

# Sharon Yixuan Li

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		<b>Google citation</b>	11,000 (as of September 2023)

## Academic Appointment

Aug. 2020 - **Assistant Professor**  
Current University of Wisconsin - Madison, Department of Computer Sciences

Aug. 2019 - **Postdoctoral Research Fellow**  
Aug. 2020 Stanford University, Department of Computer Science

## Education

Sep 2013 - **Doctor of Philosophy**  
Dec 2017 Cornell University  
Advisor: *John E. Hopcroft* Thesis committee members: *Kilian Q. Weinberger, Thorsten Joachims*

Sep 2009 - **Bachelor of Engineering with Honors**  
Jun 2013 Shanghai Jiaotong University  
*Honors: National Scholarship (2 years); Academic Excellence Scholarship (3 years)*

## Selected Awards and Honors

2023 **MIT TR35 “Innovator of the Year”**  
*Awarded to 1 recipient globally who received the highest overall score from MIT TR35 judges*

2023 **NSF CAREER Award**

2022 **AFOSR Young Investigator Program (YIP) Award**  
*Awarded to 58 early-career faculty nationwide*

2022 **NeurIPS Outstanding Paper Award**  
*Awarded to 13 papers out of 10,411 submissions*

2022 **Amazon Research Award**

2022 **ICLR Outstanding Paper Honorable Mention**  
*Awarded to 10 out of 3391 papers*

2011 & 2022 **American Family Data Science Research Awards**

2021 **Google-Initiated Focused Research Award**

2021 **Facebook Faculty Research Award**

2021 **JP Morgan Chase Early-career Faculty Award**

2021 **Madison Teaching and Learning Excellence Fellowship (MTLE)**

2020 **Forbes 30Under30 in Science**  
*Awarded to 30 young scientists worldwide*

2017 **Stanford Rising Stars in EECS**  
*Awarded to 70 EECS graduate and postdoctoral women*

2017 **ACM-W Scholarship**

2013 **Graduate School Fellowship, Cornell University**

2011 & 2012 **National Scholarship**  
*Highest honor to the top 3% undergrad students nationwide*

## Publications (after joining UW-Madison)

73. Yiyu Sun, Zhenmei Shi, and Yixuan Li  
*A Graph-Theoretic Framework for Understanding Open-World Representation Learning*  
Advances in Neural Information Processing Systems (**NeurIPS**), 2023  
**Spotlight**
72. Xuefeng Du, Yiyu Sun, Jerry Zhu, Yixuan Li  
*Dream the Impossible: Outlier Imagination with Diffusion Models*  
Advances in Neural Information Processing Systems (**NeurIPS**), 2023
71. Qizhou Wang, Zhen Fang, Yonggang Zhang, Feng Liu, Yixuan Li, and Bo Han  
*Learning to Augment Distributions for Out-of-distribution Detection*  
Advances in Neural Information Processing Systems (**NeurIPS**), 2023
70. Jiuxiang Gu\*, Yifei Ming\*, Yi Zhou, Jason Kuen, Vlad Morariu, Anqi Liu, Yixuan Li, Tong Sun and Ani Nenkova  
*A Critical Analysis of Out-of-Distribution Detection for Document Understanding*  
In Empirical Methods in Natural Language Processing (**EMNLP-Findings**), 2023  
(\* equal contribution)
69. Haoyue Bai, Gregory Canal, Xuefeng Du, Jeongyeol Kwon, Robert D Nowak, Yixuan Li  
*Feed Two Birds with One Scone: Exploiting Wild Data for Both Out-of-Distribution Generalization and Detection*  
In Proceedings of International Conference on Machine Learning (**ICML**), 2023
68. Hongxin Wei, Huiping Zhuang, Renchunzi Xie, Lei Feng, Gang Niu, Bo An, and Yixuan Li  
*Mitigating Memorization of Noisy Labels by Clipping the Model Prediction*  
In Proceedings of International Conference on Machine Learning (**ICML**), 2023
67. Yiyu Sun, Zhenmei Shi, Yingyu Liang, Yixuan Li  
*When and How Does Known Class Help Discover Unknown Ones? Provable Understandings Through Spectral Analysis*  
In Proceedings of International Conference on Machine Learning (**ICML**), 2023
66. Yiyu Sun, Yaojie Liu, Xiaoming Liu, Yixuan Li, Wen-Sheng Chu  
*Rethinking Domain Generalization for Face Anti-spoofing: Separability and Alignment*  
In Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2023
65. Yifei Ming, Yiyu Sun, Ousmane Dia and Yixuan Li  
*How to Exploit Hyperspherical Embeddings for Out-of-Distribution Detection?*  
In Proceedings of the 11th International Conference on Learning Representations (**ICLR**), 2023
64. Leitian Tao, Xuefeng Du, Xiaojin Zhu and Yixuan Li  
*Non-parametric Outlier Synthesis*  
In Proceedings of the 11th International Conference on Learning Representations (**ICLR**), 2023
63. Yifei Ming and Yixuan Li  
*How Does Fine-Tuning Impact Out-of-Distribution Detection for Large Vision-Language Models?*  
International Journal of Computer Vision (**IJCV**), 2023

