CURRICULUM VITAE FOR PROMOTION AND TENURE

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IDENTIFYING INFORMATION

McKnight Land-Grant Professorship (2025–2027), University of Minnesota

Assistant Professor	Computer Science and Engineering
Graduate Faculty	Computer Science and Engineering; Electrical and Computer Engineering; Institute for Health Informatics; UMN Data Science Program
Other Affiliations	UMN Data Science and AI Hub (core member); UMN CSE Data Science Initiative (CS&E Ambassador); Institute for Engineering in Medicine; UMN Center for Learning Health System Sciences (CLHSS); Program for Clinical AI of CLHSS (core member; group lead); Program for Innovative Methods & Data Science of CLHSS (core member); Masonic Cancer Center; AI-LEAF (National AI Institute for Land, Economy, Agriculture & Forestry)

Education

Degree	Institution	Date Degree Granted
B.Eng.	National University of Singapore	Jun 2008
Computer Engineering, Minor in Mathematics [Advisors: Loong-Fah Cheong & Shuicheng Yan]		
M.S.	Columbia University	Feb 2013
Electrical Engineering [Advisor: John N Wright]		
Ph.D.	Columbia University	Jun 2016
Electrical Engineering [Advisor: John N Wright]		

Positions/Employment

Deeployable AI, Inc	2025–Present
CEO/CTO/President	Apr 2025–Present
PureBioX, Inc	2023–Present
R&D Director of Artificial Intelligence	Sep 2023–Present
University of Minnesota, Twin Cities	2019–Present
Assistant Professor	Jul 2019–Present
Stanford University	2016–2019
Postdoctoral scholar [Advisor: Emmanuel Candès]	Jul 2016–Jun 2019
National University of Singapore	2008–2011

Research Engineer, Institute of Interactive & Digital Media   Jul 2008–Aug 2011

Current Membership in Professional Organizations

Member of
- Association for the Advancement of Artificial Intelligence (AAAI)
- Association for Computing Machinery (ACM)
- Institute for Operations Research and the Management Sciences (INFORMS)
- The Optical Society of America (OPTICA)
- Society for Industrial and Applied Mathematics (SIAM)
- Institute of Electrical and Electronics Engineers (IEEE)

HONORS AND AWARDS FOR RESEARCH/CREATIVE WORK, TEACHING, PUBLIC ENGAGEMENT, AND SERVICE

University of Minnesota
McKnight Land-Grant Professorship   2025-2027

External Sources
Frontiers of Science Award in Mathematics, International Congress of Basic Science (ICBS)   2024
AAAI New Faculty Highlights Program   2021
Honorable Mention of Doctoral Thesis for New World Mathematics Awards   2018
Best Student Paper Award, SPARS'15   2015

RESEARCH

Grants and Contracts

External Sources

> ***Received at the University of Minnesota:***

<u>Active</u>

1) **PI Status**: PI
   PI: Self
   From: NIH NATIONAL CANCER INSTITUTE
   Title and Dates: SCH: A New Computational Framework for Learning from Imbalanced Biomedical Data (Aug 2023–Jul 2027)
   Direct costs: ~$800K   (Personal share: ~$270K)

2) **PI Status**: Co-PI
   PI: Conelea, Christine A.
   From: NIH NAT INST OF NEURO DISORDERS & STROKE
   Title and Dates: Quantification of Tics in Tourette Syndrome (May 2023–Apr 2028)
   Direct costs: ~$2.13M   (Personal share: ~$500K)

3) **PI Status**: Co-PI
   PI: Sun, Xiaoran
   From: NATIONAL INSTITUTES OF HEALTH (NIH)
   Title and Dates: Adolescents' Social Media Management Strategies: Bidirectional Links to Objective Social Media Use and Mental Health Outcomes (Sep 2024–Aug 2028)
   Direct costs: ~$1.85M   (Personal share: ~$210K)

4) **PI Status**: Co-PI
   PI: Shekhar, Shashi
   From: USDA Nat'l Inst. of Food & Agriculture
   Title and Dates: AI-LEAF (National AI Institute for Land, Economy, Agriculture and Forestry)
   Direct costs: ~$13.3M   (Personal share: ~$200K)

5) **PI Status**: PI
   PI: Self
   From: THE NATIONAL SCIENCE FOUNDATION
   Title and Dates: ACED: Accelerating Materials Discovery by Learning with Physics-Informed Constraints (Jun 2025–Nov 2026)
   Direct costs: ~$333K   (Personal share: ~$140K)

Pending

1) **PI Status**: Co-PI
   PI: Debes, Jose
   From: NATIONAL INSTITUTES OF HEALTH (NIH)
   Title and Dates: Assessment of sound waves from liver vessels via artificial intelligence to detect liver cancer (Submitted: Jan 2025)
   Direct costs: ~$2.048M   (Personal share: ~$500K)

2) **PI Status**: Co-PI
   PI: Debes, Jose
   From: HEALTH RESOURCES IN ACTION. INC
   Title and Dates: Assessment of sounds waves via artificial intelligence as a biomarker to detect early stage liver cancer (Submitted: Jun 2025)
   Direct costs: ~$235K   (Personal share: ~$100K)

3) **PI Status**: PI
   PI: Self
   From: THE NATIONAL SCIENCE FOUNDATION
   Title and Dates: Collaborative Research: CAIG Coupled surfzone hydro- and morphodynamics using observations and artificial intelligence (Submitted: Apr 2025)
   Direct costs: ~$368.5K   (Personal share: ~$185K)

4) **PI Status**: Co-PI
   PI: Sun, Xiaoran
   From: HUO FAMILY FOUNDATION

Title and Dates: The Emerging Phenomenon of Adolescent AI Companion Use: Bidirectional Links with Social Relationships and Mental Health (Submitted: May 2025)
Direct costs: ~$1.04M   (Personal share: ~$200K)

5) **PI Status**: Co-PI
   PI: Zhang, Rui
   From: PATIENT-CENTERED OUTCOMES RESEARCH INST.
   Title and Dates: Federated learning for privacy-preserving clinical large language models across multiple institutions (Submitted: May 2025)
   Direct costs: ~$710K   (Personal share: ~$180K)

6) **PI Status**: Co-PI
   PI: Chi, Chih-Lin
   From: THE NATIONAL SCIENCE FOUNDATION
   Title and Dates: Syndemic Interactions of ADRD with Multimorbidities: Early Prediction via Advanced AI (Submitted: Jun 2025)
   Direct costs: ~$2.45M   (Personal share: ~$750K)

