

Jianqing Jia

Department of Mathematics, Syracuse University
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EDUCATION

- Ph.D. candidate, Applied Mathematics and Statistics, Syracuse University, 2019 - now
- Research topic: Optimization, signal processing, and machine learning
 - Advisor: Professor Lixin Shen
- M.S., Computational Mathematics, Hebei Normal University & Temple University, 2015 - 2019
- Research topic: Augmented reality, wavelet analysis, and image processing
 - Thesis: “Image-driven Label Placement for Augmented Reality”
 - Advisors: Professor Wei Guo (Math) & Professor Haibin Ling (Computer science)
- B.S., Mathematics, Hebei Normal University, 2011 - 2015
- Recommended for Master’s program admission, GPA: 3.69/4, Rank: 1/110

TEACHING EXPERIENCE

Instructor of Record

Deliver 2 – 3 lectures per week; write and grade weekly quizzes and exams; assign final grades.

Syracuse University

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| - MAT 285 <i>Life Sciences Calculus I</i> (1 section, 25 students) | Spring 2024 |
| - MAT 285 <i>Life Sciences Calculus I</i> (1 section, 26 students) | Fall 2023 |
| - MAT 285 <i>Life Sciences Calculus I</i> (1 section, 28 students) | Spring 2023 |
| - MAT 285 <i>Life Sciences Calculus I</i> (2 sections, 52 students) | Fall 2022 |
| - MAT 222 <i>Elementary Probability and Statistics II</i> (1 section, 25 students) | Spring 2022 |
| - MAT 285 <i>Life Sciences Calculus I</i> (2 sections, 53 students) | Fall 2021 |
| - MAT 284 <i>Business Calculus</i> (1 section, 19 students) | Summer 2021 |
| - MAT 286 <i>Life Sciences Calculus II</i> (1 section, 23 students) | Spring 2021 |

Teaching Assistant

Hold 4 – 5 Lab & Recitation sections per week; write and grade worksheets; proctor and grade exams.

Syracuse University

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| - MAT 121 <i>Probability and Statistics for the Liberal Arts I</i> (5 sections, 114 students) | Fall 2020 |
| - MAT 122 <i>Probability and Statistics for the Liberal Arts II</i> (3 sections, 69 students) | Spring 2020 |
| - MAT 121 <i>Probability and Statistics for the Liberal Arts I</i> (4 sections, 88 students) | Fall 2019 |

RESEARCH INTERESTS

Optimization, Signal and image processing, Machine Learning, Augmented Reality, Computer Vision

PUBLICATIONS

Google Scholar profile: <https://scholar.google.com/citations?hl=en&user=3Crep68AAAAJ>

Journal Articles

- [1] Jianqing Jia and Lixin Shen, “Sparse recovery: the square of ℓ_2/ℓ_2 norms.” *SIAM Journal on Scientific Computing*, 2023, under review.

- [2] Semir Elezovikj, Jianqing Jia, Chiu C Tan, and Haibin Ling, “PartLabeling: A Label Management Framework in 3D Space.” *Virtual Reality and Intelligent Hardware*, 5(6): 490-508, 2023.
- [3] Jianqing Jia, Semir Elezovikj, Heng Fan, Shuojin Yang, Jing Liu, Wei Guo, Chiu C Tan, and Haibin Ling, “Semantic-aware label placement for augmented reality in street view.” *The Visual Computer*, 37(7): 1805-1819, Springer Berlin Heidelberg, 2021.
- [4] Jing Liu, Shuojin Yang, Liang Tian, Wei Guo, Bingyin Zhou, Jianqing Jia, and Haibin Ling, “Multi-component fusion network for small object detection in remote sensing images.” *IEEE Access*, 7: 128339-128352, IEEE, 2019.

