

Evan Anders

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INTERESTS

Former astrophysical fluid dynamist switching to a career in AI, **with particular interest in AI safety and Mechanistic Interpretability**. I believe AI will transform the way we work and live very soon, and I want to be part of a team making sure that transition goes well.

SKILLS

LANGUAGES

Python • C++
Matlab • Mathematica

TOOLS AND FRAMEWORKS

NumPy • SciPy • PyTorch
Pandas • Jupyter
Git • Unix • Vim
Microsoft Visual Studio Code

INTERPERSONAL

Communication • Leadership
Technical Writing & Presentation
Project Management • Mentorship

MISC

Data Visualization
High-Performance Computing

EDUCATION

UNIV. COLORADO

PHD, ASTROPHYSICAL &
PLANETARY SCIENCES
2020 | Boulder, CO

UNIV. COLORADO

MSC, ASTROPHYSICAL &
PLANETARY SCIENCES
2017 | Boulder, CO

WHITWORTH UNIV.

BS, PHYSICS
2014 | Spokane, WA

RESEARCH EXPERIENCE

2024	APART LAB FELLOW APART LAB Remote
2023-	POSTDOCTORAL SCHOLAR KAVLI INST. FOR THEOR. PHYSICS (KITP) Santa Barbara, CA
2020-2023	POSTDOCTORAL FELLOW CIERA, NORTHWESTERN UNIVERSITY Evanston, IL
2020	POSTDOCTORAL RESEARCHER LAB. ATMOSPHERIC AND SPACE PHYSICS (LASP) Boulder, CO
2018-2020	NASA NESSF GRADUATE FELLOW UNIVERSITY OF COLORADO (CU) & LASP Boulder, CO
2015-2018	GEORGE ELLERY HALE GRADUATE FELLOW NATIONAL SOLAR OBSERVATORY (NSO) & LASP Boulder, CO
2015	GRADUATE RESEARCH ASSISTANT LASP Boulder, CO
2013	NSF SUMMER UNDERGRADUATE RESEARCH FELLOW LIGO Hanford, WA
2012	DOE SUMMER UNDERGRADUATE LABORATORY INTERN PACIFIC NORTHWEST NATIONAL LAB (PNNL) Richland, WA

SELECT RESEARCH PROJECTS

SELECT MECHANISTIC INTERPRETABILITY PROJECTS | KITP

- **Sparse autoencoders (SAEs) of composed features in toy models ([git repo](#), [write-up](#))**: Designed experiment for studying composed feature pairs, trained toy models on those feature pairs, then trained SAEs on toy model activations. Found that SAE loss function can lead models to learn composed, rather than “true” features.
- **Stress testing gpt2-small SAEs ([git repo](#), [write-up](#))**: Benchmarked SAE performance using tokens from Open WebText (on-distribution) and the Lambada benchmark (off-distribution); discovered poor off-distribution performance.

SELECT ASTROPHYSICS PROJECTS | CIERA

- **Gravity waves in massive stars ([git repo](#), [paper](#))**: Developed & deployed Python framework to compute state-of-the-art 100 Eflopp model of waves in massive stars on NASA supercomputer. Linked pen-and-paper theory, 3D simulations, and 1D stellar models to predict if telescope observations can see waves on stars. Publicized paper to general audience through [interviews with journalists](#).
- **Reduced models of convective penetration ([git repo](#), [paper](#))**
Computed & analyzed ensemble of large 2- and 3D hydrodynamical simulations on NASA supercomputers. Developed theoretical model to describe boundary between turbulent and stable regions in stars. Led follow-up collaborations to broaden model and incorporate it in state-of-the-art 1D stellar evolution codes.

ASTROPHYSICS RESEARCH OUTPUT SUMMARY | KITP, CIERA, CU

- Author of [30 scientific articles](#) (first author of 9; mentor on 5). First author publications used Dedalus, NumPy, & SciPy frameworks.
- Peer reviewed 10 journal articles since 2020.
- Presented 38 talks/posters (invited and contributed).
- Led graduate students on two projects from idea to publication.