Completed

1) **PI Status**: PI
   PI: Self
   From: ZSCALER, INC
   Title and Dates: Efficient and Safe Multi-Agent Cross-Domain Text-to-SQL System (Jan 2025–May 2025)
   Direct costs: ~$37.3K   (Personal share: ~$37.3K)

2) **PI Status**: PI
   PI: Self
   From: THE NATIONAL SCIENCE FOUNDATION
   Title and Dates: Travel Grant: MIDWEST MACHINE LEARNING SYMPOSIUM 2024 (Jun 2024–Nov 2024)
   Direct costs: ~$25K   (Personal share: ~$25K)

3) **PI Status**: Co-PI
   PI: Rajamani, Rajesh
   From: THE NATIONAL SCIENCE FOUNDATION
   Title and Dates: CPS: Medium: Smart Tracking Systems for Safe and Smooth Interactions Between Scooters and Road Vehicles (Jan 2021–Dec 2024)
   Direct costs: ~$800K   (Personal share: ~$270K)

4) **PI Status**: Co-PI
   PI: Rusack, Roger W.
   From: U.S. DEPARTMENT OF ENERGY (USDOE)
   Title and Dates: FAIR Framework for Physics-Inspired AI in High Energy Physics (Sep 2020–May 2024)
   Direct costs: ~$500K   (Personal share: ~$100K)

5) **PI Status**: PI
   PI: Self
   From: CISCO SYSTEMS, INC
   Title and Dates: Federated and imbalanced learning for medical NLP (Dec 2022–Dec 2023)
   Direct costs: ~$136K   (Personal share: ~$100K)

6) **PI Status**: PI
   PI: Self
   From: CISCO SYSTEMS, INC
   Title and Dates: Collaborative AI Models for Fracture Detection in Trauma and Critical Care (May 2021–Dec 2022)
   Direct costs: ~$167K   (Personal share: ~$100K)

7) **PI Status**: Co-PI
   PI: Safo, Sandra
   From: NIH NIGMS NATL INST OF GENERAL
   Title and Dates: Statistical and Machine Learning Methods to Address Biomedical Challenges for Integrating Multi-view Data (Supplement) (Jul 2023–Jun 2024)
   Direct costs: ~$230.6K   (Personal share: ~$60K)

8) **PI Status**: Co-PI
   PI: Choi, Janet
   From: UNIVERSITY OF SOUTHERN CALIFORNIA
   Title and Dates: Big Data to Personalized Hearing Health: Developing an Open Database for Hearing Devices and a Matching System (Sep 2023–Jun 2024)
   Direct costs: ~$180K   (Personal share: ~$32K)

9) **PI Status**: Co-PI
   PI: Chiang, Yao-Yi
   From: INFERLINK CORPORATION
   Title and Dates: AI for Map Geolocation and Extraction to Find Critical Minerals (Sep 2023–Sep 2024)
   Direct costs: ~$500K   (Personal share: ~$80K)

University Sources (Selected)

Active

1) [Student Grants] Gaoxiang Luo, DSI-MnDRIVE PhD Graduate Assistantship, 2025–2026
2) Accelerating Materials Discovery and Engineering Designs by Learning with Physics-Informed Constraints (PI, $75K, DSI Faculty Fellowship, 2025)

Completed

1) Atomic-level In-situ and Ex-situ STEM Study of Quantum Devices for Quantum Computing—Phase II (Co-PI, $90K, CSE InterS&Ections Seed Grant, 2024–2025)

2) Data Science Methods to Enable Real-world Evidence to Support Stroke Care (DRESS) (Co-PI, $120K, DSI Seed Grant—Large, 2023–2024)
3) Stochastic Optimization for Constrained Deep Learning (PI, $50K, DSI Seed Grant—Medium, 2023–2024)
4) Constrained deep learning for the efficient discovery of stable solid-state materials (PI, $50K, CSE DSI PhD Fellowship, 2023–2024)
5) Sharp Analysis of Atomic-Resolution STEM Data via Deep Learning (PI, $50K, CSE DSI PhD Fellowship, 2023–2024)
6) DeepLifting: Complex Engineering Design and Operation with Discrete Decisions Made Easy (PI, $100K, Research Computing Seed Grant—Large, 2023–2024)
7) Atomic-level In-situ and Ex-situ STEM Study of Quantum Devices for Quantum Computing (Co-PI, $90K, CSE InterS&Ections Seed Grant, 2023–2024)

Publications

Underline - indicates student/postdoc authors advised by the candidate

Total citations: **7454,** H-index: **24**, H10-index: **41**, according to Google Scholar as of Aug 3, 2025 . Please refer to my [Google Scholar page](#) for an updated list of publications and citation figures.

Refereed Journal Articles

1) Liang, H., Li, T. & Sun, J. (2025) A Baseline Method for Removing Invisible Image Watermarks Using Deep Image Prior. *Transactions on Machine Learning Research (TMLR)*. https://openreview.net/forum?id=g85Vxlrq0O
2) Taha, B., Luo, G., Naik, A., Sabal, L., **Sun, J.**, McGovern, R., Sandoval-Garcia, C., Guillaume, D. (2025). Automated Ventricular Segmentation in Pediatric Hydrocephalus: How Close Are We? *Journal of Neurosurgery: Pediatrics*. doi: 10.3171/2025.2.PEDS24590
3) Wang, H., Lu, H., **Sun, J.**, & Safo, S. (2024). Interpretable Deep Learning Methods for Multiview Learning. *BMC Bioinformatics*, 25(1), 1–30. doi: 10.1186/s12859-024-05679-9
4) Zhou, S., Blaes, A., Shenoy, C., **Sun, J.**, & Zhang, R. (2024). Risk Prediction of Heart Diseases in Breast Cancer Patients: A Deep Learning Approach with Longitudinal Electronic Health Records Data. *iScience*, 27(7), 110329. doi: 10.1016/j.isci.2024.110329
5) Yew, P. Y., Devera, R., Liang, Y., El Khaifa, R. A., **Sun, J.**, Chi, N.-C., . . . Chi, C.-L. (2024). Unraveling the Multiple Chronic Conditions Patterns Among People with Alzheimer's Disease and Related Dementia–A Machine Learning Approach to Incorporate Synergistic Interactions. *Alzheimer's & Dementia: The Journal of the Alzheimer's Association*, 20(7), 4818–4827. doi: 10.1002/alz.13923
6) Peng, L., Luo, G., Zhou, S., Chen, J., Xu, Z., Zhang, R., & **Sun, J.** (2024). An In-Depth Evaluation of Federated Learning on Biomedical Natural Language Processing. *npj Digital Medicine*, 7, 127. doi: 10.1038/s41746-024-01126-4
7) He, C., Peng, L., & **Sun, J.** (2024). Federated Learning with Convex Global and Local Constraints. *Transactions on Machine Learning Research (TMLR)*. https://openreview.net/forum?id=qItxVbWyfe
8) Liang, H., Peng, L., & **Sun, J.** (2024). Selective Classification Under Distribution Shifts. *Transactions on Machine Learning Research (TMLR)*. https://openreview.net/forum?id=dmxMGW6J7N
9) Travadi, Y., Peng, L., Bi, X., **Sun, J.**, & Yang, M. (2024). Welfare and Fairness Dynamics in

