Roy Yuchen He

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EDUCATION AND EMPLOYMENT

City University of Hong Kong, Hong Kong, SAR China
- Assistant Professor, Department of Mathematics — Sep 2023 – Current
  - Supervisor: Prof. Xiaoqun Zhang, xqzhang@sjtu.edu.cn
  - Focus: Dynamical data analysis and modeling, deep learning theories and applications in inverse problems.

Shanghai Jiao Tong University, Shanghai, China
- Postdoc, Institute of Natural Sciences — Sep 2021 – Sep 2023
  - Supervisor: Prof. Xiaoqun Zhang, xqzhang@sjtu.edu.cn
  - Focus: Dynamical data analysis and modeling, deep learning theories and applications in inverse problems.

Duke University, North Carolina, USA
- Postdoc, Department of Mathematics — Jul 2021 – Jul 2023
  - Supervisor: Prof. Hongkai Zhao, hongkai.zhao@duke.edu
  - Focus: PDE identification, image processing and deep learning
  - Offer issued, but only worked remotely due to travel restrictions related to COVID

École Normale Supérieure Paris-Saclay, Paris, France
- Researcher — Jan 2020 – Jul 2021
  - Supervisor: Prof. Jean-Michel Morel, jean-michel.morel@ens-paris-saclay.fr
  - Focus: Image processing and image vectorization

Georgia Institute of Technology, Atlanta, Georgia, USA
- Ph.D. in Mathematics — Aug 2016 – May 2021
  - Advisor: Prof. Sung Ha Kang, kang@math.gatech.edu
  - Dissertation: Data-driven Mathematical Modeling: Applications in Image Processing, Computer Graphics, and PDE Identification
  - Focus: Variational and statistical modeling in image processing, neural networks, and numerical analysis.

Columbia University, New York, New York, USA
- M.A. in Statistics — Aug 2014 – Feb 2016
  - Cumulative GPA: 4.00 / 4.00

Chongqing University, Chongqing, China
- B.S. with Honors, Mathematical Statistics, — Sep 2009 – Jun 2013
  - Major GPA: 4.00 / 4.00
  - Bachelor thesis: Statistical Description of Roots of the ζ Function
  - Supervisor: Dr. Tengzhong Rong

RESEARCH INTERESTS

- Variational modeling for images with applications in denoising, segmentation, and inpainting, etc.
- Non-convex optimization, primal-dual algorithms, and operator splitting methods.
- Analysis and pattern identification for high dimensional data.
- Machine learning and deep learning theory.
- Computer graphics: image vectorization, rasterization, real-time 3D scene rendering techniques, etc.

PUBLICATION

JOURNAL

[1] **He RY**, Liang Y, Zhao H, Zhong Y. What Can One Expect When Solving PDEs Using Shallow Neural Networks?. arXiv preprint arXiv:2510.27658. 2025 Oct 31.

[2] Cui J, **He RY**. Stoch-IDENT: New Method and Mathematical Analysis for Identifying SPDEs from Data. arXiv preprint arXiv:2508.19177. 2025 Aug 26.

[3] Zhang C, Ding W, **He RY**, Zhang X, Ding Q. Dynamic PET Image Reconstruction via Non-Negative INR Factorization. SIAM Journal on Imaging Sciences. 2025 Dec 31;18(4):2206-35.

[4] **He RY**, Kang SH, Morel JM. A Formalization of Image Vectorization by Region Merging. SIAM Journal on Imaging Sciences. 2025 Sep 30;18(3):1742-87.

[5] **He RY**, Liu H. Euler's elastica-based cartoon-smooth-texture image decomposition. SIAM Journal on Imaging Sciences. 2025 Mar 31;18(1):526-69. **(Q1, Applied Mathematics, Impact factor: 2.8)**

[6] **He RY**, Liu H, Liu H. Group projected subspace pursuit for block sparse signal reconstruction: Convergence analysis and applications. Applied and Computational Harmonic Analysis. 2025 Feb 1;75:101726. **(Q1, Applied Mathematics, Impact factor: 3.0)**

[7] **He Y**, Zhao H, Zhong Y. How much can one learn a partial differential equation from its solution?. Foundations of Computational Mathematics. 2024 Oct;24(5):1595-641. **(Q1, Applied Mathematics, Impact factor: 3.3)**

[8] Feng, Y., He, Z. , Zhu, Y-N. , Chen, Y. , **He, Y**. , Sun, Y. , Wang, T. , Zhang, C. , Sun, B. , Yan, F. , Zhang, X. , Sun, Q. and Yang, G. (Nov 2023). A deep unrolled neural network for real-time MRI-guided brain intervention. Nature Communications. 14, 8257 (2023).

