**Yixuan Wang (Roy)**

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Applied and Comput. Math., Caltech, Pasadena, CA 91125

**EDUCATION BACKGROUND**

**Peking University**

B.S., School of Mathematics, Peking University, Beijing, China 2016—2020

Elite Undergraduate Training Program in Applied Math and in Pure Math, Excellent Graduate

Overall GPA: **3.84**/4, Rank: **7**/200, Major GPA: **3.91**/4, GRE (**166+170+4.5**), TOEFL (**112**)

Graduation Date: 2020.07 **Summa Cum Laude in Beijing**

Summer Intern at **Caltech** on multiscale problems, supervised by Prof. Thomas Hou 2019

**California Institute of Technology**

Graduate Student, Applied + Computational Mathematics, supervised by Prof. Thomas Hou 2020—

Department of Computing + Mathematical Sciences, Caltech, Pasadena, California

**EXPERIENCE**

**Janestreet**

Quant Trader Intern(HK)2020.6-2020.9

**PUBLICATIONS**

* R. Li, Y. Wang and **Y. Wang**. Approximation to Singular Quadratic Collision Model in Fokker-Planck-Landau Equation, SIAM Journal on Scientific Computing, 42(3), 2020, pp. B792-B815.
* Y. Chen, T.Y. Hou and **Y. Wang**. Exponential Convergence for Multiscale Linear Elliptic PDEs via Adaptive Edge Basis Functions, Multiscale Modeling and Simulation, 19(2), 2021, pp. 980–1010.
* Z. Liu, S. Qian, **Y. Wang,** Y. Yan and T Yang. Schrödinger Principal-component Analysis: On the Duality between Principal-component Analysis and the Schrödinger Equation, Physics Review E, 104(2), 2021, 025307.
* Y. Chen, T.Y. Hou and **Y. Wang**. Exponentially Convergent Multiscale Methods for 2D High Frequency Heterogeneous Helmholtz Equations, Multiscale Modeling and Simulation, 21(3), 2023, pp. 849–883
* Z. Liu, A. Stuart and **Y. Wang**. (2022) Second Order Ensemble Langevin Method for Sampling and Inverse Problems.
* H. Maust, Z. Li, **Y. Wang,** D. Leibovici, O. Bruno, T.Y. Hou and A. Anandkumar. Fourier Continuation for Exact Derivative Computation in Physics-Informed Neural Operators, NeurIPS 2022, 3rd AI for Science workshop.
* Y. Chen, T.Y. Hou and **Y. Wang**. Exponentially Convergent Multiscale Finite Element Method, Communications on Applied Mathematics and Computation, 1-17, 2023.
* T.Y. Hou and **Y. Wang**. (2023) Blowup Analysis for a Quasi-exact 1D Model of 3D Euler and Navier-Stokes

**INVITED TALKS**

* Model reduction for FPL equation, Forum of elite Ph. D. program, Peking University, Nov. 2018
* Hermite spectral method for kinetic equations, CSAIM students’ forum, Tsinghua University, Dec. 2018
* Exponential multiscale basis for Helmholtz equations, CSAIM annual meeting, Foshan, Sep. 2019
* Exponential multiscale basis for Helmholtz equations, Workshop on Complex Fluids, CSRC, Nov. 2019
* Exponential multiscale basis for Helmholtz equations, ACM lunch seminar, Peking University, May 2021
* Ensemble Hamiltonian Monte Carlo, EnKF workshop, Balestrand, Norway, May 2022
* ExpMsFEM, Numerical Analysis seminar, University of Hong Kong, Sep. 2022
* Blowup for a quasi-exact 1D model of 3D Euler, Workshop on Fluids, Duke University, May. 2023
* ExpMsFEM, Minisymposium on rough PDEs, ICIAM at Waseda University, Tokyo, Japan, Aug. 2023

**Mathematical Engagement**

* Founding President of the SIAM Student Chapter at Caltech 2021—
* Member of DEI committee at Caltech 2022—

**AWARDS AND HONORS**

* Silver Award at 56th International Mathematical Olympiad, 2016
* All Three 2nd Places in Analysis, Applied Math, and Overall Individual Competitions, S.-T. Yau College Mathematics Contests, 2019
* 1st Place in Team Competition, S.-T. Yau College Mathematics Contests, 2019
* 1st Prize in National University Math Competition, 2017
* 1st Prize in National University Math Modeling Competition, 2017
* 1st Place in Citadel Datathon, China, 2018
* National Scholarship, 2018, 2019
* Representative of PKU for National Scholarship, 2019
* PKU Person of the Year, 2019
* PKU May 4th-Award, 2020