62. Soumya Suvra Ghosal and Yixuan Li  
*Are Vision Transformers Robust to Spurious Correlations?*  
International Journal of Computer Vision (**IJCV**), 2023
  
61. Rheeya Uppaal, Junjie Hu, and Yixuan Li  
*Is Fine-tuning Needed? Pre-trained Language Models Are Near Perfect for Out-of-Domain Detection*  
In Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics (**ACL**), 2023
  
60. Xuefeng Du, Tian Bian, Yu Rong, Bo Han, Tongliang Liu, Tingyang Xu, Wenbing Huang, Yixuan Li, Junzhou Huang  
*Noise-robust Graph Learning by Estimating and Leveraging Pairwise Interactions*  
Transactions on Machine Learning Research (**TMLR**), 2023
  
59. Yiyu Sun and Yixuan Li  
*OpenCon: Open-world Contrastive Learning*  
Transactions on Machine Learning Research (**TMLR**), 2023
  
58. Soumya Suvra Ghosal and Yixuan Li  
*Distributionally Robust Optimization with Probabilistic Group*  
In Proceedings of the AAAI Conference on Artificial Intelligence (**AAAI**), 2023
  
57. Mu Cai and Yixuan Li  
*Out-of-distribution Detection via Frequency-regularized Generative Models*  
In Proceedings of IEEE/CVF Winter Conference on Applications of Computer Vision (**WACV**), 2023  
**Spotlight**
  
56. Radhika Dua, Seongjun Yang, Yixuan Li, and Edward Choi  
*Task Agnostic and Post-hoc Unseen Distribution Detection*  
In Proceedings of IEEE/CVF Winter Conference on Applications of Computer Vision (**WACV**), 2023
  
55. Tingru Cui, Yixuan Li, Kaiping Chen, James Bailey, and Feng Liu  
*Designing Fair AI Systems: Exploring the Interaction of Explainable AI and Task Objectivity on Users' Fairness Perception*  
In Proceedings of Pacific Asia Conference on Information Systems (**PACIS**), 2023
  
54. Yifei Ming, Ziyang Cai, Jiuxiang Gu, Yiyu Sun, Wei Li, and Yixuan Li  
*Delving into Out-of-Distribution Detection with Vision-Language Representations*  
Advances in Neural Information Processing Systems (**NeurIPS**), 2022
  
53. Xuefeng Du, Gabriel Gozum, Yifei Ming and Yixuan Li  
*SIREN: Shaping Representations for Detecting Out-of-Distribution Objects*  
Advances in Neural Information Processing Systems (**NeurIPS**), 2022
  
52. Zhen Fang, Yixuan Li, Jie Lu, Jiahua Dong, Bo Han, Feng Liu  
*Is Out-of-distribution Detection Learnable?*  
Advances in Neural Information Processing Systems (**NeurIPS**), 2022  
**Outstanding Paper Award** (top 13 in 10411 submissions)
  
51. Haobo Wang, Mingxuan Xia, Yixuan Li, Yuren Mao, Lei Feng, Gang Chen, Junbo Zhao  
*SoLar: Sinkhorn Label Refinery for Imbalanced Partial-Label Learning*  
Advances in Neural Information Processing Systems (**NeurIPS**), 2022

