

# JIN LU

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## Biography

Dr. Jin Lu is an assistant professor at the School of Computing at the University of Georgia. His major research interests include machine learning, data mining, optimization, smart mobility, biomedical informatics, and health informatics. He is particularly interested in transparent machine learning models, high-performance algorithms, and interpretable methods for critical scientific and engineering problems.

Dr. Jin Lu has been working on Data Science, Machine Learning, Optimization, and Intelligent Systems areas for over 8 years. His research has been published in top-tier journals and conference proceedings including International Conference on Machine Learning (ICML), Annual Conference on Neural Information Processing Systems (NeurIPS), IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS), BMC Journal of Systems Biology, IEEE Transactions on Big Data, ACM International Joint Conference on Pervasive and Ubiquitous Computing (Ubicomp), IEEE Proceedings of Ubiquitous Intelligence and Computing (UIC), Proceedings of the IEEE International Conference on Big Data, Proceedings of the IEEE International Conference on Bioinformatics and Biomedicine (BIBM), IEEE Annual Computing and Communication Workshop and Conference, Conference on Neural Information Processing Systems (NIPS), Sedimentology, IEEE Wireless Health (WH), Proceedings of IEEE International Conference on Connected Health: Applications, Systems and Engineering Technologies (CHASE). Some of his articles were milestone papers of this field and highly cited. His work has been recognized and cited by other scientists and bioengineers across the world.

Dr. Jin Lu has served as Editorial Board member for several international technical journals. He also served as a program/organizing committee member for many international research conferences. He has been invited to review numerous papers from various journals and conferences.

## Research Interests

**Machine Learning & Data Mining:** Matrix/Tensor Analysis, Optimization, Recommendation System, Learning Theory, Image Processing, Distributed Computing.

**Other Interests:** Health Informatics, Bioinformatics, Approximation Theory.

## Education

- 2014–2019 **PhD, Computer Science and Engineering**, *Computer Science and Engineering Department, University of Connecticut (UConn)*, Storrs, CT, USA., Major: Computer Science.  
Advisor: Prof. Jinbo Bi.
- 2011–2014 **Master, Mathematics**, *School of Mathematics and Statistics, Xi'an Jiaotong University (XJTU)*, Xi'an, China, Major: Applied Mathematics.  
Advisor: Prof. Zongben Xu.
- 2006–2010 **Bachelor, Applied Mathematics**, *School of Science, Northwestern Polytechnical University (NWPU)*, Xi'an, China, Major: Applied Mathematics.

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## Peer-Reviewed Publications and Invention

1. Houyi Du, Zeinab Parsons, and **Jin Lu**, Exploration in specifying Loss Function and Meta-Structure for DNA Methylation via Deep Predictive Modelling , International Conference on Intelligent Biology and Medicine (ICIBM), 2022
2. **Jin Lu**, Zaydoun Rawashedh, and Harsh Bhate, Adaptive model pruning to improve performance of federated learning, Invention Disclosure, 2021.
3. Fei Dou, **Jin Lu**, Tingyang Xu, Chun-Hsi Huang, and Jinbo Bi, A Bisection Reinforcement Learning Approach to 3D Indoor Localization, IEEE Internet of Things Journal, 2021.
4. Chaoqun Yue, Shweta Ware, Reynaldo Morillo, **Jin Lu**, Chao Shang, Jinbo Bi, Jayesh Kamath, Alexander Russell, Athanasios Bamis, and Bing Wang, Automatic depression prediction using internet traffic characteristics on smartphones, Smart Health 18, 2020: 100137.
5. Shweta Ware, Chaoqun Yue, Reynaldo Morillo, **Jin Lu**, Chao Shang, Jinbo Bi, Jayesh Kamath, Alexander Russell, Athanasios Bamis, and Bing Wang, Predicting depressive symptoms using smartphone data, Smart Health 15, 2020: 100093.
6. Shweta Ware, Reynaldo Morillo, Chaoqun Yue, **Jin Lu**, Chao Shang, Jayesh Kamath, Athansios Bamis, and Jinbo Bi, Alexander Russell and Bing Wang, Large-scale Automatic Depression Screening Using Meta-data from WiFi Infrastructure, ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp), 2019. (to appear in ACM Journal of IMWUT, 2019)
7. Fei Dou, **Jin Lu**, Jinbo Bi, and Chun-Hsi Huang, Top-Down Indoor Localization with Wi-Fi Fingerprints using Deep Q-Network, IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS), 2018.
8. **Jin Lu**, Jiangwen Sun, Xinyu Wang, Henry R. Kranzler, Joel Gelernter, and Jinbo Bi, Inferring Phenotypes from Substance Use via Collaborative Matrix Completion, BMC Systems Biology, 2018.
9. Chaoqun Yue, Reynaldo Morillo, and Shweta Ware, **Jin Lu**, Chao Shang, Jayesh Kamath, Athansios Bamis, Alexander Russell, Bing Wang, and Jinbo Bi, Fusing Location Data for Depression Prediction, IEEE Transactions on Big Data, doi:10.1109/TBDATA.2018.2872569, 2018.
10. **Jin Lu**, Chao Shang, Chaoqun Yue, Reynaldo Morillo, and Shweta Ware, Jayesh Kamath, Athansios Bamis, Alexander Russell, Bing Wang, and Jinbo Bi, Joint Modeling of Heterogeneous Sensing Data for Depression Assessment via Multi-task Learning, ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp), 2(1), pp. 21, 2018. (also appears in ACM Journal of IMWUT, 2018)
11. Chaoqun Yue, Shweta Ware, Reynaldo Morillo, **Jin Lu**, Chao Shang, Jinbo Bi, Jayesh Kamath, Alexander Russell, Athanasios Bamis, and Bing Wang, Fusing Location Data for Depression Prediction, IEEE Proceedings of Ubiquitous Intelligence and Computing (UIC), August, 2017.
12. Chao Shang, Aaron Palmer, Jiangwen Sun, Ko-Shin Chen, **Jin Lu**, and Jinbo Bi, VIGAN: Missing View Imputation with Generative Adversarial Networks, Proceedings of the IEEE International Conference on Big Data, pp. 766-775, 2017.
13. **Jin Lu**, Jiangwen Sun, Xinyu Wang, Henry R. Kranzler, Joel Gelernter, and Jinbo Bi, Collaborative Phenotype Inference from Comorbid Substance Use Disorders and Genotypes, Proceedings of the IEEE International Conference on Bioinformatics and Biomedicine (BIBM), pp. 392-397, 2017.
14. **Jin Lu**, Fei Dou, and Chun-Hsi Huang, Bi-Subspace Saliency Detection, The 7th IEEE Annual Computing and Communication Workshop and Conference, pp. 1-7, 2016.

