Kateryna Morhun

Cambridge, MA | LinkedIn | Github | katerynamorhun.com | kmorhun@mit.edu

Education

Massachusetts Institute of Technology (MIT) Cambridge, MA

- BS, MEng in Computer Science; AI and Society Concentration BS 2025; MEng 2026 (GPA 5.0)
- Coursework: Advanced NLP, Applied Statistics, AI Decision Making & Society, Data Visualization

Work Experience

Cambridge Mobile Telematics June 2025-Present

Software Engineer I, Cloud

- Scaled serverless ETL pipeline processing 200+ GB of telematics data weekly (Redshift Spectrum→DynamoDB)
- Designed and deployed full AWS cloud infrastructure via Terraform
- Engineered space-efficient solutions for temporal speed distribution analysis
- Built Tornado ECS web app for quantile-based speeding detection
- Delivered technical talks and insights to leadership

Johns Hopkins Center for Language and Speech Processing (CLSP) June 2024-May 2025

Software Engineer, ML Engineer, AI-curated Democratic Discourse Baltimore, MD

- Consistently met project deadlines by translating research ideas into actionable development steps
- Rapidly prototyped a human annotation dataset creation pipeline in 48 hours
- Aligned LLM annotations of social media posts to human annotations to improve model reliability
- Developed a recursive, heap-based algorithm for balancing diversity and quality of social media post stacks
- Designed and executed an intuitive 15+ minute technical talk to 60+ non-expert stakeholders
- Fostered interdisciplinary collaboration and grounded technical project components in sociological origins
- Facilitated effective communication, dependency management, and knowledge transfer across subteams
- Identified and addressed barriers affecting subteams and advocated for fellow team members' efforts

MIT CS+AI Lab - Decentralized Information Group February 2024-May 2024

Researcher Cambridge, MA

- Researched & cataloged 100+ AI legislation & auditing requirement documents

City Form Lab September 2023-January 2024

Researcher - Tile2Net: pedestrian infrastructure mapping Cambridge, MA

- Incorporated feedback from stakeholders and global urban planners into the engineering process
- Committed 4000+ lines of detailed documentation on an open-source computer vision tool
- Developed 3 ways to run the tool, including Google Colab and High Performance Clusters
- Prepared 200+ sq mi of GIS tile input data to the model

US Department of Transportation - Volpe Center June 2023-August 2023

Data Scientist Cambridge, MA

- Modernized and developed full-stack GIS webapps in ESRI ecosystems to ease equitable transportation policy
- Rapidly prototyped a 10-20x speedup for generating "high injury networks" with a novel network analysis approach
- Analyzed and condensed 5GB+ US Census Data via Pandas and Arcpy to extract actionable insights
- Elicited $10k+ from sponsors for future development with persuasive technical communication

Experimental Study Group February 2023-May 2023

Teaching Assistant - Differential Equations Cambridge, MA

- Mentored students (n=10) in weekly office hours to support their studies

FindOurView May 2022-August 2022

Full-Stack Developer Remote

- Refactored frontend from Vue 2.0 to Vue 3.0
- Facilitated dozens of Django and PostgreSQL database migrations in 3 novel site features
- Implemented over 10% increase in Selenium CI/CD test script efficiency and coverage

Digital Humanities Lab September 2021-May 2022

Researcher - Gender Analysis Toolkit; Self-Sustaining Cities Cambridge, MA

- Assured RESTful Django API for word distinctiveness analysis algorithms

- Compiled 20+ city documents and primary sources about community-building in self-sustainable black neighborhoods
- Presented to 30+ fundraisers about my research

Leadership/Other Experience

Responsible Tech University Network Board of Directors September 2024-Present
MIT EECS | Morais and Rosenblum Undergraduate Research and Innovation Scholar September 2024-May 2025

Ukraine Ministry of Education Scholar Support Office February 2023-August 2023
- Facilitated development of an online hub for Ukrainian displaced scientists, to be presented to the Ministry of Education

Deep Learning; Data-Centered AI (Intro Classes) January 2023
1st place competition winner Cambridge, MA
- Reduced bias and uncertainty in risk-aware models using the Capsa and Cleanlab libraries
- Built, trained, and improved deep learning models to generate music and recognize faces using TensorFlow

Ukraine@MIT February 2022-Present
Core Officer Cambridge, MA
- Facilitated sustainable community-building for 40+ students
- Trained and mentored underclassmen in leadership skills and institutional knowledge

MIT Ballroom Dance Team May 2022-Present
President/Captain, Treasurer, Webmaster, Funding Coordinator Cambridge, MA
- Coordinated 60+ dancers and 8 coaches in reviving a nationally known ballroom competition with 700+ competitors
- Managed $200,000+ in team assets, expenses, revenue, and donations to maintain sustainable operations
- Reignited intrateam community to pre-COVID-19 levels

Awards/Grants

4x grant winner ($15,500) - MIT Council of the Arts (CAMIT) 2022, 2023, 2024, 2025
6x grant winner ($9,800) - MIT Large Events Fund (LEF) 2021, 2022, 2023, 2024, 2025
1st place winner - MIT Deep Learning Competition with ThemisAI 2023
Top 10% entries - Khanacademy Breakthrough Junior Challenge 2020

Skills/Interests

Technical: Python, PyTorch, Sklearn, Numpy, Pandas, TensorFlow, ESRI ArcGIS, Typescript, Javascript, CSS, HTML, C, Vite, Django, Git, SQL, Docker, Vue, React, Tornado, AWS, Terraform, Serverless Cloud Architecture, RESTful APIs, Redis, DynamoDB, Redshift Spectrum
Languages: English (Fluent), Ukrainian (Fluent)
Personal: Quick learner, Easily connect with people, Technical communication, Project management
Interests: Pre-champ competitive ballroom dancing, Anatomically accurate crochet, Dungeons & Dragons