

# ELLIOT TOWER

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## EDUCATION

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### 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

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### 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 architecture combining 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 Transformer to 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 deployment of entire data pipeline system using AWS CloudFormation (infrastructure as code).
- Presented results & architecture overview for senior management and consulting client, bi-weekly demos.

## PROJECTS

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### 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

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**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.