[9] **Yuchen He**, Sung Ha Kang, Wenjing Liao, Hao Liu, Yingjie Liu. (Sep 2023). Group Projected subspace pursuit for IDENTification of variable coefficient differential equations (GP-IDENT). Journal of Computational Physics. 494.

[10] **Yuchen He**, Sung Ha Kang, Jean-Michel Morel. Topology- and Perception-Aware Image Vectorization. Journal of Mathematical Imaging and Vision. 2023 June

[11] **Yuchen He**, Sung Ha Kang, Jean-Michel Morel. Binary Shape Vectorization by Affine Scale-space. *Image Processing On Line (IPOL)*. 2023; 13:22-37.

[12] **Yuchen He**, Sung Ha Kang, Wenjing Liao, Hao Liu, Yingjie Liu. Numerical Identification of Nonlocal Potentials in Aggregation. Communications in Computational Physics. 32 (3). 638-670.

[13] **Yuchen He**, Xiaoming Huo, Sung Ha Kang, Yajun Mei, Namjoon Suh. Asymptotic Theory of ℓ_1-Regularized PDE Identification from a Single Noisy Trajectory. *SIAM/ASA Journal on Uncertainty Quantification*. 2022 Sep 30;10(3):1012-36.

[14] **Yuchen He**, Sung Ha Kang, Jean-Michel Morel. Silhouette vectorization by affine scale-space. *Journal of Mathematical Imaging and Vision*. 2022 Jan; 64(1):41-56.

[15] **Yuchen He**, Sung Ha Kang, Wenjing Liao, Hao Liu, Yingjie Liu. Robust Identification of Differential Equations by Numerical Techniques from a Single Set of Noisy Observation. *SIAM Journal on Scientific Computing*. 2022;44(3):A1145-75.

[16] **Yuchen He**, Sung Ha Kang, and Luis Alvarez. Finding the Skeleton of 2D Shape and Contours: Implementation of Hamilton-Jacobi Skeleton. *Image Processing On Line (IPOL)*, 11 (2021), pp. 18–36.

[17] **Yuchen He**, Sung Ha Kang, and Hao Liu. Curvature regularized surface reconstruction from point clouds. *SIAM Journal on Imaging Sciences*, 2020; 13(4): 1834-1859.

[18] **Yuchen He**, Sung Ha Kang. Lattice Identification and Separation: Theory and Algorithm. *SIAM Journal on Imaging Sciences*, 2019; 12(4): 2063-96.

[19] Maleki A, Swan RT, Silpa-Archa S, Preble JM, **He Y.**, Foster CS. Short-wavelength automated perimetry parameters at baseline and following remission in patients with birdshot retinochoroidopathy. *American Journal of Ophthalmology.* 2016;163:83. e6-92. e6.

[20] Maleki A, Swan RT, Silpa-Archa S, Preble JM, **He Y.**, Foster CS. Short-wavelength automated perimetry parameters at baseline and following remission in patients with birdshot retinochoroidopathy. American Journal of Ophthalmology. 2016 Mar 1;163:83-92.

PROCEEDINGS AND OTHER PEER-REVIEWED

[1] Belzarena D, Mowlavi S, Artola A, Mariño C, Gardella M, Ramírez I, Tadros A, **He RY**, Bottaioli N, Rajaei B, Randall G. Improving OCR using internal document redundancy. InInternational Conference on Document Analysis and Recognition 2025 Sep 16 (pp. 244-260). Cham: Springer Nature Switzerland.

[2] Gardella M, Umpierrez J, Tadros A, Mowlavi S, Bottaioli N, Belzarena D, Facciolo G, **He RY**, Morel JM, Von Gioi RG. Scanned documents forensics: detecting inserted characters through noise and chromatic artifacts. InProceedings of the IEEE/CVF International Conference on Computer Vision 2025 (pp. 7515-7525).

