

Xin Jiang

Electrical and Computer Engineering Department, UCLA, California, CA, 90095
jiangxjames@ucla.edu | [jiangxjames.github.io](https://github.com/xjiang) | [Google Scholar](#)

Research interests

My research interests broadly include theory and algorithms for optimization, especially large-scale semidefinite programming. I design, analyze, and implement efficient and scalable algorithms for various applications including engineering and machine learning.

Education

Ph.D. Electrical and Computer Engineering 09/2017 – 06/2022 (expected)
University of California, Los Angeles *Los Angeles, CA*

- Thesis: Bregman first-order proximal splitting methods: Theory and Applications
- Advisor: Lieven Vandenbergh

M.S. Electrical and Computer Engineering 09/2015 – 06/2017
University of California, Los Angeles *Los Angeles, CA*

- Thesis: Minimum rank positive semidefinite matrix completion with chordal sparsity pattern
- Advisor: Lieven Vandenbergh

B.Eng. Electronic and Communication Engineering 09/2012 – 07/2015
The University of Hong Kong *Hong Kong, China*

- First class honors. Minor in Finance
- Thesis: Power optimization in hybrid localization mechanism for logistic applications
- Advisor: Victor O. K. Li

Awards and Honors

| | |
|--|-------------|
| Summer Mentored Research Fellowship (SMRF) | 2021 |
| Ph.D. Preliminary Exam Fellowship | 2018 |
| Dean's Honors List | 2013 – 2015 |
| URFP Research Internship Award | 2015 |
| Tso Chiu Kit Scholarship | 2015 |
| Kai Chong Tong Scholarship | 2013 – 2014 |
| Chiap Hua Cheng's Foundation Scholarship | 2013 |
| S. Y. King Prize | 2012 |
| HKU Worldwide U/G Student Exchange Scholarship | 2012 |

Publications

Preprints

- [P1] **X. Jiang** and L. Vandenbergh. Bregman three-operator splitting methods. 2021.
- [P2] **X. Jiang**, K. Cheng, S. Jiang, and Y. Sun. Chordal-GCN: Exploiting sparsity in training large-scale graph convolutional networks. 2019.

Journal articles

- [J1] **X. Jiang** and L. Vandenbergh. Bregman primal–dual first-order method and application to sparse semidefinite programming. *Computational Optimization and Applications*, 2021.

Conference Proceedings (* as equal contribution)

- [C1] J. Xu, Y. Sun, **X. Jiang**, Y. Wang, C. Wang, J. Lu, and Y. Yang. Blindfolded attackers still threatening: Strict black-box adversarial attacks on graphs. In *Proceedings of the 36th Conference on Artificial Intelligence (AAAI)*, 2022.
- [C2] J. Xu, Y. Yang, J. Chen, **X. Jiang**, C. Wang, J. Lu, and Y. Sun. Unsupervised adversarially robust representation learning on graphs. In *Proceedings of the 36th Conference on Artificial Intelligence (AAAI)*, 2022.
- [C3] Z. Jiao*, Z. Zhang*, **X. Jiang**, D. Han, S.-C. Zhu, Y. Zhu, and H. Liu. Consolidating kinematic models to promote coordinated mobile manipulations. In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2021.

Presentations

| | |
|---|--------------------------------------|
| Primal–dual proximal methods with Bregman distances <i>EUROPT Workshop on Continuous Optimization</i> | 07/2021 <i>Toulouse (virtual)</i> |
| Bregman proximal methods for semidefinite optimization <i>SIAM Conference on Optimization (OP21)</i> | 07/2021 <i>Virtual</i> |
| Bregman primal–dual first-order methods <i>INFORMS Annual Meeting</i> | 11/2020 <i>Virtual</i> |

Teaching and Mentorship

Teaching Experience

| | |
|---|----------------------------|
| Teaching Assistant (five times) <i>ECE236B Convex Optimization (five times)</i> | 2017 – 2022 <i>UCLA</i> |
| Teaching Assistant (four times) <i>ECE133A Applied Numerical Computing</i> | 2017 – 2021 <i>UCLA</i> |
| Teaching Assistant <i>ECE236C Optimization Methods for Large-Scale Systems</i> | Spring 2019 <i>UCLA</i> |
| Teaching Assistant <i>ECE205A Matrix Analysis for Scientists and Engineers</i> | Fall 2020 <i>UCLA</i> |

Mentorship Experience

| | |
|--|--|
| Summer Research Program Supervisor <i>Summer Undergraduate Research Program (SURP)</i> <ul style="list-style-type: none">Project: Solving large-scale non-metric multidimensional scaling using ADMMCo-supervised (with Prof. Lieven Vandenbergh) three undergraduate students on a summer research project | 06/2021 – 08/2021 <i>UCLA</i> |
| Academic Mentor <i>Research in Industrial Projects for Students (RIPS) Program</i> <ul style="list-style-type: none">Project: Obstacle avoidance of autonomous vehiclesGuided four international undergraduates to work on an industrial projectCommunicated with industrial sponsor Amazon for technical assistance | 06/2019 – 08/2019 <i>IPAM, UCLA</i> |

Reviewing

Journal reviewer

Mathematical Programming · SIAM Journal on Optimization · Mathematics of Operations Research · IEEE Transactions on Pattern Analysis and Machine Intelligence

Conference reviewer

International Conference on Machine Learning (ICML) · AAAI Conference on Artificial Intelligence (AAAI) · International Conference on Learning Representations (ICLR)

Experience

Research Internship

01/2020 – 09/2020

Damo Academy, Alibaba

Seattle, WA

- Work in the Decision Intelligence (Foundation) Group, supervised by Wotao Yin
- Participated in designing MindOpt, an optimization solver for large-scale linear programs
- Developed algorithms for bottom-level numerical linear algebra, and re-designed data structure

IEEE Eta Kappa Nu (HKN)

01/2014 – now

Department of Electrical and Electronic Department, HKU

Hong Kong, China

- Participated as a student member of Lambda Iota Chapter, IEEE-HKN, a student honor society of IEEE
- Conducted tutorials to mentor juniors on their coursework