Jeremy Atkins

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Education

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 to study writing

Experience

Lido

New York, NY

Software Engineer

December 2021 - Present

- Built and maintained performant spreadsheet formula parser and evaluator
- Utilized GPT API to build a spreadsheet formula generator and error resolver
- 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

- 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).

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

Skills

Languages Python, Bash, Typescript, C, Rust, SQL, Java, Octave (MATLAB), Scheme, HTML, CSS

Libraries pytorch, NumPy, Matplotlib, Pandas, sklearn, AstroPyDjango, Flask, PyQt, React

Other GNU/Linux (13 yrs), git, OpenMPI, Github CI/CD, Jupyter, LaTeX, TypeORM, Kubernetes, Docker, Google Cloud Console

Code

Streaming Instability Data Analysis

- https://github.com/johfst/streaminginstability