

Jianwen Xie

CONTACT INFORMATION

Email: jianwen@ucla.edu
Homepage: <http://www.stat.ucla.edu/~jxie/>

RESEARCH INTERESTS

Generative Models, Machine Learning, AI for Science, Computer Vision

EDUCATION

University of California, Los Angeles, CA

Ph.D. in Statistics, 2016

- Thesis: *Generative Modeling and Unsupervised Learning in Computer Vision*
- Advisor: Prof. Ying Nian Wu

M.S. in Statistics, 2014

- Thesis: *Learning Inhomogeneous FRAME Models for Object Patterns*
- Advisor: Prof. Ying Nian Wu

M.S. in Computer Science, 2012

- Thesis: *Discriminatively Trained Mixture of Active Basis Models for Object Recognition*
- Advisor: Prof. Song-Chun Zhu

Jinan University, Guangzhou, China

B.E. in Software Engineering, 2008

- Overall GPA: 3.73/4.0, Ranking 1st/133
- Highest Honors

RESEARCH EXPERIENCE

Head of Research

Jan 2023 to present

Akool USA

Project: Generative AI

Principal AI Research Scientist

May 2023 to Feb 2024

BioMap USA

Supervisor: Prof. Le Song (CTO)

Project: AI for drug discovery

Staff Research Scientist

Mar 2020 to Sep 2022

Cognitive Computing Lab, Baidu Research USA

Supervisor: Prof. Ping Li (Deputy Dean of Baidu Research USA)

Project: Fundamental Generative AI

Senior Research Scientist / Founding member

Oct 2017 to Mar 2020

Hikvision Research Institute, Santa Clara

Supervisors: Prof. Bo Wang and Dr. Shiliang Pu (Dean of Hikvision Research)

Project: Representation learning and generative modeling

Staff Research Associate

Jul 2017 to Oct 2017

Center for Vision, Cognition, Learning, and Autonomy

University of California, Los Angeles

Supervisors: Prof. Song-Chun Zhu and Prof. Ying Nian Wu

Project: Explainable AI

Postdoctoral Researcher

Jul 2016 to Jul 2017

Center for Vision, Cognition, Learning, and Autonomy

University of California, Los Angeles

Supervisors: Prof. Song-Chun Zhu and Prof. Ying Nian Wu

Project: Explainable AI

Graduate Research Assistant Sep 2012 to Jun 2016
 Center for Vision, Cognition, Learning, and Autonomy
 University of California, Los Angeles
 Supervisor: Prof. Ying Nian Wu
Project: Generative Modeling and Unsupervised Learning for Visual Patterns

Computer Vision Research Intern Jun 2015 to Sep 2015
 Nokia, Berkeley
 Supervisor: Dr. Jimmy Wang
Project: Lane Detection, Parsing, Tracking, and Understanding

Graduate Research Assistant Sep 2011 to Aug 2012
 Department of Computer Science,
 University of California, Los Angeles
 Supervisor: Prof. Song-Chun Zhu
Project: Coupling Generative and Discriminative Models for Image Analysis

Research Assistant 2007 - 2010
 Mathematical Modeling Innovative Practice Base
 Jinan University, China
 Supervisor: Dr. Yuanbiao Zhang
Project: Swarm Intelligence and Evolutionary Algorithm

Research Assistant 2007 - 2008
 Department of Computer Science
 Jinan University, China
 Supervisor: Prof. Jianhua Wu
Project: Association Rule-based Feature Selection

ACADEMIC
SERVICES

Associate Editor

- IEEE Transactions on Neural Networks and Learning Systems (TNNLS) 2024, 2025
- IEEE Transactions on Image Processing (TIP) 2024, 2025
- Pattern Recognition (PR) 2024, 2025
- Computer Vision and Image Understanding (CVIU) 2025

Senior Area Chair

- Annual Conference on Neural Information Processing Systems (NeurIPS) 2024, 2025

