Jeremy Atkins

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Education

Brown University *Providence, RI*
M.S. IN PHYSICS *Expected May 2027*

University of Rochester *Rochester, NY*
B.S. IN PHYSICS AND ASTRONOMY, HONORS B.A IN MATHEMATICS, MINOR IN COMPUTER SCIENCE *Graduated May 2021*

- GPA: 3.77 (*cum laude*)
- Physics thesis: Lunar Formation via Streaming Instability (advised by Prof. Miki Nakajima)
- Math thesis: Introduction to Conformal Field Theory (advised by Prof. Sarada Rajeev)
- Accepted into the Take-5 fifth year scholarship program

Experience

Brown University *Providence, RI*
GRADUATE RESEARCH ASSISTANT *September 2025 - Present*
ADVISOR: IAN DELL'ANTONIO

- Leading ML project to predict galaxy cluster mergers using TNG-Cluster simulations and radio data from VLASS and other surveys
- Writing streamlined data analysis pipelines to automatically assemble & train on data from many sources

Lido *New York, NY*
SOFTWARE ENGINEER *December 2021 - Present*

- Primary contributor to the AI document data extractor, Lido's main product, which uses LLMs to extract structured data from unstructured documents
- Utilized frontier model APIs to build a spreadsheet formula generator and error resolver
- Built and maintained performant spreadsheet formula parser and evaluator
- Performed code review on coworkers' pull requests to screen for bugs and ensure coding standards were met
- Worked with product teams to assess user needs and decide best direction to take new features
- Conducted 10+ whiteboard interviews with software engineering candidates

University of Rochester *Rochester, NY*
UNDERGRADUATE RESEARCH ASSISTANT *Fall 2018 - Spring 2021*
ADVISOR: MIKI NAKAJIMA

- Wrote Python analysis code using NumPy, Matplotlib, and pandas to compile simulation data across multiple processors' output, analyze results, & create custom visualizations
- Set up & debugged research code in a Linux HPC environment using OpenMPI and SLURM
- Synthesized relevant research to help lead our project direction
- Contributed half of scientific paper on results; published in AAS PSJ
- Accepted to present at LPSC 2020

LASSO PROJECT LEAD *Fall 2016 - Fall 2019*

- Lead the LASSO project, a student-run initiative to create & maintain a Django webapp to support the Student IT Helpdesk
- Made major decisions regarding project direction; interviewed & trained multiple rounds of new hires

Harvard-Smithsonian Center for Astrophysics *Cambridge, MA*
SAO RESEARCH ASSISTANT *Summer 2017, 2018*

- Ported the SCOUSE spectrum analysis software to Python, implementing a custom spacial spectral averaging algorithm

- Analyzed very large datasets from astronomical catalogs to perform source estimation for the SPHEREx mission
- Participated in on-site operation of the SMA telescope at Mauna Kea

Publications

- M. Nakajima, **J. Atkins**, J. B. Simon, and A. C. Quillen, "The limited role of the streaming instability during Moon and Exomoon Formation," The Planetary Science Journal 5, 145 (2024).
- **J. Atkins**, M. Nakajima, J. B. Simon, and A. C. Quillen, "Lunar formation via streaming instability," in 51st Annual Lunar and Planetary Science Conference, No. 2326 (2020).

Skills

Languages	Python, Bash, Typescript, C, Rust, SQL, Java, Octave (MATLAB), Scheme, HTML, CSS
Libraries	pytorch, NumPy, Matplotlib, Pandas, sklearn, AstroPy, Django, Flask, PyQt, React
Other	GNU/Linux (13 yrs), git, OpenMPI, Github CI/CD, Jupyter, LaTeX, TypeORM, Kubernetes, Docker, Google Cloud Console

Projects & Leadership

- Led the Kapitza Society at University of Rochester, an undergraduate group in which we gave lectures and worked problems to teach ourselves graduate-level physics
- Naive Bayes & SVM analysis of Gamma Ray telescope data
- Participated in journal club discussing recent advances in large language models

Code

Streaming Instability Data Analysis
- https://github.com/johfst/streaminginstability