Jonathan Copeland Williams

jw4199@princeton.edu ◇ 305-904-9948 ◇ GitHub ◇ LinkedIn

Education

Princeton University — Princeton, NJ
Ph.D. Computer Science — Expected 2030

Stanford University — Palo Alto, CA
B.S Mathematics — 2025

Experience

IBM Research — Yorktown Heights, NY
Machine Learning Research Intern — June 2025 - Present

- Conducted Mechanistic Interpretability Analysis of an IBM on Time Series Forecasting Model. Work was contracted under an NDA.

Stanford AI Lab (SAIL) - Finn Group — Palo Alto, CA
Machine Learning Research Intern — Oct 2023 - Present

- Enhanced Test-Time algorithm (HyRe) which improves ensemble model performance Out of Distribution by weighting member predictions proportionally to accuracy. Applied HyRe to various UCI datasets. Outperformed multiple robustness baselines (IRM, CORAL, Group DRO, Fish, LISA, etc.) on the WILDS dataset Camelyon17.
- Created pipeline to describe differences between image distributions in natural language. LLaVA was used for Image Captioning. KeyBert, ResNets, and CliP were used for identification of optimal discriminatory key-phrases. Applied pipeline to the WILDS dataset iWildCam and captured meaningful differences (ex: "lush green fields").

Harvard Medical School - Rajpurkar Lab — Boston, MA
Machine Learning Research Intern — June 2022 - Aug 2023

- Created Contrastive Models with Multilingual text encoders (XGLM-564M, Bert Multilingual Cased, XLMRoberta, LaBSE, InfoXLM, etc). Performed zero-shot Chest X-Ray disease classification on the English MIMIC-CXR and Spanish Padchest datasets.
- Created a Coordinate Regression CNN to detect proper Endotracheal Tube placement from AP-view Chest X-Ray. Collated training data by writing a regex script to parse distance annotations from MIMIC-CXR radiology reports.

Consumer Reports — Yonkers, NY
Machine Learning Engineering Intern — May 2021 - Sept 2021

- Constructed sentiment analysis NLP pipeline. Work was contracted under an NDA.

UPMC Hillman Cancer Center - Zervantonakis Lab — Pittsburgh, PA
Mathematical Oncology Research Intern — June 2020 - Nov 2020

- Created an ODE system to model the PI3K-AKT cell signaling pathway which is deregulated in many HER2+ Breast Cancers. Reinforced previously published results and elucidated 1 new means to suppress HER2+ growth.

Moffitt Cancer Center - Silva Lab — Tampa, FL
Mathematical Oncology Research Intern — June 2019 - Aug 2019

- Created an ODE system to reverse-engineer the pharmacokinetic absorption curves of orally administered Panobinostat. Simulations elucidated alternative treatment schedules which could more effectively stall Multiple Myeloma growth than the current standard in 51.4% of patients.

Publications

- Jonathan Williams, Esin Tureci. "Prioritize the Process, Not Just the Outcome: Rewarding Latent Thought Trajectories Improves Reasoning in Looped Language Models" (Under review at ICML 2026)
- Yoonho Lee, Jonathan Williams, Henrik Marklund, Archit Sharma, Eric Mitchell, Anikait Singh, Chelsea Finn. "Test-Time Alignment via Hypothesis Reweighting" (ICML 2025 Workshop PUT)