Federated Learning: A Client Selection Perspective. *Statistics and Its Interface*, 17(3), 383–395. doi: 10.4310/23-SII779

10) Li, S., Chen, C., Zou, F., Jie, Z., **Sun, J.**, & Liu, W. (2024). A Unified Analysis of AdaGrad with Weighted Aggregation and Momentum Acceleration. *IEEE Transactions on Neural Networks and Learning Systems,* 35(10)*,* 14482–14490. doi: 10.1109/TNNLS.2023.3279381

11) Conelea, C., Liang, H., DuBois, M., Raab, B., Kellman, M., Wellen, B., . . . Lim, K. (2024). Automated Quantification of Eye Tics using Computer Vision and Deep Learning Techniques. *Movement Disorders*, 39(1):183–191.   doi: 10.1002/mds.29593

12) Zhuang, Z., Li, T., Wang, H., & **Sun, J.** (2024) Blind Image Deblurring with Unknown Kernel Size and Substantial Noise. *International Journal of Computer Vision (IJCV)*, 132(2):319–348. doi: 10.1007/s11263-023-01883-x

13) Zhou, S., Wang, N., Wang, L., **Sun, J.**, Blaes, A., Liu, H., & Zhang, R. (2023). A Cross-institutional Evaluation on Breast Cancer Phenotyping NLP Algorithms on Electronic Health Records. *Computational and Structural Biotechnology Journal*, 22:32–40.   doi: 10.1016/j.csbj.2023.08.018

14) Z., Ryu, S., Zhou, W., Adams, K., Hassan, M., Zhang, R., . . . **Sun, J.** (2023). Effects of Personalized Exercise Prescriptions and Social Media through m-Health on Cancer Survivors' Physical Activity and Quality of Life. *Journal of Sport and Health Science*, 12(6):705–714.   doi: 10.1016/j.jshs.2023.07.002

15) Wang, H., Li, T., Zhuang, Z., Chen, T., Liang, H., & **Sun, J.** (2023). Early Stopping for Deep Image Prior. *Transactions on Machine Learning Research*. https://openreview.net/forum?id=231ZzrLC8X

16) Peng, L., Luo, G., Walker, A., Zaiman, Z., Jones, E., Gupta, H., . . . Tignanelli, C. (2022). Evaluation of Federated Learning Variations for COVID-19 Diagnosis using Chest Radiographs from 42 US and European Hospitals. *Journal of the American Medical Informatics Association*, 30(1), 54–63. doi: 10.1093/jamia/ocac188

17) **Sun, J.**, Peng, L., Li, T., Adila, D., Zaiman, Z., Melton, G. B., . . . Tignanelli, C. (2022). A Prospective Observational Study to Investigate Performance of a Chest X-ray Artificial Intelligence Diagnostic Support Tool Across 12 U.S. Hospitals. *Radiology: Artificial Intelligence, 4*(4). doi: 10.1148/ryai.210217

18) Barmherzig, D. A., & **Sun, J.** (2022). Towards Practical Holographic Coherent Diffraction Imaging via Maximum Likelihood Estimation. *Optics Express, 30*(5), 6886–6906. doi: 10.1364/OE.445015

19) Taha, B., Boley, D., **Sun, J.**, & Chen, C. (2021). Potential and limitations of radiomics in neuro-oncology. *Journal of Clinical Neuroscience, 90*, 206–211. doi: 10.1016/j.jocn.2021.05.015

20) Taha, B., Li, T., Boley, D., Chen, C. C., & **Sun, J.** (2021). Detection of Isocitrate Dehydrogenase Mutated Glioblastomas Through Anomaly Detection Analytics. *Neurosurgery, 89*(2), 323–328. doi: 10.1093/neuros/nyab130

21) Taha, B., Boley, D., **Sun, J.**, & Chen, C. C. (2021). State of Radiomics in Glioblastoma. *Neurosurgery, 89*(2), 177–184. doi: 10.1093/neuros/nyab124

22) Cheung, S. C., Shin, J. Y., Lau, Y., Chen, Z., **Sun, J.**, Zhang, Y., . . . Pasupathy, A. N. (2020). Dictionary learning in Fourier-transform scanning tunneling spectroscopy. *Nature Communications, 11*(1). doi: 10.1038/s41467-020-14633-1

23) A Barmherzig, D., **Sun, J.**, Li, P.-N., Lane, T. J., & Emmanuel J Candès (2019). Holographic phase retrieval and reference design. *Inverse Problems, 35*(9), 094001. doi: 10.1088/1361-6420/ab23d1

24) Lu, T., **Sun, J.**, Wu, K., & Yang, Z. (2018). High-Speed Channel Modeling With Machine Learning Methods for Signal Integrity Analysis. *IEEE Transactions on Electromagnetic*

Compatibility, 60(6), 1957–1964. doi: 10.1109/temc.2017.2784833

25) **Sun, J.**, Qu, Q., & Wright, J. (2017). A Geometric Analysis of Phase Retrieval. *Foundations of Computational Mathematics, 18*(5), 1131–1198. doi: 10.1007/s10208-017-9365-9

26) **Sun, J.**, Qu, Q., & Wright, J. (2017). Complete Dictionary Recovery Over the Sphere I: Overview and the Geometric Picture. *IEEE Transactions on Information Theory, 63*(2), 853–884. doi: 10.1109/tit.2016.2632162

27) Qu, Q., **Sun, J.**, & Wright, J. (2016). Finding a Sparse Vector in a Subspace: Linear Sparsity Using Alternating Directions. *IEEE Transactions on Information Theory, 62*(10), 5855–5880. doi: 10.1109/tit.2016.2601599