Area Chair

- Annual Conference on Neural Information Processing Systems (NeurIPS) 2022, 2023
- International Conference on Learning Representations (ICLR) 2022, 2023, 2024, 2025
- International Conference on Machine Learning (ICML) 2022, 2023, 2024, 2025
- IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2021, 2023, 2024, 2025
- European Conference on Computer Vision (ECCV) 2024
- IEEE Winter Conference on Applications of Computer Vision (WACV) 2025
- ACM Multimedia 2024 (ACM MM) 2024, 2025

Senior Program Committee

- AAAI Conference on Artificial Intelligence (AAAI) 2023, 2024, 2025
- International Joint Conference on Artificial Intelligence (IJCAI) 2023, 2024, 2025

Journal Reviewer

- Science Advance
- Scientific Reports
- IEEE Transactions on Pattern Analysis and Machine Intelligence
- IEEE Transactions on Image Processing

- IEEE Transactions on Signal Processing
- IEEE Transactions on Knowledge and Data Engineering
- IEEE Transactions on Neural Networks and and Learning Systems
- Human Brain Mapping
- IEEE Access
- Technometrics
- SIAM Journal on Mathematics of Data Science;
- ACM Computing Surveys

Conference Reviewer

- Annual Conference on Neural Information Processing Systems (NIPS) 2016, 2020, 2021
- IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2017, 2018, 2019, 2020, 2021, 2022
- International Conference on Computer Vision (ICCV) 2017, 2019, 2021, 2023
- AAAI Conference on Artificial Intelligence (AAAI) 2020, 2021, 2022
- European Conference on Computer Vision (ECCV) 2018, 2020
- British Machine Vision Conference (BMVC) 2019
- Asian Conference on Computer Vision (ACCV) 2018, 2020
- Winter Conference on Applications of Computer Vision (WACV) 2021, 2022, 2023, 2024
- International Conference on Machine Learning (ICML) 2021
- International Conference on Learning Representations (ICLR) 2021
- ACM SIGGRAPH 2021
- Pacific Graphics: The Pacific Conference on Computer Graphics and Applications 2018

DISSERTATION

1. **Jianwen Xie.** “Generative Modeling and Unsupervised Learning in Computer Vision” *Ph.D. Thesis*, 2016.

TUTORIAL

1. **Jianwen Xie**, Ying Nian Wu. CVPR 2021 Tutorial on Theory and Application of Energy-Based Generative Models
2. **Jianwen Xie**, Ying Nian Wu. ICCV 2021 Tutorial on Theory and Application of Energy-Based Generative Models
3. **Jianwen Xie.** IJCAI 2022 Tutorial on Deep Energy-Based Learning
4. **Jianwen Xie.** ECCV 2022 Tutorial on Deep Energy-Based Learning in Computer Vision

RESEARCH IN PREPARATION

1. “Learning Energy-based Language Model by Circular Diffusion Recovery Likelihood for Protein Backbone Generation” (under preparation).
2. “Latent Space Recovery Likelihood for Graph Generation” (under preparation).

PREPRINTS

1. Peiyu Yu, Dinghuai Zhang, Xiaojian Ma, Ruiyao Miao, Yifan Lu, Yasi Zhang, Deqian Kong, Ruiqi Gao, **Jianwen Xie**, Guang Cheng, Ying Nian Wu. “Latent Energy-Based Odyssey: Black-Box Optimization via Expanded Exploration in the Energy-Based Latent Space”.

2. Weinan Song, Yaxuan Zhu, Lei He, Ying Nian Wu, **Jianwen Xie**. “Progressive Energy-Based Cooperative Learning for Multi-Domain Image-to-Image Translation” (under review).
3. Khoa Doan, **Jianwen Xie**, Yaxuan Zhu, Yang Zhao, Ping Li “CoopHash: Cooperative Learning of Multipurpose Descriptor and Contrastive Pair Generator via Variational MCMC Teaching for Supervised Image Hashing”
4. **Jianwen Xie** *, Yang Lu *, Song-Chun Zhu, Ying Nian Wu. “A Theory of Generative ConvNet”. (an expanded journal version of the ICML-16 paper written for statisticians.) (* Equal contributions)
5. Dongsheng An, **Jianwen Xie**, Ping Li. “Learning Top-Down Generative Models by Short-Run Markov Chain Monte Carlo Inference with Optimal Transport Correction”. *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)* (under review).

