Shengchao Liu

Contact Information

Computer Science Department
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Education

University of Wisconsin Madison, Madison, WI, USA — Aug 2015 - Aug 2018

Master of Science, Computer Science

- Advisor: Prof. Anthony Gitter, Prof. Dimitris Papailiopoulos.
- Thesis: Exploration on Deep Drug Discovery: Representation and Learning

Shandong University, Jinan, Shandong, China — Sep 2011 - June 2015

Bachelor of Engineering, Software Engineering

- GPA: 90.49/100, Rank: 4/320

Professional Experience

University of Wisconsin Madison, Madison, WI, USA

Research Assistant — Aug 2016 - Aug 2018

- Supervisor: Prof. Anthony Gitter

Teaching Assistant — Jan 2016 - May 2016

- CS 564: Database Management Systems: Design and Implementation

Facebook Software Developer, Menlo Park, CA, USA

Internship on Machine Learning (Full-Time Return Offer) — May 2016 - Aug 2016

Publications and Preprints

Learning Molecule Drug Function from Structure Representations with Deep Neural Networks or Random Forests. *M. Jesse, S. Liu, I. Miller, A. Gitter, J. Coon.* In Submission.

Loss-Balanced Task Weighting to Reduce Negative Transfer in Multi-Task Learning. *S. Liu, Y. Liang, A. Gitter.* AAAI, 2019.

N-Gram Graph, A Novel Molecule Representation. *S. Liu, T. Chandereng, Y. Liang.* MLMM NuerIPS, 2018.

Atomo: Communication-efficient Learning via Atomic Sparsification *H. Wang*, S. Sievert*, S. Liu, Z. Charles, D. Papailiopoulos, S. Wright.* NeurIPS, 2018.

Practical Model Selection for Prospective Virtual Screening *S. Liu*, M. Alnammi*, S. Ericksen, A. Voters, J. Keck, M. Hoffman, S. Wildman, A. Gitter.* ACS, Journal of Chemical Information and Modeling.

Workshops and Symposiums

N-Gram Graph, A Novel Molecule Representation. *S. Liu, T. Chandereng, Y. Liang.* Machine Learning for Molecules and Materials Workshop, Thirty-second Conference on Neural Information Processing Systems, 2018.

A Tool for Simulation in Adaptive Bayesian Clinical Trial. *T. Chandereng, D. Musgrove, S. Liu, T. Haddad, R. Chappell.* Twenty-fifth Annual Biopharmaceutical Applied Statistics Symposium, 2018

An Order Invariant Structure Learning Method for Molecule Classification. *S. Liu, T. Chandereng, Y. Liang.* Second Midwest Machine Learning Symposium, 2018.

A Novel Molecule Structure Learning Method for Drug Discovery. *S. Liu, T. Chandereng.* Midwest Biopharamceutical Statistics Workshop, 2018.

An Adaptive Computational Pipeline to Accelerate Drug Discovery. *J.C. Mitchell, M. Alnammi, S. Ericksen, C. Lee, S. Liu, S. Wildman, H. Zhang, M. Newton, R. Nowak, S. Wright, A. Gitter, F.M. Hoffman.* Workshop on the Mathematics of Drug Design/Discovery, The Fields Institute for Research in Mathematical Sciences, 2018.
Comprehensive Benchmarking for Label-Free Quantitative Proteomics. *T. Chandereng*, S. Liu*, J. Denu, A. Gitter, J. Dowell.* US HUPO 2018.

Research Interests

Deep Learning, Distributed Learning, Structural Learning, Transfer Learning, Multi-task Learning, Reinforcement Learning, Computational Chemistry.

Activities & Awards

Travel Award, Conference on Neural Information Processing Systems, 2018
Travel Award, Midwest Biopharamceutical Statistics Workshop, 2018
Third Prize, 2015 ACM-ICPC North Central Regional
First Prize, Microsoft College Code Competition(MSFT3C) in the year 2015, 2016
TGIF Czars Organizer, SACM at UW-Madison
Vice-captain of Shandong University ACM-ICPC Laboratory
The First Class Scholarship in the year 2013, 2014

References

Dimitris Papailiopoulos
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Affiliate in Computer Sciences
University of Wisconsin, Madison
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Anthoy Gitter
Assistant Professor of Biostatistics and Medical Informatics
Affiliate in Computer Sciences
University of Wisconsin, Madison
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Yingyu Liang
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