50. Jingkang Yang, Pengyun Wang, Dejian Zou, Zitang Zhou, Kunyuan Ding, Wenxuan Peng, Haoqi Wang, Guangyao Chen, Bo Li, Yiyu Sun, Xuefeng Du, Kaiyang Zhou, Wayne Zhang, Dan Hendrycks, Yixuan Li, Ziwei Liu  
*OpenOOD: Benchmarking Generalized Out-of-Distribution Detection*  
Advances in Neural Information Processing Systems (**NeurIPS**), Datasets and Benchmarks Track, 2022
49. Mohammadreza Salehi, Hossein Mirzaei, Dan Hendrycks, Yixuan Li, Mohammad Hossein Rohban, Mohammad Sabokrou  
*A Unified Survey on Anomaly, Novelty, Open-Set, and Out-of-Distribution Detection: Solutions and Future Challenges*  
Transactions on Machine Learning Research (**TMLR**), 2022
48. Brayden Scott, Ali Deatsch, Zan Klanecek, Yixuan Li, Robert Jeraj  
*Leveraging localized gradients for regional predictive uncertainty applied to the deep learning-based metastatic disease delineation task*  
Conference on Machine Intelligence in Medical Imaging (**CMIMI Abstract**), 2022
47. Yifei Ming\*, Ying Fan\* and Yixuan Li  
*Out-of-Distribution Detection with Posterior Sampling*  
In Proceedings of International Conference on Machine Learning (**ICML**), 2022  
(\* indicates equal contribution)  
**Long talk**, Acceptance Ratio: 2%
46. Yiyu Sun, Yifei Ming, Xiaojin Zhu and Yixuan Li  
*Out-of-Distribution Detection with Deep Nearest Neighbors*  
In Proceedings of International Conference on Machine Learning (**ICML**), 2022
45. Hongxin Wei, Renchunzi Xie, Hao Cheng, Lei Feng, Bo An and Yixuan Li  
*Mitigating Neural Network Overconfidence with Logit Normalization*  
In Proceedings of International Conference on Machine Learning (**ICML**), 2022
44. Julian Katz-Samuels\*, Julia Nakhleh\*, Robert Nowak and Yixuan Li  
*Training OOD Detectors in Their Natural Habitats*  
In Proceedings of International Conference on Machine Learning (**ICML**), 2022  
(\* indicates equal contribution)
43. Soumya Suvra Ghosal, Yifei Ming, and Yixuan Li  
*Are Vision Transformers Robust to Spurious Correlations?*  
International Conference on Machine Learning (**ICML'W**), SCIS Workshop, 2022.
42. Yiyu Sun and Yixuan Li  
*DICE: Leveraging Sparsification for Out-of-Distribution Detection*  
In Proceedings of European Conference on Computer Vision (**ECCV**), 2022.
41. Xuefeng Du, Xin Wang, Gabriel Gozum and Yixuan Li  
*Unknown-Aware Object Detection: Learning What You Don't Know from Videos in the Wild*  
In Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2022  
**Oral presentation**, Acceptance Ratio: 4%
40. Xuefeng Du, Zhaoning Wang, Mu Cai and Yixuan Li  
*VOS: Learning What You Don't Know by Virtual Outlier Synthesis*  
In Proceedings of the 10th International Conference on Learning Representations (**ICLR**), 2022

39. Haobo Wang, Ruixuan Xiao, Yixuan Li, Lei Feng, Gang Niu, Gang Chen, Junbo Zhao  
*PiCO: Contrastive Label Disambiguation for Partial Label Learning*  
In Proceedings of the 10th International Conference on Learning Representations (ICLR), 2022  
**Outstanding Paper Honorable Mention** (top 10 in 3391 submissions)
38. Peyman Morteza and Yixuan Li  
*Provable Guarantees for Understanding Out-of-distribution Detection*  
In Proceedings of the AAAI Conference on Artificial Intelligence (AAAI), 2022  
**Oral presentation**, Acceptance Ratio: 15%
37. Yifei Ming, Hang Yin and Yixuan Li  
*On the Impact of Spurious Correlation for Out-of-distribution Detection*  
In Proceedings of the AAAI Conference on Artificial Intelligence (AAAI), 2022  
**Oral presentation**, Acceptance Ratio: 15%
36. Rui Huang, Andrew Geng and Yixuan Li  
*On the importance of gradients for detecting distributional shifts in the wild*  
Advances in Neural Information Processing Systems (NeurIPS), 2021
35. Yiyu Sun, Chuan Guo and Yixuan Li  
*ReAct: Out-of-distribution Detection with Rectified Activation*  
Advances in Neural Information Processing Systems (NeurIPS), 2021
34. Haoran Wang\*, Weitang Liu, Alex Bocchieri and Yixuan Li\*  
*Can multi-label classification networks know what they don't know?*  
Advances in Neural Information Processing Systems (NeurIPS), 2021  
(\* indicates equal contribution)
33. Rui Huang and Yixuan Li  
*MOS: Towards Scaling Out-of-distribution Detection for Large Semantic Space*  
In Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2021  
**Oral Presentation, Acceptance Ratio: ~4%**
32. Ziqian Lin\*, Sreya Dutta Roy\* and Yixuan Li  
*MOOD: Multi-level Out-of-distribution Detection*  
In Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2021  
(\* indicates equal contribution)
31. Karan Goel\*, Albert Gu\*, Yixuan Li and Christopher Ré  
*Model Patching: Closing the Subgroup Performance Gap with Data Augmentation*  
In Proceedings of the 9th International Conference on Learning Representations (ICLR), 2021  
(\* indicates equal contribution)
30. Jiefeng Chen, Yixuan Li, Xi Wu, Yingyu Liang and Somesh Jha  
*ATOM: Robust Out-of-distribution Detection Using Outlier Mining*  
In Proceedings of the European Conference on Machine Learning (ECML-PKDD), 2021
29. Mu Cai, Hong Zhang, Huijuan Huang, Qichuan Geng, Yixuan Li and Gao Huang  
*Frequency Domain Image Translation: More Photo-realistic, Better Identity-preserving*  
In Proceedings of the International Conference on Computer Vision (ICCV), 2021