JOURNAL
PUBLICATIONS

1. Jing Zhang, **Jianwen Xie**, Nick Barnes, Ping Li “An Energy-Based Prior for Generative Saliency”, *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, 2023.
2. Yifei Xu, **Jianwen Xie**, Tianyang Zhao, Chris Baker, Yibiao Zhao, Ying Nian Wu “Energy-Based Continuous Inverse Optimal Control”, *IEEE Transactions on Neural Networks and Learning Systems (TNNLS)*, 2022.
3. Yuanlu Xu, Wenguan Wang, Tengyu Liu, Xiaobai Liu, **Jianwen Xie**, Song-Chun Zhu. “Monocular 3D Pose Estimation via Pose Grammar and Data Augmentation”, *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, 2021.
4. **Jianwen Xie** *, Zilong Zheng *, Xiaolin Fang, Song-Chun Zhu, Ying Nian Wu. “Cooperative Training of Fast Thinking Initializer and Slow Thinking Solver for Conditional Learning”, *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, 2021. (* Equal contributions)
5. **Jianwen Xie** *, Zilong Zheng *, Ruiqi Gao, Wenguan Wang, Song-Chun Zhu, Ying Nian Wu. “Generative VoxelNet: Learning Energy-Based Models for 3D Shape Synthesis and Analysis”, *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, 2020. (* Equal contributions)
6. **Jianwen Xie**, Ruiqi Gao, Erik Nijkamp, Song-Chun Zhu, Ying Nian Wu. “Representation Learning: A Statistical Perspective”, *Annual Review of Statistics and Its Application (ARSIA)*, 2020.
7. **Jianwen Xie**, Song-Chun Zhu, Ying Nian Wu. “Learning Energy-based Spatial-Temporal Generative ConvNet for Dynamic Patterns”, *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, 2019.
8. Wenguan Wang, Jianbing Shen, **Jianwen Xie**, Ming-Ming Cheng, Haibin Ling, Ali Borji. “Revisiting Video Saliency Prediction in the Deep Learning Era”, *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, 2019.
9. **Jianwen Xie**, Yang Lu, Ruiqi Gao, Song-Chun Zhu, Ying Nian Wu. “Cooperative Training of Descriptor and Generator Networks”, *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, 2018.
10. Ying Nian Wu, **Jianwen Xie**, Yang Lu, Song-Chun Zhu. “Sparse and Deep Generalizations of the FRAME Model”, *Annals of Mathematical Sciences and Applications (AMSA)*, 2018.

11. **Jianwen Xie**, Pamela K. Douglas, Ying Nian Wu, Arthur L. Brody, Ariana E. Anderson. “Decoding the Encoding of Functional Brain Networks: an fMRI Classification Comparison of Non-negative Matrix Factorization (NMF), Independent Component Analysis (ICA), and Sparse Coding Algorithms”. *Journal of Neuroscience Methods*, 2017.
12. **Jianwen Xie**, Yang Lu, Song-Chun Zhu, Ying Nian Wu. “Inducing Wavelets into Random Fields via Generative Boosting”. *Journal of Applied and Computational Harmonic Analysis (ACHA)*, 2015.
13. **Jianwen Xie**, Wenzhe Hu, Song-Chun Zhu, Ying Nian Wu. “Learning Sparse FRAME Models for Natural Image Patterns”. *International Journal of Computer Vision (IJCV)*, 2015
14. Anderson A, Douglas PK, Kerr WT, Yuille AL, Haynes V, **Jianwen Xie**, Wu YN, Cohen MS. “Non-negative Matrix Factorization of Multimodal MRI, fMRI and Phenotypic Data reveals Differential Changes in Default Mode Subnetworks in ADHD”. *NeuroImage*, 2014.