[3] **He RY**, Wang H. Real-Time Scene Recovery from Image Scale Space and Perceptual Hue Similarity. InInternational Conference on Scale Space and Variational Methods in Computer Vision 2025 May 17 (pp. 119-131). Cham: Springer Nature Switzerland.

[4] **He RY**, Huska M, Liu H. Image Decomposition with G-Norm Weighted by Total Symmetric Variation. InInternational Conference on Scale Space and Variational Methods in Computer Vision 2025 May 17 (pp. 55-68). Cham: Springer Nature Switzerland.

[5] **Yuchen He**, Sung Ha Kang, Jean-Michel Morel. VIVA: a Variational Image Vectorization Algorithm on Dual-Primal Graph Pairs. 2023 ICIP. (pp. 1285 - 1289). Kuala Lumpur. Malaysia.

[6] **Yuchen He**, Sung Ha Kang, Jean-Michel Morel. Vectorizing Images of Any Size. In *2022 IEEE International Conference on Image Processing* (ICIP) 2022 Oct 16 (pp. 816-820). IEEE.

[7] **Yuchen He**, Sung Ha Kang, Jean-Michel Morel. Accurate Silhouette Vectorization by Affine Scale-Space. In *2021 IEEE International Conference on Image Processing* (ICIP) 2021 Sep 19 (pp. 1539-1543). IEEE.

[8] **Yuchen He**, Martin Huska, Sung Ha Kang, Hao Liu. Fast algorithms for surface reconstruction from point cloud. In *International Workshop On Image Processing and Inverse Problems* 2018 Apr 21 (pp. 61-80). Springer, Singapore

[9] **Yuchen He**, Sung Ha Kang. Lattice Metric Space Application to Grain Defect Detection. In Proceedings of *Scale Space and Variational Methods in Computer Vision (SSVM)*, 2019 Jun 30 (pp.381-392). Springer, Cham. (double-blind peer reviewed)

RESEARCH FUNDING

[1] NSFC Grant – Young Scientist (12501594), Mathematical Modeling and Robust Algorithms for Data-driven Differential Equation Identification, **HE, R.**. (Principal Investigator / Project Coordinator) 2026/01/01 – 2028/12/31

[2] ECS: Variational Foundation for Geometric Image Representation, **HE, R.**. (Principal Investigator / Project Coordinator) 2026/01/01 – 2028/12/31

[3] FR/HKJRS: NN-empowered methods for inverse problems in imaging: algorithms and recovery guarantees, **HE, R.** (Principal Investigator / Project Coordinator) & FADILI, J. (Co-Investigator). 2025/02/01 – 2027/01/31

[4] CityU Start-up: Novel Variational Models and Fast Algorithms for Artifact-free Image Decomposition. **HE, R.** (Principal Investigator / Project Coordinator). 2023/12/01 – 2026/05/31

RESEARCH ACTIVITIES

CSIAM-BDAI 2025 , Guangxi, China Jul 2025

- Invited speaker
- Title: *Euler's elastica-based cartoon-smooth-texture image decomposition*

Mathematics of imaging: trends and perspectives , Marseille, France Jun 2025

- Invited speaker
- Title: *Mathematics of Image Vectorization*

Advanced Methods and Theories in High-dimensional Image Processing , Yun-nan, China Mar 2025

- Invited speaker
- Title: *Region-based Image Vectorization*

CSIAM 2024 , Nanjing, China Oct 2024

- Invited speaker
- Title: *Group Projected subspace pursuit for IDENTification of variable coefficient differential equations (GP-IDENT).*

Workshop on Inverse Problems and Image Processing 2024 , Inner Mongolia, China Aug 2024

- Invited speaker
- Title: *Lattice Metric Space and Applications to Grain Boundary Detection.*

SciCADE 2024 , Singapore, Singapore Jul 2024

- Invited speaker
- Title: *Group Projected Subspace Pursuit for Identification of Variable Coefficient Differential Equations.*

SIAM Annual Conference 2024 , Spokane, Washington, US Jul 2024

- Invited speaker
- Title: *Learning Differential Equations from Single Trajectories Based on Feature Selection.*

Four-hour Short Course about Mathematical Image Processing , Xiangtan, Hunan, China Apr 2024

- Invited speaker

Mathematics of Imaging and AI: Theories and Algorithms , Xiangtan, Hunan, China Dec 2023

- Invited speaker
- Title: *Variational Image Vectorization Algorithm (VIVA) for Pixel Images*.

