

THEODORE EHRENBORG

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ehrenborg.dev

## WORK

May 2025 – Present      Researcher, Beneficial AI Foundation  
Using formal verification to check AI-written software

Feb 2025 – Mar 2025      Technical AI Safety Fellow, Pivotal Research. Mentor: Logan Riggs Smith  
Pivotal Fellows do research on a global catastrophic risk for 9 weeks.

Jan 2024 – Jan 2025      Senior Machine Learning Engineer, Myrtle.ai, Cambridge, UK  
For our CAIMAN-ASR product, I

- stayed current with the speech recognition literature
- ran experiments to reduce word error rate. See [ehrenborg.dev/caiman](https://ehrenborg.dev/caiman)
- debugged hardware problems in our on-premise GPU servers
- interviewed applicants and interacted with potential customers

Sept 2022 – Dec 2023      Junior Machine Learning Engineer, Myrtle.ai

Summer 2022              Machine Learning Intern, Myrtle.ai  
Designed voice activity detector, created dataset, and trained LSTM RNNs.

## RESEARCH

March 2025              Discovered symlink exploit in Vast.ai. Awarded bug bounty. See [ehrenborg.dev/exploit](https://ehrenborg.dev/exploit)

## GITHUB [github.com/TheodoreEhrenborg](https://github.com/TheodoreEhrenborg)

Author of [sae.ehrenborg.dev](https://sae.ehrenborg.dev)

Trains a sparse autoencoder on a 33 million parameter language model (LM)

Author of [rl.ehrenborg.dev](https://rl.ehrenborg.dev)

Uses reinforcement learning to make a LM generate stories with alliteration

## GITHUB WHILE AT MYRTLE.AI [github.com/TheoEhrenborg](https://github.com/TheoEhrenborg)

Contributor to [github.com/MyrtleSoftware/caiman-asr](https://github.com/MyrtleSoftware/caiman-asr)

Author of 412 of the 926 merged pull requests, which include:

- Increasing long-audio validation speed by 8x
- Random State Passing, which decreased long-audio word-error-rate by ~40% relative

Reviewed 382 of the other 514 merged pull requests

Released v1.9.0, v1.10.1, and v1.11.0

## EDUCATION

2019 – 2022              UNIVERSITY OF CAMBRIDGE, CAMBRIDGE, ENGLAND

BA Mathematics, Clare College.

Year 1: Not classed due to pandemic. Year 2: Class I. Year 3: Class II.i.

I was awarded a Cambridge Trust Scholarship, 10000 GBP per year for 4 years.

2015 – 2019              HENRY CLAY HIGH SCHOOL, LEXINGTON, KY, USA

SAT score: 1600 out of 1600. ACT score: 36 out of 36. 13 AP courses: all scores 5 out of 5.

## COMPUTER EXPERIENCE

Fluent in: Python, PyTorch, Docker, Git, Github Actions, Linux, WordPress, &  $\text{\LaTeX}$

Have also used for work: Rust, Nix, Elm, Hydra CI, & Google Compute Engine

Have also used: Lean 4, Julia, Keras, SageMath, Octave, Vast.ai, AWS, & Java

## EXTRACURRICULARS

Winter 2019 – Spring 2020      Imperial College Mathematics Competition (a national UK contest)

I qualified for the second (and final) round and tied for 43rd place.

May 2018                  Intel International Science and Engineering Fair (ISEF)

ISEF is the largest international high school science fair. My project, “Pythagorean Quintuples and Quaternions”, won a 3rd award in math