28) **Sun, J.**, Zhang, Y., & Wright, J. (2014). Efficient Point-to-Subspace Query in L1 with Application to Robust Object Instance Recognition. *SIAM Journal on Imaging Sciences, 7*(4), 2105–2138. doi: 10.1137/130936166

29) Liu, G., Lin, Z., Yan, S., **Sun, J.**, Yu, Y., & Ma, Y. (2013). Robust Recovery of Subspace Structures by Low-Rank Representation. *IEEE Transactions on Pattern Analysis and Machine Intelligence, 35*(1), 171–184. doi: 10.1109/tpami.2012.88

Refereed Conference Proceedings

30) Wan, Y., Devera, R., Zhang, W., & **Sun, J.** (2024). FMPlug: Plug-In Foundation Flow-Matching Priors for Inverse Problems. *IEEE International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP)*. https://arxiv.org/abs/2508.00721

31) Wang, H., Zhang, X., Li, T., Wan, Y., Chen, T., & **Sun, J.** (2024). DMPlug: A Plug-in Method for Solving Inverse Problems with Diffusion Models. *Conference on Neural Information Processing Systems (NeurIPS)*. https://openreview.net/forum?id=81IFFsfQUj

32) Zhang, W., Wan, Y., Zhong, Z., & **Sun, J.** (2024). What's Wrong with End-to-End Learning for Phase Retrieval? *Machine Learning for Scientific Imaging at Electronic Imaging*. doi: 10.2352/EI.2024.36.5.MLSI-309

33) Peng, L., Zhou, S., Chen, J., Zhang, R., Xu, Z., & **Sun, J.** (2023). A Systematic Evaluation of Federated Learning on Biomedical Natural Language Processing. *International Workshop on Federated Learning for Distributed Data Mining (in KDD 2023)*. https://openreview.net/pdf?id=pLEQFXACNA

34) Zhong, Z., Li, T., Wang, H., & **Sun, J.** (2023). Blind Image Deblurring with Unknown Kernel Size and Substantial Noise. *NeurIPS'23 Workshop on Deep Learning and Inverse Problems*. https://arxiv.org/abs/2208.09483

35) Li, T., Wang, H., Zhuang, Z., & **Sun, J.** (2023). Deep Random Projector: Accelerated Deep Image Prior. *Computer Vision and Pattern Recognition (CVPR)*. doi: 10.1109/CVPR52729.2023.01743

36) He, C., Peng, L., & **Sun, J.** (2023). Federated Learning with Convex Global and Local Constraints. *NeurIPS'23 Workshop on Optimization for Machine Learning*. https://openreview.net/forum?id=JprHZqWE4M

37) Liang, H., Liang, B., Peng, L., Cui, Y., Mitchell, T., & **Sun, J.** (2023). Implications of Solution Patterns on Adversarial Robustness. *The 3rd Workshop of Adversarial Machine Learning on Computer Vision: Art of Robustness (in conjunction with CVPR 2023)*. doi: 10.1109/CVPRW59228.2023.00237

38) Liang, H., Liang, B., Cui, Y., Mitchell, T., & **Sun, J.** (2023). Optimization for Robustness Evaluation beyond Lp Metrics. *International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*. doi: 10.1109/ICASSP49357.2023.10095871

39) Zhong, Z., Yang, D., Hofmann, F., Barmherzig, D., & **Sun, J.** (2023). Phase Retrieval Using

Double Deep Image Priors. *NeurIPS'23 Workshop on Deep Learning and Inverse Problems*. https://openreview.net/forum?id=7q3i7nLdeF

40) Zhuang, Z., Yang, D., Hofmann, F., Barmherzig, D., & **Sun, J.** (2023). Practical Phase Retrieval Using Double Deep Image Priors. *Computational Imaging XXI at Electronic Imaging*. https://library.imaging.org/ei/articles/35/14/COIMG-153

41) Li, T., Zhuang, Z., Wang, H., & **Sun, J.** (2023). Random Projector: Efficient Deep Image Prior. *International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*. doi: 10.1109/ICASSP49357.2023.10097088

42) Li, T., Wang, H., Peng, L., Tang, X., & **Sun, J.** (2023). Robust Autoencoders for Collective Corruption Removal. *International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*. doi: 10.1109/ICASSP49357.2023.10095099

43) Peng, L., Liang, H., Luo, G., Li, T., & **Sun, J.** (2023). Rethink Transfer Learning in Medical Image Classification. *British Machine Vision Conference (BMVC)*. https://proceedings.bmvc2023.org/881/

44) Liang, B., Mitchell, T., & **Sun, J.** (2022). NCVX: A General-Purpose Optimization Solver for Constrained Machine and Deep Learning. *NeurIPS Workshop on Optimization for Machine Learning*. https://arxiv.org/abs/2210.00973

45) Peng, L., Travadi, Y., Zhang, R., Cui, Y., & **Sun, J.** (2022). Imbalanced Classification in Medical Imaging via Regrouping. *NeurIPS Workshop on Medical Imaging Meets NeurIPS*. https://arxiv.org/abs/2210.12234

46) Liang, H., Liang, B., Cui, Y., Mitchell, T., & **Sun, J.** (2022). Optimization for Robustness Evaluation beyond Lp Metrics. *NeurIPS Workshop on Optimization for Machine Learning*. https://arxiv.org/abs/2210.00621

47) Tayal, K., Manekar, R., Zhuang, Z., Yang, D., Kumar, V., Hofmann, F., & **Sun, J.** (2021). Phase Retrieval using Single-Instance Deep Generative Prior. *OSA Optical Sensors and Sensing Congress 2021 (AIS, FTS, HISE, SENSORS, ES)*. OSA. doi: 10.1364/ais.2021.jw2a.37

48) Li, T., Zhuang, Z., Liang, H., Peng, L., Wang, H., & **Sun, J.** (2021). Self-Validation: Early Stopping for Single-Instance Deep Generative Priors. *British Machine Vision Conference (BMVC)*. https://arxiv.org/abs/2110.12271

49) Manekar, R., Zhuang, Z., Tayal, K., Kumar, V., & **Sun, J.** (2020). Deep Learning Initialized Phase Retrieval. *NeurIPS 2020 Workshop on Deep Learning and Inverse Problems*. https://sunju.org/pub/NIPS20-WS-DL4FPR.pdf

50) Manekar, R., Tayal, K., Kumar, V., & **Sun, J.** (2020). End-to-End Learning for Phase Retrieval. *ICML workshop on ML Interpretability for Scientific Discovery*. https://sunju.org/pub/ICML20-WS-DL4FPR.pdf

