**ELLIOT TOWER**

[elliot@elliottower.com](mailto:elliot@elliottower.com) | [elliottower.github.io](https://elliottower.github.io/) | Newton, MA

## EDUCATION

|  |  |
| --- | --- |
| **University of Massachusetts Amherst** | Amherst, MA |
| M.S. in Computer Science — Concentration in Data Science | *Sep. 2020 –May 2022* |
| B.S. in Mathematics — Concentration in Computing, *Second major in Philosophy* | *Sep. 2016 – May. 2020* |

## EXPERIENCE

**Machine Learning Engineer — Swarm Labs** May. 2023 – Present

* Responsible for backend project management, QA & integration testing, code quality and development oversight.
* Developed LLM game environments, created & benchmarked LLM agents, created documentation and tutorials.
* Created technical disclosure patent documents/diagrams, coordinated with IP lawyers, CEO, and M&A advisor.

**Project Manager — Farama Foundation** Mar. 2023 – Present

* Leading development meetings, coordinating with external libraries, onboarding new projects/contributors, technical assistance & mentoring, reviewing PRs/release notes/documentation, expanding project & code quality standards.
* 170+ PRs merged across 6 projects, 10k lines of code, coordinated with 50+ external libraries, RLlib & SB3 integration.

**Research Intern — Information Extraction and Synthesis Laboratory (IESL)** Jun. 2021 – Aug. 2021

* Collaborated to create novel architecturecombining Case-based reasoning (CBR) with graph neural networks.
* Coded pre-processing, experiment setup, base CBR model, near-neighbor subgraph retrieval, hyperparameter sweeps.
* ICML publication: *Knowledge Base Question Answering by Case-based Reasoning over Subgraphs* (Das, 2022).

**Industry Mentorship — Facebook AI Research (FAIR)** Feb. 2021 – Jun. 2021

*Open Catalyst Project: using Graph Neural Networks**to model & discover new catalysts for use in renewable energy storage.*

* Adapted Graph Transformerto PyTorch Geometric for project-specific task: energy prediction from atomic structure.
* Benchmarked and achieved superior performance to SOTA atomic chemistry models: *SchNet*, *DimeNet* and *CGCNN*.
* Open-source contributions: Graph Transformer model, Colab Notebook for installing environment/dataset & training.

**Data Engineering Intern — Slalom Build** May. 2020 – Aug. 2020

* Engineered data pipeline architecture with AWS serverless components (DynamoDB, S3, Kinesis, Glue, Athena).
* Automated deploymentof entire data pipeline system using AWS CloudFormation (infrastructure as code).
* Presented results & architecture overview for senior managementand consulting client, bi-weekly demos.

## PROJECTS

**PettingZoo (Multi-Agent Reinforcement Learning)** Mar. 2023 – Present

* Project manager and lead developer of *PettingZoo*—the API standard for multi-agent reinforcement learning (MARL).
* Developed 2 major releases, overhauled testing, code quality, documentation/tutorials, Stable-Baselines3 integration.

**Shimmy (Multi-Agent Reinforcement Learning)** Apr. 2023 – Present

* Developed & cut mature release for *Shimmy—an* API compatibility tool for popular RL environments (e.g., DM Control).
* Expanded automated testing, added Dockerfiles, created entire documentation website, release notes/blog post.

## SKILLS

**Tools:** AWS, Docker, BGitHub CI/CD, PyTorch, Ray, Jax, LangChain, Sphinx, pytest, coverage, setuptools, poetry, pypi

**Skills:** Deep Learning, RL, CV, NLP, Data Engineering, Project Management, Software Development Lifecycle, Testing.