2023 IEEE International Conference on Image Processing (ICIP) , Kuala Lampur, Malaysia Oct 2023

- Conference talk
- Title: *VIVA: A Variational Image Vectorization Algorithm on Dual-Primal Graph Pairs*.

10th International Congress for Industrial and Applied Mathematics (ICIAM) 2023 , Waseda University, Tokyo, Japan Jun 2023

- Minisymposium talk
- Title: *Identification of Variable Coefficient PDEs using Group Projected Subspace Pursuit*.

International Conference on Applied Mathematics (ICAM) 2023 , Department of Mathematics, City University of Hong Kong Jun 2023

- Presentation
- Title: *Color Image Vectorization via Affine Shortening Flow*.

Invited talk , Department of Mathematics, Hong Kong Baptist University Jun 2023

- Presentation
- Title: *Identifiability of PDEs from Trajectory Data and Some Novel Methods based on Group Projected Subspace Pursuit*.

The 12th Conference on Inverse Problems, Imaging and Applications , Southern University of Science and Technology May 2023

- Presentation
- Title: *Identifiability of PDEs from Trajectory Data and Some Novel Methods based on Group Projected Subspace Pursuit*.

Fudan-Guanghua International Forum for Young Scholars , Fudan University Jan 2023

- Presentation
- Title: *Data-driven PDE Identification and Image Vectorization*.

Global Young Mathematicians Forum, Southern University of Science and Technology Jan 2023

- Presentation
- Title: *Data-driven PDE Identification and Image Vectorization*.

2023 International Young Scholar's Forum, Tongji University Jan 2023

- Presentation
- Title: *Data-driven PDE Identification and Image Vectorization*.

2022 Global Young Scholar's Forum, The Chinese University of Hong Kong, Shenzhen Dec 2022

- Presentation
- Title: *Data-driven PDE Identification and Image Vectorization*.

IEEE ICIP 2022 Sep 2022

- Poster and video presentation
- Presented work: Yuchen He, Sung Ha Kang, Jean-Michel Morel. *Vectorizing Images of Any Size*.

IEEE ICIP 2021 Sep 2021

- Poster presentation
- Presented work: Yuchen He, Sung Ha Kang, Jean-Michel Morel. *Accurate Silhouette Vectorization by Affine Scale-space*.

Workshop on Mathematical Machine Learning and Application, The Pennsylvania State University Dec 2020—Dec 2020

- Poster presentation
- Presented work: Yuchen He, Sung Ha Kang, Wenjing Liao, Hao Liu, and Yingjie Liu. *Robust PDE Identification from Noisy Data*. (reviewed)

Presentation at Research Horizon Seminar, Georgia Institute of Technology Nov 2020

- Title of the Talk: *The Lattice Metric Space and its Applications*.

Visiting Student supported by Chateaubriand Fellowship 2019, Centre de Mathématiques et Leurs Applications, École normale supérieure Paris-Saclay, Cachan, Paris, France. Jan 2020—Jul 2020

- Research advisors: Jean-Michel Morel, Professor, *CMLA, École normale supérieure Paris-Sacaly*, and Sung Ha Kang, Professor, *School of Mathematics, Georgia Institute of Technology*.

Seventh International Conference on Scale Space and Variational Methods in Computer Vision (SSVM 2019), Evangelische Tagungsstätte Hofgeismar, Hofgeismar, Germany. Jun 2019—Jul 2019

- Poster presentation
- Presented work: Yuchen He, Sung Ha Kang. Lattice Metric Space Application to Grain Defect Detection. In Proceedings of *Scale Space and Variational Methods in Computer Vision*, 2019 Jun 30 (pp.381-392). Springer, Cham.

2019 Georgia Scientific Computing Symposium, Georgia Tech, Atlanta, Georgia, USA. Feb 2019

- Poster presentation
- Presented work: Yuchen He, Sung Ha Kang. Lattice Metric Space Application to Grain Defect Detection. In Proceedings of *Scale Space and Variational Methods in Computer Vision*, 2019 Jun 30 (pp.381-392). Springer, Cham.

