

# Rob Mosher

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## EDUCATION

### Cornell University, College of Engineering

Ithaca, NY

*Candidate for Dual Major in Computer Science, Operations Research*

*Exp. Graduation: May 2025*

*GPA: 3.65, Dean's List: All Semesters*

### Relevant Coursework:

Object-Oriented Programming & Data Structures, Functional Programming and Data Structures, Discrete Mathematics, Statistics and Probability I/II (FA23 TA), Machine Learning, Stochastic Processes, Optimization I/II, Algorithms

## TECHNICAL EXPERIENCE

### MIT Lincoln Laboratory

Lexington, MA

*Summer Research Program - Group 01: AI Technology*

*May 2023 – August 2023*

- Evaluated utility for worst-off groups in large-scale national security decision processes via development and implementation of specialized neural network approach in PyTorch.
- Developed resampling schemes for generating systematically biased datasets specified by both precise and randomized parameters to test and verify algorithm performance against baseline models.
- Placed top-10 in the Intern Innovative Idea Challenge (I3C) for design of Sleeve for Tracking and Analysis of Rehabilitation and Strength to improve data collection and combat overuse injuries in military training.

### Richardson Lab of Civil and Environmental Engineering

Ithaca, NY

*Engaged Cornell Research Program – Harmful Algal Bloom Group*

*February 2022 – Present*

- Reduced sample analysis time by 99% by developing Python script to automate data collection, processing, and return.
- Improved data return quality by 95% by using ImageJ script to automate identification of harmful algae presence in water samples based on physical markers from selected regions of interest and removing unusable data.
- Increased volunteer sample submission totals by 40% through simplification of the user experience in Flask/CSS/HTML and coordination of effective communication with volunteer teams across the State of New York.

### Cornell ORACL Research Program

Ithaca, NY

*Data Science Team Lead*

*February 2023 – Present*

- Led team of 8 in machine learning model analysis and improvement in advertising and retail demand forecasting in collaboration with Mars Inc.'s North American One Demand Data and Analytics (ODDA) team.
- Co-led team of 14 in consulting projects regarding electric vehicle pricing and distribution logistics in partnership with the General Motors Advanced Analytics Center, applying game theory analysis to model advertising and dealership competition in the automotive industry.

## LEADERSHIP EXPERIENCE

### Phi Sigma Kappa Fraternity

Ithaca, NY

*President, 2023*

*January 2022 – Present*

- Acted as executive leader of an organization of 75 diverse individuals, defining the values and goals for the organization and overseeing community service, public communication, alumni relations, social events, food service, and recruiting.
- Balanced a budget of over \$250K per semester, enforcing dues collection and managing costs to eliminate \$40k deficit.

### ORIE Undergraduate Leadership Society

Ithaca, NY

*Executive Board Member*

*January 2023 – Present*

- Designed and piloted mentorship program to pair upperclassmen and underclassmen in the Operations Research and Information Engineering major to help with navigating academics, internships, and more.
- Planned, scheduled, and carried out social events and research expos to build relationships with ORACL partner companies, as well as build comradery and showcase student work within the ORIE major.

## SKILLS AND QUALIFICATIONS

*Python (NumPy, Pandas, CVXPY, SciPy, PyTorch), Java, OCaml, C#, HTML/CSS, SQL, Tableau, Git*

*U.S. DoD Secret Security Clearance – Active (Exp. 06/2033)*