CONFERENCE
PUBLICATIONS

1. Deqian Kong *, Yuhao Huang *, **Jianwen Xie** *, Edouardo Honig *, Ming Xu, Shuanghong Xue, Pei Lin, Sanping Zhou. Sheng Zhong, Nanning Zheng, Ying Nian Wu. “Molecule Design by Latent Prompt Transformer”, *The Thirty-Eighth Annual Conference on Neural Information Processing Systems (NeurIPS)*, 2024 (* Equal contributions)
2. Deqian Kong *, Dehong Xu *, Minglu Zhao *, Bo Pang, **Jianwen Xie**, Andrew Lizarraaga, Yuhao Huang, Sirui Xie *, Ying Nian Wu. “Latent Plan Transformer: Planning as Latent Variable Inference”, *The Thirty-Eighth Annual Conference on Neural Information Processing Systems (NeurIPS)*, 2024 (* Equal contributions)
3. Yaxuan Zhu, **Jianwen Xie**, Yingnian Wu, Ruiqi Gao. “Learning Energy-Based Models by Cooperative Diffusion Recovery Likelihood”, *The Twelfth International Conference on Learning Representations (ICLR)*, 2024.
4. Yaxuan Zhu, **Jianwen Xie**, Ping Li. “Likelihood-Based Generative Radiance Field with Latent Space Energy-Based Model for 3D-Aware Disentangled Image Representation”, *The Twenty-Sixth International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2023.
5. **Jianwen Xie**, Yaxuan Zhu, Yifei Xu, Dingcheng Li, Ping Li. “A Tale of Two Latent Flows: Learning Latent Space Normalizing Flow with Short-Run Langevin Flow for Approximate Inference”, *The Thirty-Seventh AAAI Conference on Artificial Intelligence (AAAI)*, 2023.
6. Yang Zhao, **Jianwen Xie**, Ping Li. “CoopInit: Initializing Generative Adversarial Networks via Cooperative Learning”, *The Thirty-Seventh AAAI Conference on Artificial Intelligence (AAAI)*, 2023.
7. Zongsheng Yue, Qian Zhao, **Jianwen Xie**, Lei Zhang, Deyu Meng, Kwan-Yee K. Wong. “Blind Image Super-Resolution with Elaborate Degradation Modeling on Noise and Kernel”, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022.
8. **Jianwen Xie**, Yaxuan Zhu, Jun Li, Ping Li. “A Tale of Two Flows: Cooperative Learning of Langevin Flow and Normalizing Flow Toward Energy-Based Model”, *Tenth International Conference on Learning Representations (ICLR)*, 2022.