28. Yiyu Sun, Bastin Joseph, Alison Deatsch, Robert Jeraj and Yixuan Li  
*LOOD: Localization-based Uncertainty Estimation for Medical Imaging*  
International Conference on Machine Learning workshop **ICML DFUQ**, 2021  
**Spotlight Presentation**

27. Weitang Liu, Xiaoyun Wang, John Owens and Yixuan Li  
*Energy-based Out-of-distribution Detection*  
Advances in Neural Information Processing Systems (**NeurIPS**), 2020

## **Publications (before joining UW-Madison)**

26. Trenton Chang, Dan Fu, Yixuan Li, and Christopher Ré  
*Beyond the Pixels: Exploring the Effect of Video File Corruptions on Model Robustness*  
Workshop on Adversarial Robustness in the Real World (**ECCV'W**), 2020

25. Jiefeng Chen, Yixuan Li, Xi Wu, Yingyu Liang and Somesh Jha  
*Informative Outlier Matters: Robust Out-of-distribution Detection Using Outlier Mining*  
International Conference on Machine Learning UDL workshop (**ICML UDL**), 2020

24. Jiefeng Chen, Yixuan Li, Xi Wu, Yingyu Liang and Somesh Jha  
*Robust Out-of-distribution Detection for Neural Networks*  
AAAI-22 Workshop on Adversarial Machine Learning and Beyond

23. Yina Tang\*, Fedor Borisjuk\*, Siddarth Malreddy\*, Yixuan Li\*, Yiqun Liu\* and Sergey Kirshner\*  
*MSURU: Large Scale E-commerce Image Classification With Weakly Supervised Search Data*  
In Proceedings of SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD**), 2019  
(\* indicates equal contribution)

22. Abhinmanyu Dubey, Laurens van der Maaten, Zeki Yalniz, Yixuan Li and Dhruv Mahajan  
*Defense Against Adversarial Images using Web-Scale Nearest-Neighbor Search*  
In Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2019  
**Oral Presentation (top 5%)**

21. Dhruv Mahajan, Ross Girshick, Vignesh Ramanathan, Kaiming He, Manohar Paluri, Yixuan Li, Ashwin Bharambe, and Laurens van der Maaten  
*Exploring the Limits of Weakly Supervised Pretraining*  
In Proceedings of European Conference on Computer Vision (**ECCV**), 2018

20. Shiyu Liang, Ruoyu Sun, Yixuan Li, R. Srikant,  
*Understanding the Loss Surface of Neural Networks for Binary Classification*  
In Proceedings of International Conference on Machine Learning (**ICML**), 2018  
**Oral Presentation**

19. Shiyu Liang, Yixuan Li, R. Srikant  
*Enhancing The Reliability of Out-of-distribution Image Detection in Neural Networks*  
In Proceedings of the 6th International Conference on Learning Representations (**ICLR**), 2018

18. Shiyu Liang, Ruoyu Sun, Yixuan Li, R. Srikant  
*Understanding the Loss Surface of Single-Layered Neural Networks for Binary Classification*  
Workshop in International Conference on Learning Representation (**ICLR Workshop**), 2018

17. Gao Huang\*, Yixuan Li\*, Geoff Pleiss, Zhuang Liu, John Hopcroft and Kilian Weinberger  
*Snapshot Ensembles: Train 1, Get M for Free*  
In Proceedings of the 5th International Conference on Learning Representations (ICLR), 2017  
(\* indicates equal contribution)
16. Xun Huang, Yixuan Li, Omid Poursaeed, John Hopcroft and Serge Belongie  
*Stacked Adversarial Generative Networks*  
In Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2017
15. Yixuan Li, Pingmei Xu, Dmitry Lagun and Vidhya Navalpakkam  
*Towards Measuring and Inferring User Interest From Gaze*  
In Proceedings of the 26th international conference on World Wide Web (WWW), 2017
14. Yixuan Li, Kun He, Kyle Kloster, David Bindel and John Hopcroft  
*Local spectral clustering for overlapping community detection*  
In ACM Transactions on Knowledge Discovery from Data (TKDD), 2017
13. Jacob Gardner, Paul Upchurch, Matt Kusner, Yixuan Li, Kilian Weinberger, Kavita Bala and John Hopcroft  
*Deep Manifold Traversal: Changing Labels with Convolutional Features*  
arXiv cs.LG/1511.06421
12. Yixuan Li, Jason Yosinski, Jeff Clune, John Hopcroft and Hod Lipson  
*Convergent Learning: Do different neural networks learn the same representations?*  
In Proceedings of the 4th International Conference on Learning Representation, (ICLR), 2016  
**Oral Presentation**
11. Yixuan Li, Oscar Martinez, Xing Chen, Yi Li and John Hopcroft  
*In a World that Counts: Clustering and Detecting Fake Social Engagement at Scale*  
In Proceedings of the 25th international conference on World Wide Web (WWW), 2016
10. Jiezhong Qiu, Yixuan Li, Jie Tang, Zheng Lu, Hao Ye, Bo Chen, Qiang Yang and John Hopcroft  
*The Lifecycle and Cascade of Social Messaging Groups*  
In Proceedings of the 25th international conference on World Wide Web (WWW), 2016
9. Yixuan Li, Jason Yosinski, Jeff Clune, John Hopcroft and Hod Lipson  
*Convergent Learning: Do different neural networks learn the same representations?*  
NIPS Workshop on Feature Extraction: Modern Questions and Challenges, 2015  
**Oral Presentation**
8. Yixuan Li, Kun He, David Bindel and John Hopcroft  
*Uncovering the Small Community Structure in Large Networks: A Local Spectral Approach*  
In Proceedings of the 24th International Conference on World Wide Web (WWW), 2015
7. Kun He, Yiwei Sun, David Bindel and John Hopcroft, Yixuan Li  
*Detecting Overlapping Communities from Local Spectral Subspaces*  
In Proceedings of the International Conference on Data Mining (ICDM), 2015
6. Jinbei Zhang, Yixuan Li, Zhuotao Liu, Fan Wu, Feng Yang, and Xinbing Wang  
*On Multicast Capacity and Delay in Cognitive Radio Mobile Ad-hoc Networks*  
In IEEE Transactions on Wireless Communications (TWC), 2015