The Mathematics of Imaging: the CIRM pre-school for a thematic trimester, Institut Henri Poincaré, Centre International de Rencontres Mathématiques, Luminy, Marseille, France. Jan 2019

2017 Joint Mathematics Meetings, Atlanta, Georgia, USA. Jan 2017

STUDENT SUPERVISION

PHD STUDENTS

Xiao LIU, Doctor of Philosophy (Student), CityU — Sep 2025–Now

Li YANG, Doctor of Philosophy (Student), CityU — Sep 2024–Now

Jin GUO, Doctor of Philosophy (Student), CityU — Sep 2024–Now
Co-supervised with Prof. Jean-Michel Morel

Mingda LU, Doctor of Philosophy (Student), CityU — Sep 2024–Now
Co-supervised with Prof. Raymond Chan

MASTER STUDENTS

Yan ZHANG, MSc Financial Mathematics and Statistics (MSFMS), CityU — Sep 2024–Apr 2025

UNDERGRADUATES

Bo CHEN (Exchange research intern), BSc in ECE, University of Kent — Jun 2025–Aug 2025

Han WANG, BSc in Computing Mathematics (BSCM), CityU — Sep 2024–Sep 2025

Ali Raza JATOI, BSc in Computing Mathematics (BSCM), CityU — Sep 2024–Sep 2025

Zhe WANG (Exchange research intern), Mathematics, University of Liverpool — Jun 2024–Aug 2025

RESEARCH EXPERIENCE

Research Assistant, School of Industrial and Systems Engineering, Georgia Institute of Technology

- Statistical theory — Aug 2019— Dec 2019
  - Project: Statistical theory for partial differential equation identification from noisy high-dimensional data
  - Project collaborators: Xiaoming Huo, Professor, Yajun Mei, Associated Professor, Namjoon Suh, PhD, *School of Industrial and Systems Engineering, Georgia Institute of Technology*, and Sung Ha Kang, Professor, *School of Mathematics, Georgia Institute of Technology*
  - Focus: Providing provable statistical learning algorithm for PDE identification.

Summer Research Intern, Department of Microbiology and Immunology, Emory University

- Mathematical Biology — May 2019— Aug 2019
  - Project: Modeling for the affinity maturation of B-cells in the germinal center
  - Project collaborators: Veronika Zarnitsyna, Assistant Professor, *Department of Microbiology and Immunology, Emory University*, Sung Ha Kang, Professor, and Benjamin Ide, PhD, *School of Mathematics, Georgia Institute of Technology*
  - Focus: Characterizing the dynamics of centrocytes and centroblasts and predicting effects of antibody injection.
  - Manuscript in preparation.

Research Assistant, Lamont-Doherty Earth Observatory, Columbia University — Nov 2015— Jan 2016

- Oceanography
  - Project: Iterative Methods for Air-sea Interaction Simulation
  - Project Leader: Prof. Christopher J. Zappa. Lamont-Doherty Earth Observatory, Columbia University
  - Focus: Comparison of established mathematical models with field data.

Research Assistant, Department of Statistics, Columbia University — Feb 2015— Apr 2015

- High Dimensional Statistics
  - Project: Integration of FANS and Random Projection Ensemble Classification
  - Project Leader: Prof. Yang Feng. Department of Statistics, Columbia University
  - Focus: Dimension reduction in statistical classification via optimal projections.

Project Leader, Consortium for Mathematics and its Applications (COMAP) — Feb 2012

- Mathematical Contest in Modeling (MCM)
  - Project: Optimization of Rafting Operation in Grand Canyon
  - Supervisor: Dr. Ping Zhang. Department of Mathematics and Statistics, Chongqing University
  - Focus: Discrete optimization, probability.

Project Leader, China Society for Industrial and Applied Mathematics (CSIAM) — Sep 2011

- National Undergraduate Mathematical Contest in Modeling
  - Project: Locating and Evaluation of the Sources of Heavy Metal Pollutant
  - Supervisor: Dr. Liangcai Zhang. Department of Mathematics and Statistics, Chongqing University
  - Focus: Spatial statistics, fluid dynamics, data analysis & visualization.