51) Barmherzig, D. A., & **Sun, J.** (2020). Low-Photon Holographie Phase Retrieval. *Imaging and Applied Optics Congress*. OSA. doi: 10.1364/cosi.2020.jtu4a.6

52) Zhuang, Z., Wang, G., Travadi, Y., & **Sun, J.** (2020). Phase Retrieval via Second-Order Nonsmooth Optimization. *ICML workshop on Beyond First Order Methods in Machine Learning*. https://sunju.org/pub/ICML20-WS-ALM-FPR.pdf

53) Li, T., Mehta, R., Qian, Z., & **Sun, J.** (2020). Rethink Autoencoders: Robust Manifold Learning. *ICML workshop on Uncertainty and Robustness in Deep Learning*. https://sunju.org/pub/ICML2020-WS-RML.pdf

54) Tayal, K., Lai, C.-H., Manekar, R., Zhuang, Z., Kumar, V., & **Sun, J.** (2020). Unlocking Inverse Problems Using Deep Learning: Breaking Symmetries in Phase Retrieval. *NeurIPS 2020 Workshop on Deep Learning and Inverse Problems*. https://sunju.org/pub/NIPS20-WS-DL4INV.pdf

55) Bai, Y., Jiang, Q., & **Sun, J.** (2019). Subgradient Descent Learns Orthogonal Dictionaries.

International Conference on Learning Representations.
https://openreview.net/forum?id=HklSf3CqKm

56) Barmherzig, D. A., & **Sun, J.** (2018). 1D Phase Retrieval and Spectral Factorization. *Imaging and Applied Optics 2018 (3D, AO, AIO, COSI, DH, IS, LACSEA, LS\&C, MATH, pcAOP)*. OSA. doi: 10.1364/lacsea.2018.jth1a.4

57) Barmherzig, D. A., **Sun, J.**, Lane, T.J., & Li, P.-N. (2018). On Block-Reference Coherent Diffraction Imaging. *Imaging and Applied Optics 2018 (3D, AO, AIO, COSI, DH, IS, LACSEA, LS\&C, MATH, pcAOP)*. OSA. doi: 10.1364/cosi.2018.cth1b.1

58) Barmherzig, D., & **Sun, J.** (2017). A Local Analysis of Block Coordinate Descent for Gaussian Phase Retrieval. *NIPS Workshop on Optimization for Machine Learning*.
http://arxiv.org/abs/1712.02083

59) **Sun, J.**, Qu, Q., & Wright, J. (2016). A geometric analysis of phase retrieval. *2016 IEEE International Symposium on Information Theory (ISIT)*. IEEE. doi: 10.1109/isit.2016.7541725

60) **Sun, J.**, Qu, Q., & Wright, J. (2015). When Are Nonconvex Problems Not Scary? *NIPS Workshop on Non-convex Optimization for Machine Learning: Theory and Practice*.
http://arxiv.org/abs/1510.06096

61) **Sun, J.**, Qu, Q., & Wright, J. (2015). Complete dictionary recovery over the sphere. *2015 International Conference on Sampling Theory and Applications (SampTA)*. IEEE. doi: 10.1109/sampta.2015.7148922

62) Qu, Q., **Sun, J.**, & Wright, J. (2014). Finding a sparse vector in a subspace: Linear sparsity using alternating directions. *Advances in Neural Information Processing Systems*.
https://proceedings.neurips.cc/paper/2014/file/955a1584af63a546588caae4d23840b3-Paper.pdf

63) **Sun, J.**, Zhang, Y., & Wright, J. (2012). Efficient Point-to-Subspace Query in L1: Theory and Applications in Computer Vision. *NIPS Workshop on Big Learning*.
http://arxiv.org/abs/1211.0757

64) Ni, Y., **Sun, J.**, Yuan, X., Yan, S., & Cheong, L.-F. (2010). Robust Low-Rank Subspace Segmentation with Semidefinite Guarantees. *2010 IEEE International Conference on Data Mining Workshops*. IEEE. doi: 10.1109/icdmw.2010.64

65) Liu, G., **Sun, J.**, & Yan, S. (2010). Closed-Form Solutions to a Category of Nuclear Norm Minimization Problems. *NIPS Workshop on Low-Rank Methods for Large-Scale Machine Learning*. http://arxiv.org/abs/1011.4829

66) Mu, Y., **Sun, J.**, Yan, S., & Cheong, L.-F. (2010). Randomized Locality Sensitive Vocabularies for Bag-of-Features Model. *European Conference on Computer Vision (ECCV)*.
https://sunju.org/docs/eccv10_rv.pdf

67) **Sun, J.**, Mu, Y., Yan, S., & Cheong, L.-F. (2010). Activity recognition using dense long-duration trajectories. *2010 IEEE International Conference on Multimedia and Expo*. IEEE. doi: 10.1109/icme.2010.5583046

68) **Sun, J.**, Wu, X., Yan, S., Cheong, L.-F., Chua, T.-S., & Li, J. (2009). Hierarchical spatio-temporal context modeling for action recognition. *2009 IEEE Conference on Computer Vision and Pattern Recognition*. IEEE. doi: 10.1109/cvpr.2009.5206721

69) Teo, C. L., Li, S., Cheong, L.-F., & **Sun, J.** (2008). 3D ordinal constraint in spatial configuration for robust scene recognition. *2008 19th International Conference on Pattern Recognition*. IEEE. doi: 10.1109/icpr.2008.4761022

Publications Submitted or in Progress

70) Wang, H., Liu, Y., Liu, H., Wang, C., Guo, Y., Li, H., Wang, B., & **Sun, J.** (2025). Temporal-Consistent Video Restoration with Pre-trained Diffusion Models. *International*

Conference on Computer Vision (ICCV). Submitted. https://arxiv.org/abs/2405.16749

71) <u>Wan, Y.</u>, <u>Chen, J.</u>, <u>Liang, H.</u>, & **Sun, J.** (2025). Forgetting Steganography: Toward Practical Learning-Based Watermarks. *Neural Information Processing Systems (NeurIPS)*. Submitted.

72) <u>Ryan, D.</u>, Guo, B., <u>Liang, B.</u>, He, Q., & **Sun, J.** Neural Topology Optimization with Principled Constrained Optimization. *SIAM Journal on Scientific Computing*. Submitted.

