

LIANGZU PENG

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EDUCATION

- Johns Hopkins University*, Baltimore, USA Sep. 2021 - Now
 Ph.D. in Electrical and Computer Engineering (advisor: Professor René Vidal)
 Thesis: TBD
- ShanghaiTech University*, Shanghai, China Sep. 2017 - Jun. 2021
 M.S. in Computer Science (advisor: Professor Manolis C. Tsakiris)
 Thesis: From Linear Regression Without Correspondences to Homomorphic Sensing
- Zhejiang University*, Hangzhou, China Sep. 2013 - Jun. 2017
 B.Eng. in Measurement Control Technology and Instruments
 Thesis: Image Measurement Software for Visual Detection

PUBLICATION

Submitted.

1. **L. Peng**, C. Kümmerle, and R. Vidal, “Global linear and local superlinear convergence of IRLS for non-smooth robust regression”, May 2022.
2. **L. Peng**, M. Fazlyab, and R. Vidal, “Understanding truncated least-squares and its semidefinite relaxations in robust rotation search”, March 2022.

Journal Papers.

1. **L. Peng** and M. C. Tsakiris, “Homomorphic sensing of subspace arrangements”, *Applied and Computational Harmonic Analysis*, vol. 55, pp. 466-485, 2021.
2. **L. Peng** and M. C. Tsakiris, “Linear regression without correspondences via concave minimization”, in *IEEE Signal Processing Letters*, vol. 27, pp. 1580-1584, 2020.
3. M. C. Tsakiris, **L. Peng**, A. Conca, L. Kneip, Y. Shi, and H. Choi, “An algebraic-geometric approach to linear regression without correspondences”, in *IEEE Transactions on Information Theory*, vol. 66, no. 8, pp. 5130-5144, 2020.

Conference Papers.

1. **L. Peng**, M. C. Tsakiris, and R. Vidal, “ARCS: Accurate rotation and correspondence search”, *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR oral)*, 2022.
2. Y. Yao, **L. Peng**, and M. C. Tsakiris, “Unlabeled principal component analysis”, *Neural Information Processing Systems (NeurIPS)*, 2021.
3. **L. Peng**, B. Wang, and M. C. Tsakiris, “Homomorphic sensing: sparsity and noise”, *International Conference on Machine Learning (ICML)*, 2021.
4. Y. Yao, **L. Peng**, and M. C. Tsakiris, “Unsigned matrix completion”, *IEEE International Symposium on Information Theory (ISIT)*, 2021.
5. M. C. Tsakiris and **L. Peng**, “Homomorphic sensing”, *International Conference on Machine Learning (ICML)*, 2019.
6. **L. Peng**, X. Song, M. C. Tsakiris, H. Choi, L. Kneip, and Y. Shi, “Algebraically-initialized expectation maximization for header-free communication”, *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, 2019.

WORK EXPERIENCE

- Teaching Associate - New York University, Shanghai* Sep. 2020 - May 2021
 Algorithms — lead the recitation sessions, design homework, grade assignments
- Intern - New York University, Shanghai* Feb. 2020 - Jun. 2020
 Discrete Mathematics — grade assignments and lead the recitation sessions
 Algorithms — write solutions and grade assignments

AWARDS, GRANTS, AND HONORS

Honors:

Highlighted Reviewer @ICLR (<https://iclr.cc/Conferences/2022/Reviewers>) 2022

Grants:

GRO Conference Grants June 2022

MINDS PhD Fellowship @Johns Hopkins University Spring 2022

TALKS

@Conferences:

“Semidefinite Relaxations in Robust Rotation Search: Tight or Not” @ICCOPT July 2022

“ARCS: Accurate Rotation and Correspondence Search” @CVPR June 2022

PROFESSIONAL SERVICE

Reviewer:

European Conference on Computer Vision (2022)

Computer Vision and Pattern Recognition (2022)

International Conference on Learning Representations (2022)

Neural Information Processing Systems (2021, 2022)

International Conference on Machine Learning (2021, 2022)

zbMATH Open (2021 - Now)

IEEE Transactions on Pattern Analysis and Machine Intelligence (1)

IEEE Transactions on Signal Processing (1)

TEACHING

Recitation Instructor:

CSCI-SHU 220, Algorithms Spring 2021, NYU-Shanghai

CSCI-SHU 220, Algorithms Fall 2020, NYU-Shanghai

CSCI-SHU 2314, Discrete Mathematics Spring 2020, NYU-Shanghai

Teaching Assistant:

SI 232, Subspace Learning Fall 2020, ShanghaiTech

CSCI-SHU 220, Algorithms Spring 2020, NYU-Shanghai

MATH 2111, Topological Data Analysis Spring 2020, ShanghaiTech

SI 232, Subspace Learning Fall 2019, ShanghaiTech

CS 133, Advanced C++ Programming Spring 2019, ShanghaiTech

SI 192, Applied Algebraic Geometry Spring 2019, ShanghaiTech

SI 112, Advanced Geometry¹ Spring 2018, ShanghaiTech

¹Lecture notes available: <http://www.liangzu.org/en/ag-notes.html>