Undergraduate Researcher, Chongqing University — Sep 2011 – Sep 2012

- SRTP College Students' Innovative Projects
  - Project: Mathematical and Statistical Models in Time Geography
  - Focus: Spatial statistics, optimization, economics.

TEACHING EXPERIENCE

Instructor, Department of Mathematics, City University of Hong Kong — Sep 2025 – Dec 2025

- Course: MA2509 Discrete Mathematics
  Course: MA2185 Discrete Mathematics

Instructor, Department of Mathematics, City University of Hong Kong — Jan 2025 – Apr 2025
- Course: Complex Analysis

Instructor, Department of Mathematics, City University of Hong Kong — Sep 2024 – Dec 2024
- Course: Abstract Algebra

Instructor, Department of Mathematics, City University of Hong Kong — Jan 2024 – Apr 2024
- Course: Complex Analysis

Instructor, Department of Mathematics, City University of Hong Kong — Sep 2023 – Dec 2023
- Course: Calc & Basic Linear Algebra I.

Grader, School of Mathematics, Georgia Institute of Technology — Aug 2019 – Dec 2019
- Course: MATH 6640 Numerical PDE I
- Instructor: Prof. Sung Ha Kang

Grader, School of Mathematics, Georgia Institute of Technology — Aug 2019 – Dec 2019
- Course: MATH 6580 Stochastic Calculus I
- Instructor: Prof. Michael Damron

Teaching Assistant, School of Mathematics, Georgia Institute of Technology — Jan 2019 – Apr 2019
- Course: MATH 1552 Integral Calculus
- Instructor: Jiayin Jin
- Class: 58 students of diverse majors.

Grader, School of Mathematics, Georgia Institute of Technology — Jan 2019 – Apr 2019
- Course: MATH 6644 Iterative Methods for Systems of Equations
- Instructor: Prof. Molei Tao

Instructor, School of Mathematics, Georgia Institute of Technology — Aug 2018 – Dec 2018
- Course: MATH 1552 Integral Calculus
- Class: 117 students of diverse majors.
- TAs: 3 teaching assistants.

Grader, School of Mathematics, Georgia Institute of Technology — Aug 2018 – Dec 2018
- Course: MATH 6337 Graduate Real Analysis I
- Instructor: Prof. Doron Lubinsky

Instructor, School of Mathematics, Georgia Tech — May 2018 – Jun 2018
- Course: MATH 8802 Comprehensive Exam Preparation - Analysis
- Class: 6 Math Ph.D. candidates.

Teaching Assistant, School of Mathematics, Georgia Institute of Technology — Jan 2018 – Apr 2018
- Course: MATH 2551 Multivariate Calculus
- Instructor: Prof. Enid Steinbart
- Class: 29 students of diverse majors.

Teaching Assistant, School of Mathematics, Georgia Institute of Technology — Jan 2018 – Apr 2018
- Course: MATH 2551 Multivariate Calculus
- Instructor: Qingqing Liu
- Class: 28 students of diverse majors.

Teaching Assistant, School of Mathematics, Georgia Institute of Technology — Aug 2017 – Dec 2017
- Course: MATH 2551 Multivariate Calculus
- Instructor: Prof. Yingjie Liu
- Class: 71 students of diverse majors.

Teaching Assistant, School of Mathematics, Georgia Institute of Technology — Aug 2017 – Dec 2017
- Course: MATH 2551 Multivariate Calculus
- Instructor: Prof. Yao Yao
- Class: 58 students of diverse majors.

Teaching Assistant, School of Mathematics, Georgia Institute of Technology — May 2017 – Aug 2017
- Course: MATH 2551 Multivariate Calculus
- Instructor: Qingqing Liu, Prof. Doron Lubinsky
- Class: 24 students of diverse majors.

Teaching Assistant, School of Mathematics, Georgia Institute of Technology — Jan 2017 – Apr 2017
- Course: MATH 2551 Multivariate Calculus

- Instructor: Qingqing Liu
- Class: 58 students of diverse majors.

Teaching Assistant, School of Mathematics, Georgia Institute of Technology Aug 2016 – Dec 2016

- Course: MATH 1552 Integral Calculus
- Instructor: Jiayin Jin
- Class: 51 students of diverse majors.