5. Yixuan Li, Qiuyu Peng and Xinbing Wang  
*Multicast Capacity With Max-Min Fairness for Heterogeneous Networks*  
In IEEE/ACM Transactions on Networking (TON), 2014

## Pending Work and Preprints

4. Jingyang Zhang, Jingkang Yang, Pengyun Wang, Haoqi Wang, Yueqian Lin, Haoran Zhang, Yiyou Sun, Xuefeng Du, Kaiyang Zhou, Wayne Zhang, Yixuan Li, Ziwei Liu, Yiran Chen, Hai Li.  
*OpenOOD v1.5: Enhanced Benchmark for Out-of-Distribution Detection*  
Under review, The Journal of Data-Centric Machine Learning Research (DMLR)
3. Hao Lang, Yinhe Zheng, Yixuan Li, Jian SUN, Fei Huang, Luo Si, Yongbin Li  
*A Survey on Out-of-Distribution Detection in NLP*  
Under review, Transactions on Machine Learning Research (TMLR)
2. Jingkang Yang, Kaiyang Zhou, Yixuan Li and Ziwei Liu  
*Generalized Out-of-Distribution Detection: A Survey*  
Under review, International Journal of Computer Vision (IJCV)
1. Kaiping Chen, Anqi Shao, Jirayu Burapacheeep, and Yixuan Li  
*A critical appraisal of equity in conversational AI: Evidence from auditing GPT-3's dialogues with different publics on climate change and Black Lives Matter*  
Under review, Scientific Reports

## Grants

20. **(PI) SLES: Foundations for Safety-Aware Learning in the Wild**  
*National Science Foundation (NSF)*  
Award amount: \$793,065, Co-PI: Jerry Zhu
19. **(PI) CAREER: Foundations of Human-Centered Machine Learning in the Wild**  
*National Science Foundation (NSF)*  
Award amount: \$599,265, October 1, 2023 - September 30, 2028
18. **(Co-investigator) Machine Learning to Predict Well-being**  
*DARPA - Information Innovation Office*  
Award amount: \$3,076,700
17. **(PI) Human-Aligned Learning in the Open-World (HALLOW)**  
*AFOSR Young Investigator Program*  
Award amount: \$450,000, March 1 2023 - March 1, 2026
16. **(PI) Out-of-distribution Detection in Real-world Environments**  
*Office of Naval Research (ONR)*  
Award amount: \$600,000, Co-PI: Katie Rainey
15. **(PI) Building new foundations to mitigate AI risks in the open world**  
*Survival and Flourishing Fund (SFF)*  
Award amount: \$309,000, unrestricted gift
14. **(PI) Understanding and Reducing Safety Risks of Learning with Large Pre-trained Models**  
*Center For Advanced Safety of Machine Intelligence (CASMI)*  
Award amount: \$270,835, Jan 1, 2023 - December 31, 2024
13. **(PI) Google-Initiated Research Grant (Level 2 Support)**  
*Award amount: \$110,000, unrestricted gift awarded in 2022*



