ELI LICHTBLAU

Computer Science Undergrad

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I am Computer science student interested in optimization, mostly vectorization and cuda. And am planning to complete my B.S by Spring 2023. Currently working on a reinforcement learning alternative that is both interpretable and stable for multi-agent control problems.

WORK EXPERIENCE

PM Business Advisors

Intern (Data Science)

Sept 2018 – Present White Plains, NY

Scraped websites and databases for invoices and automated field information extraction. Deployed invoice shipping and sales tax extractor, processed up 1,000 invoices per hour.

Independent employment

Tutor

January 2014 – Present White Plains, NY

Tutored multiple students through high school and college tenure. Multiple students failing to A's or B's in courses, including one student moving from remedial math to advanced math.

LifeTime Fitness

Rock Wall Team member

June 2016 – February 20 White Plains, NY

Belayed climbers for indoor top rope, and taught children (8-12) how to climb basic bouldering problems. Assisted in constructing routes.

TOOLS

Experienced:

Python C Matlab Java Git LaTeX Linux

Familiar:

C++ Rust Ruby PyTorch Tensorflow Keras OpenCV OpenAI Gym

Novice:

x86 JAX JS/HTML/CSS MIPS

EDUCATION

University of Maryland

GPA: 3.84

B.S. in Computer Science

Aug 2019 – Present

Select Completed Courses

- Partial Differential Equations
- Compilers
- Computer Architecture
- Geometry for Computer Graphics
- Computer Vision
- Number Theory
- Algorithms
- Discrete Structures
- iOS Programming
- Matlab
- Data structures
- Differential Equations
- Multivariable Calculus
- Linear Algebra

PROJECTS

Computationally Approximated Manifold Control

Independent Research

December 2021 - Present College Park, MD

Working on implementation of a robust, geometry-inspired reinforcement learning alternative tailored to multi-agent control problems. Details and paper coming soon.

FastPPO

Independent Project

January 2022 - Present College Park, MD

Writing a faster implementation of stable-baselines3 PPO model (in torchscript) for multi-agent environments. Removing copies and improving throughput.

TorchScript Inheritance

Independent Project

January 2022 - Present College Park, MD

Hacking inheritance onto TorchScript. Supports super classing, but dynamic dispatch is prohibitively slow. Composition is natively a problem in TorchScript.