9. Jing Zhang, **Jianwen Xie**, Zilong Zheng, Nick Barnes. “Energy-Based Generative Cooperative Saliency Prediction”, *Thirty-Sixth AAAI Conference on Artificial Intelligence (AAAI)*, 2022.
10. Ruiqi Gao, **Jianwen Xie**, Siyuan Huang, Yufan Ren, Song-Chun Zhu, Ying Nian Wu. “Learning V1 Simple Cells with Vector Representations of Local Contents and Matrix Representations of Local Motions”, *Thirty-Sixth AAAI Conference on Artificial Intelligence (AAAI)*, 2022.
11. Jing Zhang, **Jianwen Xie**, Nick Barnes, Ping Li. “Learning Generative Vision Transformer with Energy-Based Latent Space for Saliency Prediction”, *Thirty-Fifth Conference on Neural Information Processing Systems (NeurIPS)*, 2021.
12. Ruiqi Gao, **Jianwen Xie**, Xue-Xin Wei, Song-Chun Zhu, Ying Nian Wu. “On Path Integration of Grid Cells: Group Representation and Isotropic Scaling”, *Thirty-Fifth Conference on Neural Information Processing Systems (NeurIPS)*, 2021.
13. Zilong Zheng, **Jianwen Xie**, Ping Li. “Patchwise Generative ConvNet: Training Energy-Based Models from a Single Natural Image for Internal Learning”, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2021.
14. Dongsheng An, **Jianwen Xie**, Ping Li. “Learning Deep Latent Variable Models by Short-Run MCMC Inference with Optimal Transport Correction”, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2021.
15. **Jianwen Xie** *, Yifei Xu *, Zilong Zheng, Song-Chun Zhu, Ying Nian Wu. “Generative PointNet: Deep Energy-Based Learning on Unordered Point Sets for 3D Generation, Reconstruction and Classification”, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2021. (* Equal contributions)
16. Zongsheng Yue, **Jianwen Xie**, Qian Zhao, Deyu Meng. “Semi-Supervised Video Deraining with Dynamical Rain Generator”, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2021.
17. Yang Zhao, **Jianwen Xie**, Ping Li. “Learning Energy-Based Generative Models via Coarse-to-Fine Expanding and Sampling”, *Ninth International Conference on Learning Representations (ICLR)*, 2021.
18. **Jianwen Xie** *, Zilong Zheng *, Xiaolin Fang, Song-Chun Zhu, Ying Nian Wu . “Learning Cycle-Consistent Cooperative Networks via Alternating MCMC Teaching for Unsupervised Cross-Domain Translation”, *The Thirty-Fifth AAAI Conference on Artificial Intelligence (AAAI)*, 2021. (* Equal contributions)
19. **Jianwen Xie**, Zilong Zheng, Ping Li. “Learning Energy-Based Model with Variational Auto-Encoder as Amortized Sampler”, *The Thirty-Fifth AAAI Conference on Artificial Intelligence (AAAI)*, 2021.
20. Jing Zhang, **Jianwen Xie**, Nick Barnes. “Learning Noise-Aware Encoder-Decoder from Noisy Labels by Alternating Back-Propagation for Saliency Detection”, *European Conference on Computer Vision (ECCV)*, 2020.
21. **Jianwen Xie** *, Ruiqi Gao *, Zilong Zheng, Song-Chun Zhu, Ying Nian Wu. “Motion-Based Generator Model: Unsupervised Disentanglement of Appearance, Trackable and Intrackable Motions in Dynamic Patterns”, *The Thirty-Fourth AAAI Conference on Artificial Intelligence (AAAI)*, 2020. (* Equal contributions)

22. Yizhe Zhu, **Jianwen Xie**, Zhiqiang Tang, Xi Peng, Ahmed Elgammal “Semantic-Guided Multi-Attention Localization for Zero-Shot Learning”, *Thirty-third Conference on Neural Information Processing Systems (NeurIPS)*, 2019.
23. Yizhe Zhu, **Jianwen Xie**, Bingchen Liu, Ahmed Elgammal “Learning Feature-to-Feature Translator by Alternating Back-Propagation for Generative Zero-Shot Learning”, *International Conference on Computer Vision (ICCV)*, 2019.
24. Ruiqi Gao *, **Jianwen Xie** *, Song-Chun Zhu, Ying Nian Wu. “Learning Grid-like Units with Vector Representation of Self-Position and Matrix Representation of Self-Motion”, *Seventh International Conference on Learning Representations (ICLR)*, 2019. (* Equal contributions)
25. **Jianwen Xie** *, Ruiqi Gao *, Zilong Zheng, Song-Chun Zhu, Ying Nian Wu. “Learning Dynamic Generator Model by Alternating Back-Propagation Through Time”, *The Thirty-Third AAAI Conference on Artificial Intelligence (AAAI)*, 2019. (* Equal contributions)
26. Yunlu Xu, Chengwei Zhang, Zhazhan Cheng, **Jianwen Xie**, Yi Niu, Shiliang Pu, Fei Wu. “Segregated Temporal Assembly Recurrent Networks for Weakly Supervised Multiple Action Detection”, *The Thirty-Third AAAI Conference on Artificial Intelligence (AAAI)*, 2019.
27. **Jianwen Xie** *, Zilong Zheng *, Ruiqi Gao, Wenguang Wang, Song-Chun Zhu, Ying Nian Wu. “Learning Descriptor Networks for 3D Shape Synthesis and Analysis”, *International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2018. (* Equal contributions)
28. Yuanlu Xu *, Lei Qin *, Xiaobai Liu, **Jianwen Xie**, Song-Chun Zhu. “A Causal And-Or Graph Model for Visibility Fluent Reasoning in Tracking Interacting Objects”, *International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2018. (* Equal contributions)
29. Hao-Shu Fang, Guansong Lu, Xiaolin Fang, **Jianwen Xie**, Yu-Wing Tai, Cewu Lu “Weakly and Semi Supervised Human Body Part Parsing via Pose-Guided Knowledge Transfer”, *International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2018.
30. **Jianwen Xie**, Yang Lu, Ruiqi Gao, Ying Nian Wu. “Cooperative Learning of Energy-Based Model and Latent Variable Model via MCMC Teaching”, *The Thirty-Second AAAI Conference on Artificial Intelligence (AAAI)*, 2018.
31. Wenguan Wang, Jianbing Shen, **Jianwen Xie**, Fatih Porikli. “Super-Trajectory for Video Segmentation”. *International Conference on Computer Vision (ICCV)*, 2017.
32. **Jianwen Xie**, Song-Chun Zhu, Ying Nian Wu. “Synthesizing Dynamic Pattern by Spatial-Temporal Generative ConvNet”. *International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2017.
33. **Jianwen Xie**, Yifei Xu, Erik Nijkamp, Ying Nian Wu, Song-Chun Zhu. “Generative Hierarchical Learning of Sparse FRAME Models”. *International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2017
34. **Jianwen Xie** *, Yang Lu *, Song-Chun Zhu, Ying Nian Wu. “A Theory of Generative ConvNet”, *International Conference on Machine Learning (ICML)*, 2016. (* Equal contributions)

