Kateryna Morhun

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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: Serverless Cloud Architecture, AWS, Terraform, Redis, DynamoDB, Redshift Spectrum, RESTful APIs, Tornado, Docker, Python, PyTorch, TensorFlow, Numpy, Pandas, ESRI ArcGIS, Typescript, Javascript, CSS, HTML, C, Vite, Django, Git, SQL, Vue, React
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