12. **(PI) Amazon Research Award**  
*Award amount: \$30,000, unrestricted gift awarded in 2022*
11. **(PI) Adobe Research Gift Funding**  
*Award amount: \$15,000, unrestricted fund awarded in 2022*
10. **(PI) Facebook Faculty Research Award**  
*Award amount: \$100,000, unrestricted fund awarded in 2021*
9. **(PI) American Family Funding Initiative Award**  
*Contrastive Language-Image Learning for Out-of-distribution Detection*  
*Award amount: \$100,000, August 2022 - August 2023*
8. (Intramural) **(PI) University of Wisconsin - Madison, Fall Research Competition**  
*An Unknown-aware Machine Learning Framework for Safe Object Recognition*  
*Award amount: \$38,947, August 2022 - May 2023*
7. (Intramural, declined) **Hilldale Undergraduate/Faculty Research Fellowship**  
*Award amount: \$1,000 (for PI), August 2022 - August 2023*
6. **(PI) Google-Initiated Focused Research Award**  
*Uncertainty Estimation for Multi-modal Machine Learning*  
*Award amount: \$30,000, unrestricted fund awarded in 2021*
5. **(PI) Facebook Gift Funding**  
*Award amount: \$25,000, unrestricted fund awarded in 2021*
4. **(PI) American Family Funding Initiative Award**  
*Safe and Reliable Machine Learning through Out-of-Distribution Detection*  
*Award amount: \$111,258, August 2021 - August 2022*
3. **(Co-PI) American Family Funding Initiative Award**  
*Reducing Bias in Human-AI Conversation*  
*Award amount: \$149,969, August 2021 - August 2022, PI: Kaiping Chen*
2. **(PI) Adobe Research Gift Funding**  
*Award amount: \$10,000, unrestricted fund*
1. **(PI) JP Morgan Early-career Faculty Award**  
*Award amount: \$10,000, September 2021-August 2022*

## Professional Service

- **Workshop Organization:**

Program Chair and Founding Organizer, ICML workshop on Robustness and Uncertainty in Deep Learning, 2019

Program Chair, ICML workshop on Robustness and Uncertainty in Deep Learning, 2020

Co-organizer, ICML workshop on Robustness and Uncertainty in Deep Learning, 2021

Co-organizer, ICML workshop on Distribution-free Uncertainty Quantification, 2021 & 2022

Co-organizer, NeurIPS workshop on Robustness in Sequence Modeling, 2022

Co-organizer, ICCV Tutorial on Reliability of Deep Learning for Real-World Deployment, 2023

- **Conferences:**

Area Chair for ICLR 2021, ICLR 2023

Area Chair for ICML 2021, ICML 2022, ICML 2023

Area Chair for NeurIPS, 2020, NeurIPS 2022, NeurIPS 2023

Area Chair for IJCAI, 2021

Senior Program Committee for AAAI, 2020, 2021, 2022, 2023

Reviewer: ICLR 2022, NeurIPS 2021, CVPR 2021, CVPR 2019, ICCV 2019, ICLR 2019, NIPS 2018, AAAI 2017, NIPS 2016

- **Journal Reviewing:**

*IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*  
*IEEE Transactions on Knowledge and Data Engineering (TKDE)*  
*ACM Transactions on the Web (TWEB)*  
*IEEE Transactions on Intelligent Systems and Technology (TIST)*  
*IEEE Transactions on Big Data (TBD)*  
*Pattern Recognition (PR)*  
*Journal of Machine Learning for Biomedical Imaging (MELBA)*  
*Transaction on Machine Learning Research (TMLR)*

- **Grant reviewing:**

Army Research Office, 2021  
NSF Robust Intelligence Program, 2023

- **Department Service:**

Graduate Admission Committee, 2019-2022

## Current Students

Ph.D. Yifei (Alvin) Ming (Fall 2020-current)  
Ph.D. Xuefeng Du (Spring 2021-current)  
Ph.D. Haoyue Bai (Fall 2022-current)  
Ph.D. Hyeong Kyu (Froilan) Choi (Fall 2023-current)  
Ph.D. Shawn Im (Fall 2023-current)  
Ph.D. Gabriel Orlanski (Fall 2023-current)  
B.S. Max Khanov (Spring 2023-current)  
B.S. Ben Hayum (Summer 2023-current)

## Students Graduated

PhD'23 Yiyu Sun → Research Scientist at NEC lab  
MS'23 Andrew Geng → Research Engineer at IBM  
MS'23 Soumya Suvra Ghosal → PhD student at U. Maryland  
MS'21 Hang Yin → Google  
MS'20 Bastin Joseph → Amazon AI  
MS'20 Sreya Dutta Roy → Facebook/Meta AI  
MS'20 Deepan Das → DataChat  
BS'23 Top Burapacheep → graduate student at Stanford  
BS'22 Gabriel Gozum → graduate student at UW-Madison  
BS'21 Eric Zhaoning Wang → CMU