35. **Jianwen Xie**, Wenze Hu, Song-Chun Zhu, Ying Nian Wu. “Learning Inhomogeneous FRAME Models for Object Patterns”. *International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2014.

PATENTS

1. **Jianwen Xie**, Yang Zhao, Ping Li. “Energy-Based Generative Models via Coarse-to-Fine Expanding and Sampling”. US patent US17/478,776, filed on 09/17/2021. Patent pending.
2. **Jianwen Xie**, Zilong Zheng, Ping Li. “Learning Energy-based Model with Variational Auto-Encoder as Amortized Sampler”. US patent US17/538,635, filed on 11/30/2021. Patent pending.
3. **Jianwen Xie**, Dongsheng An, Ping Li. “Learning Deep Latent Variable Models by Short-Run MCMC Inference with Optimal Transport Correction”. US patent US17/343,477, filed on 06/09/2021. Patent pending.
4. Zilong Zheng, **Jianwen Xie**, Ping Li. “Training Energy-Based Models from a Single Image for Internal Learning and Inference Using Trained Models”. US patent US17/824,694, filed on 05/25/2022. Patent pending.
5. **Jianwen Xie**, Yaxuan Zhu, Jun Li, Ping Li. “Cooperative Learning of Langevin Flow and Normalizing Flow Toward Energy-Based Model”. US patent US17/947,963, filed on 09/19/2022. Patent pending.

HONORS

- IEEE TNNLS Outstanding Associate Editor Award 2024
- Doctoral Dissertation Year Fellowship, UCLA 2015
- Regents Fellowship, UCLA 2012
- Excellent College Graduate Award, Jinan University 2008
- Excellent Bachelor Thesis Award, Jinan University 2008
- Outstanding Students Scholarship, Jinan University 2008
- National Scholarship, Ministry of Education, China 2007
- First Prize of Excellent Students Scholarship, Jinan University 2006, 2007
- Second Prize of the Presidents Scholarship, Jinan University 2005, 2006
- Second Prize of Excellent Students Scholarship, Jinan University 2005

AWARDS

- Outstanding Winner of Interdisciplinary Contest in Modeling (ICM), USA 2012
- Meritorious Winner of Mathematical Contest in Modeling (MCM), USA 2009
- Meritorious Winner of Interdisciplinary Contest in Modeling (ICM), USA 2008
- National 2nd Prize and Guangdong Provincial 1st Prize of China Undergraduate Mathematical Contest in Modeling (CUMCM) 2007
- First Prize of “Chinese Society for Electrical Engineering Cup” China Mathematical Contest in Modeling (EMCM) 2007