73) <u>Peng, L.</u>, <u>Travadi, Y.</u>, <u>He, C.</u>, Cui, Y., & **Sun, J.** Exact Reformulation and Optimization for Direct Metric Optimization in Binary Imbalanced Classification. *SIAM Journal on Mathematics of Data Science*. Submitted. https://arxiv.org/abs/2507.15240

74) <u>Chen, J.</u>, <u>Peng, L.</u>, <u>Travadi, Y.</u>, & **Sun, J.** Imbalanced learning in biomedical research. *Journal of the American Medical Informatics Association*. Submitted.

75) <u>Liang, H.</u>, <u>Liang, B.</u>, <u>Peng, L.</u>, Cui, Y., Mitchell, T., & **Sun, J.** Optimization and Optimizers for Adversarial Robustness. *Transactions on Machine Learning Research (TMLR)*. Submitted. https://arxiv.org/abs/2303.13401

76) <u>Chen, T.</u>, <u>Wang, H.</u>, <u>He, C.</u>, Cui, Y., & **Sun, J.** Imbalanced Regression with Multi-dimensional Targets. *IEEE Transactions on Pattern Analysis and Machine Intelligence*. In Preparation.

77) <u>Zhang, W.</u>, <u>Wan, Y.</u>, <u>Zhuang, Z.</u>, & **Sun, J.** What's Wrong with End-to-End Learning for Phase Retrieval. *IEEE Transactions on Pattern Analysis and Machine Intelligence*. In Preparation.

78) <u>Devera, R.</u>, <u>He, C.</u>, <u>Schweiger, S.</u>, & **Sun, J.** Deeplifting: Unconstrained Global Optimization Made Easy. In Preparation.

79) <u>He, C.</u>, <u>Devera, R.</u>, <u>Zhang, W.</u>, Cui, Y., Lu, Z., & **Sun, J.** Deep Learning with Constraints: Applications and Algorithms. In Preparation.

80) <u>Travadi, Y.</u>, <u>Peng, L.</u>, & **Sun, J.** Imbalanced Classification via Regrouping. In Preparation.

81) <u>Devera, R.</u>, Schlesinger, J., Bartel, C., **Sun, J**. Thermodynamics stability for materials discovery with constrained neural networks modeling. In Preparation.

82) <u>Chen, T.</u>, & **Sun, J**. Boldness: A Complementary Property to Robustness. In Preparation.

83) <u>Li, G.</u>, <u>Zhang, S.</u>, & **Sun, J**. Ensemble Selective Classification. In Preparation.

84) <u>Travadi, Y.</u>, <u>Peng, L.</u>, & **Sun, J.** Scalable Direct Metric Optimization with Exact Reformulation. In Preparation.

Software Development

1) NCVX: a modeling framework and software package for solving deep learning problems with nontrivial constraints, targeting the wide range of constrained deep learning problems at the intersection of modern AI and science, engineering, and medicine https://ncvx.org/

Presentations

Invited Presentations at Professional Meetings, Conferences, Universities and Industries, etc.

1) "Advancing Trustworthy & Efficient AI for Science, Engineering, and Medicine". Systems, Information, Learning and Optimization (SILO) Seminar, University of Wisconsin, Madison. Jun, 2025. *Invited seminar talk*.

2) "Advancing Trustworthy & Efficient AI for Science, Engineering, and Medicine". Computer Science Seminar, University of Maryland, College Park. May, 2025. *Invited seminar talk*.

3) "AI4Science: Striking the Best Data-Knowledge Tradeoff," STROBE Seminar, UCLA. Apr, 2025. *Invited seminar talk*.

4) "Diffusion Models for Inverse Problems Done Right," SIAM Conference on Computational Science and Engineering. Mar, 2025. *Invited conference talk*.

5) "Diffusion Models for Inverse Problems Done Right," SIAM Conference on Imaging Science.

May, 2024. *Invited conference talk.*

6) "AI4Science: Striking the Best Data-Knowledge Tradeoff," AI4Science Seminar Series, AWS. Apr, 2024. *Invited seminar talk.*

7) "Deep Learning with Nontrivial Constraints," INFORMS Optimization Society Conference. Mar, 2024. *Invited conference talk.*

8) "What's Wrong with End-to-End Learning for Phase Retrieval?" Machine Learning for Scientific Imaging Conference of Electronic Imaging 2024. Jan, 2024. *Invited conference talk.*

9) "Deep Learning with Nontrivial Constraints," SIAM Conference on Optimization. 2023. *Invited conference talk.*

10) "Robust Deep Learning: Where Are We?," PSU-Purdue-UMD Joint Seminar. Nov, 2023. *Invited seminar talk.*

11) "Deep image prior (and its cousin) for inverse problems: the untold stories," Midwest Machine Learning Symposium (MMLS'23). May, 2023. *Invited conference talk.*

12) "Robust Deep Learning: Where Are We? "MnRI Robotics Colloquium. 2023. *Invited seminar talk.*

13) "Practical phase retrieval with double deep image priors," Computational Imaging XXI at the Electronic Imaging Symposium 2023. Jan, 2023. *Invited conference talk.*

14) "Deep image prior (and its cousin) for inverse problems: the untold stories," Imaging and Vision Seminar Series at Rice University Rice U. 2022. *Invited seminar talk.*

15) "Toward practical phase retrieval with deep learning," IPAM workshop on Diffractive Imaging with Phase Retrieval IPAM, UCLA, LA. 2022. *Invited conference talk.*

16) "Deep image prior (and its cousin) for inverse problems: the untold stories," Mathematics in imaging science, data science and optimization seminar at RPI RPI. 2022. *Invited seminar talk.*

17) "Deep image prior (and its cousin) for inverse problems: the untold stories," UMN MnRI Seminar UMN MnRI. 2022. *Invited seminar talk.*

18) "Deep Learning with Constraints and Nonsmoothness," International Conference on Continuous Optimization (ICCOPT), Lehigh, Pennsylvania, United States. May, 2022. *Invited conference talk.*

19) "Three Pillars of Health Data Science: Transfer Learning, Federated Learning, and Imbalanced Learning," Annual BICB (Bioinformatics and Computational Biology) Research Symposium at UMN UMN BICB. 2022. *Invited keynote talk.*

20) "Three Pillars of Health Data Science: Transfer Learning, Federated Learning, and Imbalanced Learning," Annual Retreat of the Institute for Health Informatics at UMN. 2022. *Invited keynote talk.*

21) "Toward practical phase retrieval: to learn or not, and how to learn?," CDSML Seminar Series Center for data science and machine learning (CDSML), National University of Singapore, Singapore, Singapore. Oct, 2021. *Invited seminar talk.*