15. **Jin Lu**, Liang Guannan, Jiangwen Sun, and Jinbo Bi, A Sparse Interactive Model for Matrix Completion with Side Information, 30th Conference on Neural Information Processing Systems (NeurIPS), pp. 4071-4079, 2016.
16. Chenliang Wu, Mohammad S Ullah, **Jin Lu**, and Janok P Bhattacharya, Formation of point bars through rising and falling flood stages: Evidence from bar morphology, sediment transport and bed shear stress, *Sedimentology*, pp.1458-1473, 2016.
17. Asma Ahmad Farhan, Chaoqun Yue, Reynaldo Morillo, **Jin Lu**, Shweta Ware, Jinbo Bi, Jayesh Kamath, Alexander Russell, Athanasios Bamis, and Bing Wang, Behavior vs. Introspection: Refining prediction of clinical depression via smartphone sensing data, 2016 IEEE Wireless Health (WH), pp. 30-37, 2016.
18. Asma Ahmad Farhan, **Jin Lu**, Jinbo Bi, Alexander Russell, Bing Wang, and Athanasios Bamis, Multi-view Bi-Clustering to Identify Smartphone Sensing Features Indicative of Depression, Proceedings of IEEE International Conference on Connected Health: Applications, Systems and Engineering Technologies (CHASE), pp. 264-273, 2016.
19. Jiangwen Sun, **Jin Lu**, Tingyang Xu, and Jinbo Bi, Multi-view Sparse Co-clustering via Proximal Alternating Linearized Minimization, Proceedings of the 32nd International Conference on Machine Learning (ICML), pp. 757-766, 2015.
20. Jinbo Bi, Jiangwen Sun, Tingyang Xu, **Jin Lu**, Yansong Ma, and Lijuan Qiu, A Sparse Integrative Cluster Analysis for Understanding Soybean Phenotypes, Workshop Proceedings of IEEE International Conference on Bioinformatics and Biomedicine (BIBM), pp. 1-7, 2014.

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## Selected Grants & Honors

- 2021 MCA: New Approaches to the Detection of Niche Differentiation Patterns in Ecological Communities, NSF Subaward, PI
- 2020 University of Michigan Dearborn Competitive Campus Grant, PI
- 2020 Ford Summer Sabbatical Grant, Ford, Co-PI
- 2018 Student Travel Award, UbiComp.
- 2018 SIGCHI Student Grant, ACM.
- 2018 Predoctoral Excellence Fellowship, UCONN.
- 2017 Student Travel Award, BIBM.
- 2017 The Taylor L. Booth Graduate Fellowship, UCONN.
- 2017 Summer Seed Grant, Connecticut Institute for the Brain and Cognitive Science
- 2016 Winner of Travelers Data Analysis Competition, Travellers.
- 2014 Best Workshop Paper Award, BIBM.
- 2013 Excellent Graduate Student Fellowship, XJTU.
- 2006-2009 Excellent Student Fellowship, NWPU.

