

Ryan Aschoff

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SKILLS

Computer Languages: Python | Java | C++ | Mathematica | MATLAB | Haskell | Apex | Julia | R

Programming Libraries: NumPy, SciPy, sci-kit learn, PyTorch, TensorFlow, Matplotlib, Pandas, Qlib, Alpaca, Django, PIL, Redis, SQL, Google API, AWS, Dask, Celery, Postgres, MongoDB, Git, ChatGPT, Quantlib, OpenGL, MATLAB Simulink/Optimization, FreeCAD.

WORK EXPERIENCE

Research Assistant Professor

Institute of Mathematical Sciences, Claremont Graduate University

Claremont, CA

August 2025 - Present

- Mentor graduate students
- Research in machine learning, signal processing, optimal transport, approximation theory, and numerical PDEs.

Papers:

- *Non-Decaying Solutions to the 2D Dissipative Quasi-Geostrophic Equations (w/ James Kelliher, Elaine Cozzi, and David Ambrose) (2 paper series)* <https://arxiv.org/abs/2508.10254>
- *Bridging Diffusion Models and PDEs: Solving Fokker–Planck Equations Using Minimum Sobolev Norm Approximation (w/ Hrushikesh Mhaskar) (in preparation).*
- *On a priori estimates for nonlinear rough PDEs (with Samy Tindel) (in preparation)*
- *Optimization of Progesterone Therapy to Regulate the Menstrual Cycle (w/ Brenda Gavina and Jaekyung Kim)*

Super Scores Tutoring

Riverside, California

High School and College Tutor (Self-employed)

September 2020 - Present

- Designed 10+ detailed lesson plans per week, staying current with evolving curriculum standards and pedagogy research.
- Boosted website traffic by 25% through targeted advertising, **SEO optimization**, and strategic keyword implementation.

University of California, Riverside

Riverside, California

Mathematics PhD Teaching Assistant and Associate-In

September 2020 - June 2025

- Served as primary instructor for Calculus for Biology Majors and **Probability Theory**, delivering lectures to 30+ students.
- Taught and clarified complex topics such as **numerical analysis**, **differential equations**, and **stochastic calculus**, ensuring 30+ students grasped foundational and advanced concepts.
- Directly mentored 7 students in individual research, proposing research problems and guided students through roadblocks.

Sentiment Investor

Riverside, California

Project Manager / Financial Data Engineer

September 2020 - November 2021

- Deployed algorithmic trading **machine learning models** (SAC, PPO, LSTMs, RBMs, CNNs, HMMs, etc.) using **Alpaca**, **Microsoft Qlib**, and **OpenAI Gym**. Worked with mean reverting optimal trading modeled by OU processes.
- Managed a team of 4 people using **Agile methodologies**. Assigned tasks, set deadlines, and addressed technical issues.

TriBeCa Beverage Company

Clifton, New Jersey

Software Development Intern

May 2019 - Present

- Developed web apps and database systems using **Python Django** for a startup logistics company, streamlining operations.
- Engineered cloud computing software using **Heroku** to automate mass communications for 2,000+ clients via text and email, improving customer service and operational efficiency.
- Scripted an innovative web application that seamlessly integrated **Salesforce** and **Airtable**, enabling automated updates of logistics routes and ensuring data synchronization for over 2,000 clients while enhancing operational accuracy.
- Automated business logic using Salesforce Apex with **5,000+ lines of code**, optimizing customer delivery processes.
- Leveraged prompt engineering to automate secretarial tasks using ChatGPT, including customer email responses and updating Salesforce with data from messages and driver notes.

EDUCATION

University of California, Riverside

Riverside, California

PhD in Mathematics

Graduation (Ph.D.): July 2025

Advisor: Dr. Yat Tin Chow, Dr. James Kelliher

Graduation (Masters): May 2022

Concentration: Stochastic Partial Differential Equations

GPA: 3.8

The College of New Jersey

Ewing, New Jersey

Bachelors of Science

May 2020

Majors: Mathematics, Chemistry (ACS accredited w/ Research), and Physics

GPA: 3.4

Honors: National Chemistry Honors Society (Gamma Sigma Epsilon)

Languages: Spanish (fluent), Italian (proficient), French (intermediate), Polish (intermediate)

Personal Interests: woodworking, financial model backtesting, baking, running, language learning, reading, pickleball, and traveling.