Conference Articles

- [5] Semir Elezovikj, Jianqing Jia, Chiu C Tan, and Haibin Ling, “PartLabeling: A Label Management Framework in 3D Space.” *Computer Graphics International (CGI)*, 2023.
- [6] Jianqing Jia, Yu Zhang, Xiaoce Wu, and Wei Guo, “Image-based label placement for augmented reality browsers.” *2018 IEEE 4th International Conference on Computer and Communications (ICCC)*, pp. 1654-1659, IEEE, 2018

HONORS AND AWARDS

- Kibbey Prize (2023). *Syracuse University*. Departmental award for outstanding achievement in the PhD program.
- Outstanding Master’s Thesis Award (2020). *Hebei Province, China*. Provincial award for a distinguished master’s thesis, recognized among the top 0.6% of master’s theses across Hebei Province.
- Graduate Student National Scholarship (2018). *China*. National award for academic excellence in the graduate program.
- 2nd Prize in 14th National Mathematical Modeling Contest (2017). *China*. National award earned for outstanding mathematical problem-solving and innovation in a graduate-level nationwide competition.
- First-Class Graduate Academic Scholarship (2017, 2018). *Hebei Normal University*. The top-tier university-level scholarship for academic excellence in graduate program, with award rate 7.5%.
- Excellent Undergraduate Student Award (2015). *Hebei Province, China*. Provincial honor for exemplary academic performance and distinction among undergraduate students across Hebei Province.
- 2nd Prize in 13th National English Public Speaking Contest (2013). *China*. National award for outstanding English public speaking skill in national competition in non-native English-speaking context.

EMPLOYMENT HISTORY

- Teaching Assistant, Syracuse University Syracuse, NY USA, 2019–now
- Research Assistant, Syracuse University Syracuse, NY USA, 2019–now
- Research Assistant, Temple University Philadelphia, PA USA, 2018–2019
Department of Computer and Information Sciences
- Teaching Assistant, Hebei Normal University Shijiazhuang, Hebei China, 2017–2018
- Lecturer, Hebei College of International Education Shijiazhuang, Hebei China, 2016–2018
- College Counselor, Hebei Normal University Shijiazhuang, Hebei China, 2015–2016

FUNDINGS AND SCHOLARSHIPS

- Research Assistantship, 2022–2024, NSF research grant #2208385
Sparse Optimization for Machine Learning and Image/Signal Processing
- Research Assistantship, 2019–2023, NSF research grant #1913039
Sparse Optimization in Large Scale Data Processing: A Multiscale Proximity Approach

- Research Assistantship, 2020–2022, NSF research grant #1818833
Fast Algorithms for Simulating the Collective Swimming of Microorganisms
- Member, 2018, National Natural Science Foundation of China (NSFC) #11826013
Conference on mathematical culture communication in the internet age
- Principal Investigator, 2017-2019, Hebei Normal University Graduates research grant #CXZZSS2018059
Image-based label placement for augmented reality browsers
- Member, 2019-2021, National Natural Science Foundation of China (NSFC) #61802109
Information fusion-based depth estimation and virtual view synthesis in true 3D volumetric display

SKILLS

Mathematical and Statistical skills

- Mathematics: Numerical Analysis, Numerical Optimization, Numerical Linear Algebra
- Statistics: Linear Models, Bayesian Inference, Stochastic Processes, Ranking and Selection

Computational Skills

- Programming language: Matlab, R, Python, C, SAS

PROFESSIONAL MEMBERSHIPS

- American Mathematical Society, 2019 – now
- Mathematical Association of America, 2019 – now

REFERENCES

Available upon request.

- Ph.D. Advisor: Lixin Shen
Professor, Mathematics Department, Syracuse University
Email: lshen03@syr.edu
- M.S. Advisor: Haibin Ling
Empire Innovation Professor, Department of Computer Science, Stony Brook University
Email: hling@cs.stonybrook.edu
- Pinyuen Chen
Professor, Director of Statistics Program, College of Arts and Science, Syracuse University
Email: pinchen@syr.edu
- Wei Guo
Professor, Mathematics Department, Hebei Normal University
Email: guowei@math.pku.edu.cn
- Leonid Kovalev
Professor and Associate Chair, Mathematics Department, Syracuse University
Email: lvkovale@syr.edu