AWARDS & SCHOLARSHIPS

- **GT Sigma Xi Best PhD Thesis Award**, Georgia Institute of Technology Mar 2022
  Awarded for the best PhD thesis in the year of 2021.
- **International Postdoctoral Exchange Fellowship 2021**, Office of China Postdoc Council Nov 2021
  Awarded for excellent young scientific researchers who earned their Ph.D. degree abroad
- **Outstanding Student for Spring 2019**, School of Mathematics, Georgia Tech Apr 2020
  Awarded for excellent young scientific researchers
- **Larry O'Hara Graduate Student Fellowship**, College of Science, Georgia Tech Apr 2020
  Awarded for excellent young scientific researcher
- **Chateaubriand Fellowship**, Embassy of France in United States Jan 2020—Jul 2020
  Supported to visit l'École normale supérieure Paris-Saclay for 6 months working with Prof. Jean-Michel Morel.
- **Teaching Assistant Fellowship**, Georgia Tech Jul 2017
  For my extraordinary TA jobs for Fall 2016 and Spring 2017. The associated responsibilities include participating in orientation setup, and training new TAs.
- **Team with Best Visualization**, StatFest 2015: Data + Journalism, Columbia University Nov 2015
  Awarded for excellent data visualization and exciting storytelling, 1 out of 10. Each team must have 6 students from diverse majors, and combine data visualization techniques with journal reports.
- **Xiang Sheng Scholarship**, Chongqing University May 2012
  Awarded for outstanding academic performance during the academic year 2012.
- **Excellent Student Leader Award**, Chongqing University May 2012
  Awarded for excellence in leadership and student activity organization during the academic year 2012.
- **Honorable Mention, Mathematical Contest in Modeling**, COMAP Sep 2011
  A 4-day contest as a team of 3. The Honorable Mention are awarded to about 35% teams worldwide.
- **2nd Place, National Undergraduate Mathematical Contest in Modeling**, CSIAM Sep 2011
  A 3-day contest as a team of 3. The 2nd places are awarded to 1000 out of 40000 teams in China.
- **Luzhoulaojiao Scholarship**, Chongqing University Jun 2011
  Awarded for outstanding academic performance during the academic year 2011
- **National Scholarship**, China Nov 2010
  Awarded from the government for outstanding academic performance. Only 0.2% nationwide applicants receive the scholarship every year.
- **Academic Awards**, Department of Mathematics and Statistics, Chongqing University Sep 2010—Sep 2012
  Awarded for maintaining GPA the 1st place within major (1/34) for each year.

CAMPUS ACTIVITIES

Research Horizons Seminar, School of Mathematics, Georgia Institute of Technology

- Co-organizer Aug 2019 – Jan 2020
  - Prepare for the site including food and drinks; introduce the speaker.

Graduate Student Council, School of Mathematics, Georgia Institute of Technology

- Member Aug 2019 – Current
  - Collect and help resolve graduate students' questions and concerns.

Applied and Computational Mathematics (ACM) Student Working Seminar, School of Mathematics, Georgia Institute of Technology

- Co-organizer Sep 2018 – Apr 2019
  - Present recently read papers, and brainstorm potential research directions.
  - Introduce previous research projects to other students.

High School Math Competition, School of Mathematics, Georgia Institute of Technology

- Volunteer, grader Apr 2017
  - Proctor the written exam and help organize the oral exam.
  - Grade the papers

The Student Union, School of Mathematics and Statistics, Chongqing University

- President Sep 2010 – May 2011

- Organize student activities such as photography competition, singing contest, spring festival party, etc.
- Lead and coordinate all sections within the student union.
- Communicate and cooperate with student unions from other departments.

The Student Union, School of Mathematics and Statistics, Chongqing University

- Member, Office of Public Relation — Sep 2009 – May 2010
  - Design posters to announce student activities to public.
  - Negotiate with nearby companies to obtain sponsorship.

LANGUAGES

- Chinese: Native language.
- English: Fluent.
- French: Intermediate. Korean: Elementary.

SKILLS C++, MATLAB, Python, R, LaTeX, Adobe Photoshop, Adobe Illustrator,

INTERESTS Oil painting, piano, digital photography, linguistics, swimming.