## Served on Ph.D. thesis committee:

*Yuzhe Ma* (thesis advisor: Jerry Zhu)  
*Samuel Dreus* (thesis co-advisors: Loris D'Antoni and Aws Albarghouthi)  
*Zihang Meng* (thesis advisor: Vikas Singh)  
*David Merrell* (thesis advisor: Anthony Gitter)  
*Sam Gelman* (thesis advisor: Anthony Gitter)

## Served on the qualification and prelim committee:

*Yuhao Zhang* (thesis advisor: Loris D'Antoni and Aws Albarghouthi)  
*David Merrell* (thesis advisor: Anthony Gitter)  
*Sam Gelman* (thesis advisor: Anthony Gitter)  
*Kartik Sreenivasan* (thesis advisor: Dimitris Papailiopoulos)  
*Yang Guo* (thesis advisor: Yingyu Liang)  
*Eric Brandt* (thesis advisor: Eftychios Sifakis )  
*Sangeetha Grama* (thesis advisor: Eftychios Sifakis )  
*Zihang Meng* (thesis advisor: Vikas Singh)  
*Zhanpeng Zeng* (thesis advisor: Vikas Singh)  
*Zifan Liu* (thesis advisor: Theodoros Rekatsinas)  
*Bhavya Goyal* (thesis advisor: Mohit Gupta)  
*Eddie Barton* (thesis advisor: Yu-Hen Hu)  
*Utkarsh Ojha* (thesis advisor: Yong Jae Lee)  
*Ziqian Lin* (thesis advisor: Kangwook Lee)  
*Fangzhou Mu* (thesis advisor: Yin Li)  
*Jifan Zhang* (thesis advisor: Rob Nowak)  
*Saketh Sridhara* (thesis advisor: Krishnan Suresh)  
*Peyman Morteza* (committee chair: Fred Sala)  
*Yue Gao* (thesis advisor: Kassem Fawaz)  
*Tim Ossowski* (thesis advisor: Junjie Hu)  
*Ryan Sheatsle* (thesis advisor: Patrick McDaniel)  
*Xueyan Zou* (thesis advisor: Yong Jae Lee)  
*Vignesh Selvaraj* (thesis advisor: Sangkee Min)  
*Kanghee Park* (thesis advisor: Loris D'Antoni)  
*Sonia Cromp* (thesis advisor: Fred Sala)

## Talks & Panels (after joining UW-Madison)

May 2023     *Invited talk at MIT*  
AI Safety Under Distributional Shifts

April 2023     *Invited talk at KAUST*  
How to Handle Data Shifts in the Wild? Challenges, Research Progress, and Path Forward

Feb. 2023     *Invited talk at Cornell AI Seminar*  
How to Handle Data Shifts in the Wild? Challenges, Research Progress, and Path Forward

Feb. 2023     *Invited talk at Machine Learning Lunch Meeting (MLLM)*  
How to Handle Data Shifts? Challenges, Research Progress, and Path Forward

Dec. 2022     *Invited talk @ NeurIPS Workshop on ML Safety*  
How to Handle Distributional Shifts? Challenges, Research Progress, and Path Forward

Dec. 2022     *Invited guest lecture at NYU*  
How to Handle Distributional Shifts? Challenges, Research Progress, and Path Forward

Dec. 2022     *Invited talk @ National Institute of Standards and Technology (NIST)*  
How to Handle Data Shifts? Challenges, Research Progress, and Path Forward

Oct. 2022     *Keynote @ ECCV Workshop on Uncertainty Quantification in Computer Vision*  
How to Handle Data Shifts? Challenges, Research Progress, and Path Forward

Oct. 2022     *Keynote @ ECCV Workshop on Learning with Limited and Imperfect Data*  
How to Handle Data Shifts? Challenges, Research Progress, and Path Forward

Oct. 2022     *Ohio State University, CSE AI Seminar*  
How to Handle Data Shifts? Challenges, Research Progress, and Path Forward