INVITED TALKS

- “Energy-based Cooperative Diffusion Model” Apr 10, 2024
Samsung Research America
- “Deep Generative Modeling and Learning in Computer Vision” Nov 07, 2022
NEC Laboratories America, Inc.
- “Deep Energy-Based Learning in Computer Vision” Oct 24, 2022
Tutorial @ ECCV 2022
- “Deep Energy-Based Learning” July 24, 2022
Tutorial @ IJCAI 2022
- “Theory and Application of Energy-Based Generative Models” Oct 16, 2021
Tutorial @ ICCV 2021

“Theory and Application of Energy-Based Generative Models” Jun 19, 2021
 Tutorial @ CVPR 2021

“Learning Generative Representation in Vision” Feb 14, 2020
 Cognitive Computing Lab @ Baidu Research USA (invited by Prof. Ping Li)

“Learning Dynamic Generator Model by Alternating Back-Propagation Through Time” Jan 31, 2019
 AAAI @ Honolulu

“The Frontiers and Trends of AI” May 11, 2019
 Cheung Kong Graduate School of Business @ Silicon Valley, USA (invited by CKGSB Chuang Community)

“Deep Generative Models” Aug 1, 2018
 Hikvision Research Institute @ Hangzhou, China (invited by Dr. Di Xie)

“Deep Generative Models” Jul 26, 2018
 Hikvision Research Institute @ Shanghai, China (invited by Mr. Zhanzhan Cheng)

“Learning Descriptor Networks for 3D Shape Synthesis and Analysis” Jun 21, 2018
 CVPR Oral @ Salt Lake City

“Cooperative Learning of Energy-Based Model and Latent Variable Model via MCMC Teaching” Feb 7, 2018
 AAAI Oral @ New Orleans

“A Unified Framework for Artificial Intelligence” Jan 24, 2018
 Cheung Kong Graduate School of Business (invited by Prof. Jing Liu)

“Deep Neural Networks and Computer Vision” Jan 23, 2018
 Cheung Kong Graduate School of Business (invited by Prof. Jing Liu)

“Deep Generative Models and Unsupervised Learning” Jan 23, 2018
 Cheung Kong Graduate School of Business (invited by Prof. Jing Liu)

“Generative Modeling of Convolutional Neural Networks” Sep 2017
 Amazon AI (invited by Prof. Stefano Soatto)

“Generative Modeling of Convolutional Neural Networks” Aug 2017
 Hikvision Research America, Santa Clara (invited by Dr. Bo Wang)

“Statistical Modeling of Convolutional Neural Networks” Apr 2017
 USC Marshall School of Business (invited by Prof. Xin Tong)

“Statistical Modeling of ConvNets” Mar 2017
 UCLA Junction of Statistics and Biology Lab (invited by Prof. Jingyi Li)

“A Theory of Generative ConvNet” Jun 2016
 ICML Oral @ NYC

“Generative ConvNet and Hopfield Auto-Encoder” Nov 2015
 UCLA Lab @ UCLA (invited by Prof. Song-Chun Zhu)

“Joint Lane Detection, Tracking, Parsing and Understanding” Sep 2015
 Nokia @ Berkeley (invited by Dr. Jimmy Wang)

“Learning Sparse FRAME Models for Natural Image Patterns” Jul 2015
 Nokia @ Berkeley (invited by Dr. Jimmy Wang)

“Generative Modeling of Images Patterns” Dec 2013
 UCLA Department of Statistics (invited by Prof. Alan L. Yuille)

