 2014.

Other Publications

[4] **Chun-Liang Li***, Eunsu Kang*, Songwei Ge*, Lingyao Zhang, Austin Dill, Manzil Zaheer, and Barnabás Póczos, "Hallucinating Point Cloud into 3D Sculptural Object", in *NIPS workshop on Machine Learning for Creativity and Design*, 2018.

[3] **Chun-Liang Li***, Manzil Zaheer*, Barnabás Póczos and Ruslan Salakhutdinov, "GAN Connoisseur: Can GANs Learn Simple 1D Parametric Distributions?", in *NIPS workshop on Deep Learning: Bridging Theory and Practice*, 2017.

[2] P.-L. Chen, C.-T. Tsai, Y.-N. Chen, K.-C. Chou, **C.-L. Li**, C.-H. Tsai, K.-W. Wu, Y.-C. Chou, C.-Y. Li, W.-S. Lin, S.-H. Yu, R.-B. Chiu, C.-Y. Lin, C.-C. Wang, P.-W. Wang, W.-L. Su, C.-H. Wu, T.-T. Kuo, T. G. McKenzie, Y.-H. Chang, C.-S. Ferng, C.-M. Ni, H.-T. Lin, C.-J. Lin and S.-D. Lin, "A Linear Ensemble of Individual and Blended Models for Music Rating Prediction," in *Proceedings of the KDD Cup 2011 Workshop* (First Place in Track 1), 2012.

[1] T. G. McKenzie, C.-S. Ferng, Y.-N. Chen, **C.-L. Li**, C.-H. Tsai, K.-W. Wu, Y.-H. Chang, C.-Y. Li, W.-S. Lin, S.-H. Yu, C.-Y. Lin, P.-W. Wang, C.-M. Ni, W.-L. Su, T.-T. Kuo, C.-T. Tsai, P.-L. Chen, R.-B. Chiu, K.-C. Chou, Y.-C. Chou, C.-C. Wang, C.-H. Wu, H.-T. Lin, C.-J. Lin and S.-D. Lin, "Novel Models and Ensemble Techniques to Discriminate Favorite Items from Unrated Ones for Personalized Music Recommendation," in *Proceedings of the KDD Cup 2011 Workshop* (First Place in Track 2), 2012.

Teaching Experience

Teaching Assistant, Carnegie Mellon University *Fall 2016*

- *Topics in Deep Learning* instructed by Prof. Ruslan Salakhutdinov

Guest Lecturer, National Taiwan University *Spring 2013*

- *Application of Big Data System* instructed by Prof. Shih-Wei Liao
- Topic: Dimension Reduction

Teaching Assistant, National Taiwan University *Fall 2011, Fall 2013*

- *Machine Learning* instructed by Prof. Hsuan-Tien Lin

Teaching Assistant, National Taiwan University *Spring 2013*

- *Data Mining and Machine Learning: Theory and Practice* instructed by Profs. Chih-Jen Lin, Hsuan-Tien Lin and Shou-De Lin

Teaching Assistant, National Taiwan University *Fall 2012, Spring 2013*

- *Network and System Administration Training* instructed by Prof. Hsin-Mu Tsai

Teaching Assistant, National Taiwan University *Spring 2012*

- *Data Structures and Algorithms* instructed by Prof. Hsuan-Tien Lin

Professional Activities

Paper Reviewer

- Journal: Data Mining and Knowledge Discovery, IEEE Transactions on Knowledge and Data Engineering, IEEE Transactions on Pattern Analysis and Machine Intelligence, Journal of Information Science and Engineering
- Conference: IJCAI 2015, ACML 2015, NIPS 2015, ACML 2016, NIPS 2016, ACML 2017, ICLR 2018, NIPS 2018, CVPR 2019, ICML 2019

Other Awards and Honors

First Places, Track 1 and Track 2 of KDD Cup 2013 *2013*

- Ranked 1 out of 553 teams

First Places, Track 1 and Track 2 of KDD Cup 2011 *2011*

- Ranked 1 out of 2,389 teams

First Place, International Strong Lens-Finding Challenge *2017*

Master Thesis Award, Taiwanese Association for Artificial Intelligence (TAAI) *2013*

First Place, Trend Micro Big Data Innovation Programming Contest, Taiwan *2013*

NTU Outstanding Student Scholarship, Taiwan *2013*

Garmin Scholarship, Taiwan *2012*

NTU Outstanding Student Scholarship, Taiwan *2011*

Cyberlink Elite Scholarship, Taiwan *2010*