Tim Hua

Independent AI Safety Researcher. Formerly on John List's economics team at Walmart
timhua0@gmail.com Website: timhua.me

Education & Skills

Middlebury College Middlebury, VT
BA, summa cum laude, Economics **(GPA 3.97/4.00)** May 2023

D.K. Smith Economics Prize for best thesis (*Fox News's Effect on Social and Moral Preferences*).
- Thesis cited by Harvard economist Benjamin Enke in Moral Boundaries

Relevant coursework: Measure Theory, Advanced Econometrics (both independent study classes).
Activities: President of Middlebury Effective Altruism; wrote for satire newspaper.

Harvard College Cambridge, MA
Visiting Undergraduate Student **(GPA: 4.0/4.0)** 2021 - 2022 School Year
Coursework: Intermediate Microeconomics: Advanced, Great Theorems of Microeconomic Theory, Probability, Statistics. Taken at MIT: Real Analysis, Political Economy of Economic Developement
General skills: Pytorch/Python, R, SQL, Stata.
Completed AGISF & PIBBSS reading groups and independently did parts of ARENA.
BlueDot Economics of Transformative AI Course Facilitator (Feb 2025 Cohort)

AI Safety Research

Tyler Tracy's MARS Mentee in AI Control Berkeley, CA
Researcher Jan 2025 - Current
- Working with Tyler Tracy (Redwood) on evaluating and formalizing new control protocols.
- Modeling how to optimally allocate budget between human auditing, an expensive and accurate monitor, and a cheaper but less accurate monitor.
- Presenting poster at RAISE winter exposition at University of Washington – Seattle.

Alice Rigg's AI Safety Camp Mentee in Mechanistic Interpretability Remote
Researcher Jan 2025 - Current
- Working with Alice Rigg on mechanistic interpretability studying the functional role of SAE error term

Miscellaneous past projects in interpretability and control
- Wrote a critique of the bias in bios experiment in Sparse Feature Circuits on alignment forum.
- Conceived and explored a control protocol where the untrusted model writes a plan and delegates the execution to a trusted model. Writeup and pilot results here.
- Interpreting obfuscating jailbreaks together with Veniamin Veselovsky, some results are here.

Professional Experiences

Walmart Economics Team New York, NY
Manager, Economist Intern in summer 2022, full time July 2023 – Aug 2024
Worked on monetary incentives for drivers on Walmart's last mile delivery platform.
- Designed and executed numerous experiments, some with multiple treatment arms.
- Built ML models using causal random forests and other double ML methods, ran hyperparameter sweeps with out-of-sample off-policy validation following *Treatment Allocation Under Uncertain Costs*
- Wrote R code that conducts synthetic difference in differences estimation and calculates conformal inference-based confidence in parallel. Code reused by others on my team.
- Presented work to Walmart chief economist John List, fifth ranked economist in the world
- Translated technical findings and frameworks for non-technical partner business teams

As an intern, created pricing zones that minimized customers' cross-zone shopping by constructing a weighted graph of Walmart stores and partitioning the graph.
- Pricing zones are still used at Walmart today

Harvard Economics Department Remote
Course Assistant for Professor Edward Glaeser June 2022 – Dec 2022
- Wrote sections in the textbook of Econ 1011a: Intermedia Microeconomics: Advanced.

Harvard Kennedy School Cambridge, MA
Research Assistant for Professor Desmond Ang March 2022 – July 2022
- Scraped tvtropes.org for an exploratory project investigating stereotypes in films.

Brookings Institution Remote
Research Assistant for Professor Carol Graham June 2021 – May 2022
- Coauthor on paper examining mental and physical ill-being during the COVID-19 pandemic.

Middlebury Economics Department Middlebury, VT
Research Assistant for Professor Marin Abel September 2020 - March 2021
- Investigate how different compensation schemes could help close the behavior-intention gap.