

MAMADOU BARRY

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EDUCATION

<i>Cornell University, College of Engineering</i>	<i>Ithaca, NY</i>
<i>Bachelor of Science in Mechanical Engineering</i>	<i>Expected May 2028</i>
◆ Coursework: Intro to Computing: A Design and Development Perspective, Physics of Mechanics & