Thomas Kaminsky

1111 Fern Ave, Walla Walla, WA 99362
509-540-5908 tkaminsky@g.harvard.edu linkedin.com/in/thomas-kaminsky github.com/tkaminsky

Education

Harvard University *Cambridge, MA*
PhD in Computer Science (Ongoing). **Sep. 2024 – Present**
Advisor: **Stephanie Gil**; Assistant Professor of Computer Science.

A.B. in Statistics and Mathematics, *magna cum laude*. **Sep. 2020 – May 2024**
Secondary in Computer Science. **GPA: 3.945/4.0**

Relevant Coursework

- Machine Learning
- Reinforcement Learning
- Stochastic Processes
- Statistical Inference
- Real Analysis
- Differential Geometry
- Systems Programming
- Digital Fabrication

Research Experience

Department of Statistics, Harvard University *Cambridge, MA*
Senior Thesis [*Link*] **Aug. 2023 – Apr. 2024**
Advisor: **Gabriel Kreiman**, Professor of Opthalmology, Harvard Medical School.

- Completed a capstone thesis concerning curriculum learning methods in sparse robotic grasping tasks.
- Recommended for High Honors by a committee of Harvard Professors in the statistics and mathematics departments.
- Implemented autocurriculum methods in Python using PyTorch and developed visualizations for evaluating success.

Amazon ScienceHub, University of Washington *Seattle, WA*
REU Student in Computer Vision and Robotics **Summer 2022, 2023 [10 Weeks]**

- Coordinated with members of UW, NVIDIA, and Amazon Robotics to implement a pipeline for reasoning over bin scenes for online grasping of unknown objects using a robotic arm. Trained and refined models for segmenting unknown objects in bin scenes, generated synthetic data, and applied computer vision techniques to track objects over time.

Robotics: Perception and Manipulation Lab, University of Minnesota *Minneapolis, MN*
Research Intern in Robotics **Feb. – June 2023**

- Worked with Professor Karthik Desingh on pose estimation and manipulation problems for objects with symmetries.
- Used Blender to create a synthetic dataset and implemented energy-based models to learn orientation distributions.

Teaching Experience

Euler Circle *Mountain View, CA*
Mathematics Teaching Assistant (Remote) **June – August 2024**

- Assisted in teaching a group of high school students in cryptography and independent project courses.
- Met with students to learn number theory, probability, and algorithms concepts required for elliptic curve cryptography.

Harvard University *Cambridge, MA*
Course Assistant in Mathematics, Statistics, and Computer Science **Jan. 2021 – May 2024**

- Graded problem sets, ran sections and office hours, and tutored students in courses in Linear Algebra, Multivariable Calculus, Reinforcement Learning, and Proofwriting.

Projects

Ther-E-Man [*Link*] **May 2024**

- Made a theremin that plays sound and controls a custom web game using the hand's proximity to an antenna.
- Designed CAD models of the casing using Fusion 360, and printed parts using a laser cutter. Communicated with a HTML website using an ESP-32 web server, and designed the game using JavaScript and Phaser 3.

Active Inverse Reinforcement Learning for Context-Conditioned MDPs [*Link*] **November 2023**

- Developed a framework for actively gathering expert data for learning multi-task IRL policies in a multi-goal maze task.
- Implemented models for behavior cloning and network-based IRL, and evaluated our results using AL heuristics.

Technical Skills

Languages: Python, Java, C, C++, HTML/CSS, JavaScript, SQL.
Technologies/Frameworks: Linux, GitHub, ROS, Pytorch, Wandb, PyBullet, Gym, AWS, SLURM.
Fabrication: Fusion 360, Blender, Laser Cutting, 3D Printing, CNC Milling, Microcontroller Programming.