22) "Deep Learning for Robust Recognition, Inverse Problems, and Healthcare," Wilson lecture series ECE, UMN. Sep, 2021. *Invited seminar talk.*

23) "Does Deep Learning Solve the Phase Retrieval Problem?," IMA Data Science Seminar IMA, UMN. Sep, 2020. *Invited seminar talk.*

24) "Toward practical phase retrieval: To learn or not, and how to learn?," Optimization Forum Operation Research Society of China. Sep, 2020. *Invited seminar talk.*

25) "Rapid and Robust COVID-19 Identification from Chest X-rays," International Conference on Artificial Intelligence in Medicine, Minneapolis, Minnesota, United States. Aug, 2020. *Invited conference talk.*

26) "Does deep learning solve the phase retrieval problem?," SIAM Conference on Imaging Science. Jul, 2020. *Invited conference talk.*

27) "When Computer Vision and Deep Learning Meet Healthcare," Grand Rounds Department of Surgery, UMN. May, 2020. *Invited seminar talk.*

28) "Toward Practical Phase Retrieval," Imaging Seminar Flatiron Institute, NYC, New York. May, 2020. *Invited seminar talk.*

29) "Toward Practical Phase Retrieval," Workshop on Numerical Algebra in High-Dimensional Data Analysis Tianyuan Mathematical Center in Southeast China, China, Xiamen, China. Dec, 2019. *Invited conference talk.*

30) "Taming nonconvexity: from smooth to nonsmooth problems and beyond," DTC seminar series DTC, UMN. Oct, 2019. *Invited seminar talk.*

31) "When Nonconvexity Meets Nonsmoothness," INFORMS Annual Meeting 2019, Seattle, United States. Oct, 2019. *Invited conference talk.*

32) "A couple of curious questions around deep learning," UMN VCAI Seminar. Oct, 2019. *Invited seminar talk.*

33) "Taming Nonconvexity: From Smooth to Nonsmooth Problems and Beyond," IMA Data Science Seminar IMA, UMN. Sep, 2019. *Invited seminar talk.*

Other Key Activities and Accomplishments

1) Media coverage: "Awards recognize early-career researchers' potential for significant impact," UMN CSE news, Apr 2025.
https://cse.umn.edu/college/news/five-cse-faculty-named-university-minnesota-land-grant-professors

2) Media coverage: "A Healthy Future," UMN news, Oct 2024.
https://twin-cities.umn.edu/news-events/healthy-future

3) Media coverage: "Ju Sun Receives $4.5M in Funding for Medical AI Projects and Beyond," CS&E news, Nov 2023.
https://cse.umn.edu/cs/news/ju-sun-receives-45m-funding-medical-ai-projects-and-beyond
https://cse.umn.edu/cs/ai-changing-world

4) Media coverage: "Federated Learning for Healthcare Using NVIDIA Clara," Nvidia. Sep 2021.
https://developer.download.nvidia.com/CLARA/Federated-Learning-Training-for-Healthcare-Using-NVIDIA-Clara.pdf.

5) Media coverage: "M Health Fairview X-ray analysis helps find COVID," StarTribune, Oct 2020.
https://www.startribune.com/m-health-fairview-x-ray-analysis-helps-find-covid/572605252/ .
2020.

6) Media coverage: "University of Minnesota develops AI algorithm to analyze chest X-rays for COVID-19," UMN news, Oct 2020.
https://twin-cities.umn.edu/news-events/university-minnesota-develops-ai-algorithm-analyze-chest-x-rays-covid-19

TEACHING AND CURRICULUM DEVELOPMENT

University of Minnesota

1) **CSCI5527 Deep Learning**: Spring 2020, Fall 2020, Fall 2022, Fall 2023, Spring 202, Spring 2026

2) **CSCI5525 Advanced Machine Learning**: Spring 2021, Fall 2024

3) **CSCI2033 Elem Comput Linear Algebra**: Spring 2022, Spring 2023

4) **CSCI8980 Spec Adv Topics CS**: Topics in Modern Machine Learning—Theoretical Foundations of Deep Learning, Fall 2021
5) **DSCI8970 Data Science M.S. Colloquium**: Fall 2024, Spring 2025, Fall 2025
6) **CSE DSI Machine Learning Seminar Series**: Chair 2020 Fall—Present

Curriculum Development
1) Developed the first master/fresh PhD-level deep learning course for the CS&E department and got it approved as **CSCI5527: Deep Learning** after teaching it twice as a special topic class
2) For **CSCI2033 Elementary Computational Linear Algebra**, developed 3 homework sets that help the students to perform basic matrix computations in Python—which is gaining dominance in advanced courses, academic research, and industrial jobs, vs. the past iterations that used Matlab. The homework sets were adopted for later iterations of the course (e.g., F23 by Bernardo Bianco Prado)
3) For the DSCI8970 Data Science Colloquium, which is the cross-listed version of the CSE DSI Machine Learning Seminar Series, oversaw main activities such as seminar planning and speaker invitation/hosting

ADVISING AND MENTORING

Undergraduate Student Activities

Undergraduate research projects (UROPS, directed research, lab participation, etc.)
1) Chongwei Chen, directed research, 2024–Present
2) Sean Schweiger, directed research, 2023–2024
3) Andrew Walker, directed research, 2021–2022
4) Gaoxiang Luo, directed research, 2020–2022

Undergraduate summa theses or honors projects directed
        NA

Graduate Student Activities

Master's Theses Directed
1) **Ramin Zandvakili**, NON-THESIS OPTION, 2023–2024
2) **Wenjie Zhang**, NON-THESIS OPTION, 2022–2024. Now PhD student @ the group
3) **Andrew Walker**, Thesis: Adaptive Domain Generalization for Digital Pathology Images, 2021–2022
4) **Esha Singh**, Thesis: Robustness in Deep Learning: Single Image Denoising using Untrained Networks, 2022–2021. Now PhD student @ UCSB
5) **Buyun Liang**, NON-THESIS OPTION, 2020–2023. Now PhD student @ U Penn
6) **Prabhjot Singh Rai**, NON-THESIS OPTION, 2020–2022
7) **Mingqian Duan**, NON-THESIS OPTION, 2020–2021
8) **Rishab Girdhar**, Thesis: Body Pose Predictions in Triadic Social Interactions, 2020–2021

