

# Thomas Deroian O'Connor

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## EDUCATION

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**University of Massachusetts, Lowell**  
Bachelor of Science, Major in Computer Science and Minor in Business Administration  
3.76 / 4.0 GPA [ Magna Cum Laude, Commonwealth Honors Scholar, Chancellor's List, Dean's List 6x ]

December 2024

## HONORS COLLEGE

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- Selected for the highly competitive program, invited to the Honors Housing and Living Learning Community.
- As an Immersive Scholar and honors student, studied abroad in San Sebastián, Spain (2022).
- Delivered an honors lecture to peers and administrators from the Honors College for my capstone project: *Financial Analysis Software (FAS)*: A web-app that predicts future stock performances using a neural network, trained on financial statement ratios calculated from publicly available SEC filings.

## SKILLS and TOOLS

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Concentrations: Machine Learning • Data Analysis  
Languages: C, C++, Python  
Environments: Linux, Windows

Software: Excel, GitHub, Matplotlib, PPT, Tensorflow, Word  
Other: CSS, HTML, Java, JavaBlocks, Javascript, LaTeX, SQL

## PROFESSIONAL EXPERIENCE

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**KTBYTE Computer Science Academy**  
*Computer Science Teacher*

Lexington, MA  
2025-present

- Educating the future generation of coders (ages 8-18) in Python, Java, and JavaBlocks, grounding their lessons in fundamental computer hardware, GUI, and game design principles.
- Leading live coding demos, showcasing language features, and integrating student suggestions into creative visuals that pique interest and engagement.
- Pleasantly managing academic and behavioral challenges among students, reporting to parents and operational staff on a per-lesson and per-course basis.
- Providing technical support to students in virtual and in-person environments, including troubleshooting at the system, browser, and IDE levels.

**MSNEP Research Lab**  
*Machine Learning Research Assistant*

Lowell, MA  
2024-2025

- Led research and development of an improved entropy metric, and its application to a Q-Learning agent in active matter simulations to induce collective behavior; leveraged MGHPCC's Unity Supercluster.
- Processed PhD level publications; disseminated critical machine learning procedures from english descriptions and replicated them from scratch; further augmented for use as graduate coursework.
- Delivered weekly and monthly presentations for staff; showcased graphs, analyses, and custom visuals to convey research results; provided recommendations and highlighted challenges for supervisors.

**UMass Lowell Transportation Services**  
*CDL Shuttle Driver and Dispatcher*

Lowell, MA  
2023-2024

- Safely transported students and staff across campuses. Received additional training, earning a CDL license.
- Pleasantly managed public requests for service though email, phone, and text; dynamically allocated department resources in accordance with demand, local traffic, and policy.

## ADDITIONAL INFORMATION

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- Robotics: Team leader of high school Vex Robotics club, volunteer counselor for youth Lego Robotics club.
- Band and Music: Bass guitarist in the UMass Lowell basketball and hockey bands. In high school served as the Drum Major and Section Leader of the marching band, responsible for conducting the ensemble and leading practices. Further involved in jazz and concert bands; performed for school and community events.