MENTORING

Supervising interns / postdoctoral researchers at Baidu Research USA

- Belhal Karimi (Ph.D. student at Ecole Polytechnique, CMAP) Jan 2020 - Jan 2022
- Shihao Jiang (Ph.D. student at Australian National University) Jan 2022 - Jun 2022
- Khoa Doan (Ph.D. student at Virginia Tech) Oct 2020 - Jun 2022
- Jun Li (Ph.D. student at Oregon State University) Mar 2021 - Mar 2022
- Nanqing Dong (Ph.D. student at University of Oxford) June 2021 - Sep 2021
- Yifei Xu (Ph.D. student at UCLA) Oct 2021 - Mar 2022
- Jing Zhang (Ph.D. student at Australian National University) Jul 2021 - Sep 2021

- Yaxuan Zhu (Ph.D. student at UCLA) Jul 2021 - Mar 2022
- Dongsheng An (Ph.D. student at Stony Brook University) June 2020 - Sep 2020
- Yang Zhao (Ph.D. student at University at Buffalo, SUNY) June 2020 - Sep 2020
- Zilong Zheng (Ph.D. student at UCLA) June 2020 - Sep 2020

Supervising interns at Hikvision Research Institute

- Yizhe Zhu (Ph.D. student at Rutgers University) May 2018 - Sep 2018
- Ruiqi Gao (Ph.D. student at UCLA) Jul 2018 - Sep 2018
- Jing Zhang (Ph.D. student at Australian National University) Mar 2019 - Jun 2019
- Yifei Xu (Ph.D. student at UCLA) Jul 2019 - Sep 2019

Supervising through UCLA's undergraduate Cross-Disciplinary Scholars in Science and Technology (CSST) summer program

- Shuhan Liang (Now a Ph.D. student at NC State University) Jul - Sep 2012
- Chenguang Dai (Now a Ph.D. student at Harvard) Jul - Sep 2014
- Hansheng Jiang (Now a Ph.D. student at UC Berkeley) Jul - Sep 2016
- Guodong Zhang (Now a Ph.D. student at U of Toronto) Jul - Nov 2016
- Yifei Xu (Now a Ph.D. student at UCLA) Jul 2016 - Sep 2017
- Xiaolin Fang (Now a Ph.D. student at MIT) Jul 2018 - Sep 2019

Supervising by leading the machine learning group at the Center for Vision, Cognition, Learning, and Autonomy (VCLA) at UCLA

- Ruiqi Gao (UCLA Statistics Ph.D. Student) Sep 2016 - Jun 2021
- Erik Nijkamp (UCLA Statistics Ph.D. Student) Jan 2017 - Jan 2018
- Tengyu Liu (UCLA CS Ph.D. Student) Jan 2017 - Jan 2018
- Ruiqi Zhong (Now a software engineer at NVIDIA) Jan - Mar 2017
- Zilong Zheng (UCLA CS Ph.D. Student) Jun 2017 - Jun 2021

Advising in Mathematical Contest in Modeling

- A team that won the [2012 ICM Outstanding Winner](#) 2012
Yi Zheng, Yi Zeng, You Tian
- A team that won the [2009 MCM Meritorious Winner](#) 2009
Zhenzhong Lan (Ph.D. @ CMU), Yuan Shi (Ph.D. @ USC), Wei Bi (Ph.D. @ HKUST)

TECHNICAL
SKILLS

Languages: C/C++, Java, Matlab, Python
Development Environment: Unix and Windows
Fluent in English and Chinese (both Mandarin and Cantonese)

REFERENCES

Ying Nian Wu, Ph.D.

Professor of Department of Statistics and Computer Science
University of California, Los Angeles
E-mail: ywu@stat.ucla.edu

Song-Chun Zhu, Ph.D.

Professor of Department of Statistics
University of California, Los Angeles
E-mail: sczhu@stat.ucla.edu

Tianfu Wu, Ph.D.

Assistant Professor of Department of Electrical and Computer Engineering
North Carolina State University
E-mail: twu19@ncsu.edu

Ping Li, Ph.D.

Deputy Dean of Baidu Research Institute, USA

Head of Cognitive Computing Laboratory, Baidu Research Institute, USA

Head of Seattle Research Institute, Baidu Research Institute, USA

E-mail: pingli98@gmail.com