9) **Rishabh Mehta**, Thesis: PermNet: Permuted Convolutional Neural Network, 2020–2021
10) **Sihan Wei**, NON-THESIS OPTION, 2020–2021. Now PhD student @Johns Hopkins U.
11) **Dyah Adila**, Thesis: Artificial Intelligence to Accelerate COVID-19 Identification from Chest X-rays, 2020–2021. Now PhD student @ U of Wisconsin-Madison

Master's Student Advisees (Current)
1) Runqi Chen (2025 – Present)
2) Vivek Kumar (2025 – Present)

Doctoral Dissertations Directed
1) **Le Peng**, Thesis: Towards Robust and Reliable Artificial Intelligence in Healthcare, 2022–2025. Now Research Scientist @Meta.
2) **Hengyue Liang**, Thesis: Robustness and Safety of Deep Learning Models, 2021–2025. Now Applied Scientist @AWS.
3) **Zhong Zhuang**, Thesis: Advancing Deep Learning for Scientific Inverse Problems, 2019–2023. Now postdoc @ UCLA. [Co-advised with Prof. Vladimir Cherkassky]

Doctoral Students Advised (Current)
1) **Qiaozhi Huang** (2025–Present)
2) **Lingjie Su** (2025–Present)
3) **Yifan Wu** (2025–Present; Co-advised with Prof. Rui Zhang)
4) **Harsh Hemant Shah** (2025–Present; Co-advised with Prof. Jie Ding)
5) **Sinian Zhang** (2024–Present; Co-advised with Prof. Jue Hou)
6) **Guanchen Li** (2024–Present)
7) **Gaoxiang Luo** (2024–Present)
8) **Yuxiang Wan** (2024–Present)
9) **Corey Senger** (2024–Present; Part-time; Co-advised with Prof. Jiarong Hong)
10) **Wenjie Zhang** (2024–Present)
11) **Jiandong Chen** (2022–Present)
12) **Ryan Devera** (2022–Present)
13) **Hengkang Wang** (2020–Present), working full time @Meta with final thesis pending
14) **Yash Travadi** (2021–Present), working full time @ Astrin Biosciences with final thesis pending
15) **Tiancong Chen** (2021–Present), working full time @Morgan Stanley with final thesis pending
16) **Taihui Li** (2019–Present), working full time @Meta with final thesis pending

Professional Student Activities
Professional students supervised
      NA

Post-doctoral fellows supervised

1) Chuan He, Oct 2023–Aug 2024. Now Assistant Professor of Applied Mathematics @Linköping University, Sweden

Visiting Scholars Hosted

NA

Other Mentoring Activities

NA

SERVICE AND PUBLIC ENGAGEMENT

Service To The Discipline/Profession/Interdisciplinary Area(s)

Editorships/Journal Reviewer Experience

Associate/Section Editor or Editor, Journal, Dates

NA

Reviewer experience, Journal/Conference, Dates

- IEEE Transactions on Information Theory (2016–Present), Pattern Analysis and Machine Intelligence (2015–Present), Selected Topics in Signal Processing (2015–Present), Signal Processing (2015–Present), Circuits and Systems for Video Technology (2012–Present), Systems, Man, and Cybernetics (2012–Present), Image Processing (2011–Present)
- SIAM Journals on Scientific Computing (2020–Present), Mathematics of Data Science (2019–Present), Optimization (2017–Present), Imaging Sciences (2016–Present), Matrix Analysis and Applications (2015–Present)
- Other Machine Learning Journals: Journal of Machine Learning Research (2016–Present), Neural Computation (2014–Present)
- Other Computer Vision Journals: International Journal of Computer Vision (2015–Present), Journal of Visual Communication and Image Representation (2012–Present)
- Other Optimization Journals: Mathematical Programming (2019–Present)
- Other Applied Math Journals: Communications on Pure and Applied Mathematics (2021–Present), Applied and Computational Harmonic Analysis (2017–Present), Information and Inference (2017–Present)
- Computer Vision Conferences: International Conference on Computer Vision (2017–Present), Computer Vision and Pattern Recognition (2016–Present), European Conference on Computer Vision (2012–Present)
- Machine Learning Conferences: Neural Information Processing Systems (2012–Present), International Conference on Machine Learning (2018–Present), International Conference on Learning Representation (2020–Present), Algorithmic Learning Theory (2018–Present)
- Others: International Symposium on Information Theory (2018–Present)

Committee memberships [indicate if the candidate served as chair]

Review panels for external funding agencies, foundations, etc.

1) NIH Panel, NAME OF PANEL OMITTED DUE TO PRIVACY CONCERN, Mar 2025
2) DOE Panel, NAME OF PANEL OMITTED DUE TO PRIVACY CONCERN, Jun 2024
3) NSF Panel, NAME OF PANEL OMITTED DUE TO PRIVACY CONCERN, Nov 2020

Program review experience

   NA

Organization of conferences, workshops, panels, symposia

1) Co-chair, Midwest Machine Learning Symposium, Minneapolis, MN, United States, 2024
2) Area chair, Conference on Uncertainty in Artificial Intelligence (UAI), 2022–Present
3) Area chair, International Conference on Artificial Intelligence and Statistics (AISTATS), 2020–Present
4) Co-organizer, Minisymposium on Deep Learning for Imaging Science at 2024 SIAM Conference on Imaging Science, Atlanta, Georgia, United States, 2024
5) Local chair, SIAM International Conference on Data Mining (SDM), 2023
6) Co-organizer, Special session "Nonsmooth Optimization in Machine Learning" in the International Conference on Continuous Optimization (ICCOPT), 2022
7) Co-organizer, Mini-symposium on Exploiting Low-Complexity Structures in Data Analysis: Theory and Algorithms in SIAM Conference on Applied Linear Algebra, 2018

Service To The University/College/Department

University-wide service
1) Core member, UMN Data Science and AI Hub (2023–Present)
2) Member, UMN MSI Scientific Computing Advisory Committee (2025–Present)

Collegiate Service and Intercollegiate Service
1) Chair, UMN DSI Machine Learning Seminar Series, 2020–Present
2) Member, Faculty Search Committee of the Computational Health Sciences Division of the Department of Surgery, 2023.
3) Core faculty, Innovative Methods & Data Science Program, UMN Center for Learning Health System Sciences (CLHSS), 2022–Present
4) Co-director, Healthcare Computer Vision Program, UMN Center for Learning Health System Sciences (CLHSS), 2022–Present

Department/Unit Service
1) Member, Computing and Web Committee, 2020–2025.
2) Member, Faculty Search Committee, 2021–2023.
3) Member, Graduate Admission Committee, 2019–2022.

Public And Other Services

NA