- Oct. 2022 *TrustML Young Scientist Seminar*  
How to Handle Data Shifts? Challenges, Research Progress, and Path Forward
- Sept. 2022 *SIAM Symposium on Robustness in Deep Learning*  
Challenges and Opportunities in Out-of-distribution Detection
- Aug. 2022 *UW-Madison new graduate student orientation*  
Things I wish I knew before starting the graduate school
- Aug. 2022 *Future of Data-centric AI (co-hosted by Stanford)*  
Uncovering the Unknowns of Deep Neural Networks: Challenges and Opportunities
- July 2022 *Invited talk @ ICML Workshop on DataPerf*  
Challenges and Opportunities in Handling Data Distributional Shift
- Mar. 2022 *UT-Austin, Sys/ML Workshop*  
Challenges and Opportunities in Out-of-distribution Detection
- Mar. 2022 *Oregon State University, AI Seminar*  
Challenges and Opportunities in Out-of-distribution Detection
- Feb. 2022 *Anomaly Detection for Scientific Discovery (AD4SD) Seminar*  
Challenges and Opportunities in Out-of-distribution Detection
- Dec. 2021 *Keynote @ NeurIPS ImageNet workshop*  
Uncovering the Unknowns of ImageNet Models: Challenges and Opportunities
- Dec. 2021 *Physics Meets ML Seminar (co-hosted by Microsoft)*  
Uncovering the Unknowns of Deep Neural Networks: Challenges and Opportunities
- Sept. 2021 *Future of Data-centric AI (co-hosted by Stanford)*  
Uncovering the Unknowns of Deep Neural Networks: Challenges and Opportunities
- Aug. 2021 *Facebook*  
Uncovering the Unknowns of Deep Neural Networks: Challenges and Opportunities
- Aug. 2021 *Keynote @ Artificial Intelligence for Anomalies and Novelty Workshop*  
Uncovering the Unknowns of Deep Neural Networks: Challenges and Opportunities
- Aug. 2021 *Keynote @ Weakly-supervised Representation Learning Workshop*  
Uncovering the Unknowns of Deep Neural Networks: Challenges and Opportunities
- Aug. 2021 *Institute for Foundations of Data Science (IFDS)*  
Uncovering the Unknowns of Deep Neural Networks: Challenges and Opportunities
- April 2021 *John Hopkins University, MINDS and CIS Seminar*  
Towards Reliable Open-world Machine Learning
- April 2021 *Women in Scientific Education and Research (WISER) at UW-Madison*  
Towards Reliable Open-world Machine Learning
- April 2021 *Open Data Science Conference (ODSC)*  
Reliable Open-World Learning Against Out-of-distribution Data
- Nov, 2020 *Stanford Women in Computer Science Seminar*  
Reliable Open-World Learning Against Out-of-distribution Data
- October 2020 *University of California-Berkeley, BLISS Seminar*  
Reliable Open-World Learning Against Out-of-distribution Data
- October 2020 *University of Wisconsin-Madison, SILO Seminar*  
Reliable Open-World Learning Against Out-of-distribution Data
- Sept. 2020 *Microsoft MLOS Seminar*  
Reliable Open-World Learning Against Out-of-distribution Data
- May 2020 *Air Force Research Laboratory's Workshop*  
Out-of-distribution Uncertainty Estimation and Robustness in Open-World Machine Learning

## Teaching Experience

- Fall 2023     Instructor, University of Wisconsin-Madison  
*CS762: Advanced Deep Learning*  
[http://pages.cs.wisc.edu/~sharonli/courses/cs762\\_fall2023/index.html](http://pages.cs.wisc.edu/~sharonli/courses/cs762_fall2023/index.html)
- Fall 2022     Instructor, University of Wisconsin-Madison  
*CS762: Advanced Deep Learning*  
[http://pages.cs.wisc.edu/~sharonli/courses/cs762\\_fall2022/index.html](http://pages.cs.wisc.edu/~sharonli/courses/cs762_fall2022/index.html)
- Spring 2022     Instructor, University of Wisconsin-Madison  
*CS540: Introduction to Artificial Intelligence*  
[http://pages.cs.wisc.edu/~sharonli/courses/cs540\\_spring2022/index.html](http://pages.cs.wisc.edu/~sharonli/courses/cs540_spring2022/index.html)
- Fall 2021     Instructor, University of Wisconsin-Madison  
*CS762: Advanced Deep Learning*  
[http://pages.cs.wisc.edu/~sharonli/courses/cs762\\_fall2021/index.html](http://pages.cs.wisc.edu/~sharonli/courses/cs762_fall2021/index.html)
- Spring 2021     Instructor, University of Wisconsin-Madison  
*CS540: Introduction to Artificial Intelligence*  
[http://pages.cs.wisc.edu/~sharonli/courses/cs540\\_spring2021/index.html](http://pages.cs.wisc.edu/~sharonli/courses/cs540_spring2021/index.html)
- Fall 2020     Instructor, University of Wisconsin-Madison  
*CS839 Advanced Topics in Deep Learning (newly developed)*  
[http://pages.cs.wisc.edu/~sharonli/courses/cs839\\_fall2020/index.html](http://pages.cs.wisc.edu/~sharonli/courses/cs839_fall2020/index.html)
- Feb 2015 -     Head of Teaching Assistant, Cornell University  
Jul 2015     *Mathematical Foundations for the Information Age*  
<http://www.cs.cornell.edu/courses/cs4850/2015sp/>

## Professional Experience

- Oct 2017 -     **Facebook AI**, Menlo Park, CA  
April 2019     *Research Scientist*
- May 2016-     **Google AI**, Mountain View, CA  
Aug 2016     *Research Intern, Mentor: Vidhya Navalpakkam*
- May 2015-     **Google**, Mountain View, CA  
Aug 2015     *Research Intern, Mentor: Oscar Martinez*