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## Academic Service & Activity

- 2022 Session chair of International Conference on Intelligent Biology and Medicine (ICIBM).
- 2020-2023 Student Program chair of International Conference on International Joint Conference on Artificial Intelligence (IJCAI)
- 2020 Program committee member of European Conference on Artificial Intelligence (ECAI)
- 2020-2022 Program committee member of International Conference on Learning Representations (ICLR).
- 2018-2022 Program committee member of International Conference on Machine Learning (ICML).
- 2020-2023 Program committee member of AAAI Conference on Artificial Intelligence (AAAI).
- 2019 Program committee member of Program Technical Committee of Industrial Conference on Data Mining (ICDM).

- 2019 Program committee member of International Conference on eHealth, Telemedicine, and Social Medicine.
- 2018-2023 Program committee member of Annual Conference on Neural Information Processing Systems (NeuRIPS).
- 2018 Program Committee member of Industrial Conference on Data Mining (ICDM).
- 2018 PC technical committee of International Conference on Emerging Technology in Modelling and Graphics.
- 2017-2018 PC technical committee of IEEE Annual Computing and Communication Workshop and Conference.
- 2017 Session chair of Workshop of Machine Learning and Big Data Research for Disease Classification and Complex Phenotyping held at IEEE International Conference on Bioinformatics and Biomedicine (BIBM).
- 2017 Reviewer of Knowledge Discovery and Data Mining(KDD).
- 2017 Reviewer of IEEE International Conference on Communications.
- 2016-2017 Program technical committee of IEEE Annual Computing and Communication Workshop and Conference (CCWC).
- Editorial Board Member for SCIREA Journal of Computer.
- Reviewer of Machine Learning
- Reviewer of IEEE Transactions on Neural Networks and Learning Systems
- Reviewer of IEEE Transactions on Biomedical Engineering
- Reviewer of Journal Neurocomputing
- Reviewer of Advances in Neural Information Processing Systems
- Reviewer of Journal Multimedia Tools and Applications
- Reviewer of International Journal of Computing Science and Mathematics, Springer
- Reviewer of International Conference on Machine Learning and Data Mining
- Reviewer of IEEE International Conference on Communications
- Reviewer of IEEE International Conference on Intelligent Computing
- Reviewer of Journal Future Generation Computer Systems, Elsevier
- Reviewer of Journal World Wide Web: Internet and Web Information Systems (WWW), Springer
- Reviewer of Pattern Recognition Letters
- Reviewer of Healthcare, MDPI
- Reviewer of Cancers, MDPI

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## Invited Talks & Presentation

- 2022 Ground Vehicle Systems Center (GVSC) Research Presentation, "Heterogeneous Machine Learning: Empowering Complex and Big data", USA.
- 2022 University of Richmond, invited talk, "Predictive Modelling via Substructure-based Machine Learning", USA.
- 2021 Ford Research Talk, "Personalized and Robust Federated Learning", USA.
- 2019 Research Presentation for National Institute of Informatics, USA.
- 2018 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp) "Joint Modeling of Heterogeneous Sensing Data for Depression Assessment via Multi-task Learning." Singapore.

- 2018 National Institute on Drug Abuse (NIDA) Genetics Consortium Meeting, "Collaborative Phenotype Inference." Rockville, Maryland, USA.
- 2017 IEEE International Conference on Bioinformatics and Biomedicine(BIBM) "Collaborative Phenotype Inference from Comorbid Substance Use Disorders and Genotypes." Kansas City, Missouri, USA.
- 2016 55th Annual Meeting of American College of Neuropsychopharmacology (ACNP), "Prediction of Clinical Depression using Smartphone Sensory Data." Hollywood, Florida, USA.
- 2016 30th Annual Conference on Neural Information Processing Systems "A Sparse Interactive Model for Matrix Completion with Side Information." Barcelona, Spain.

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## Teaching

- 2019-2023 CIS 5700 Advanced Data Mining, University of Michigan
- 2019-2023 CIS 405/505 Algorithm Analysis and Design, University of Michigan
- 2022-2023 CIS 490I/590K Deep Learning, University of Michigan
- 2019-2023 CIS 479/579 Artificial Intelligence, University of Michigan
- 2019 Spring CSE 5820 Machine Learning, University of Connecticut
  - 2017 Fall Teaching Assistant, CSE1010, University of Connecticut
- 2012-2013 Teaching Assistant, Mathematical Analysis, Xi'an Jiaotong University
- 2012-2013 Teaching Assistant, Ordinary Differential Equation, Xi'an Jiaotong University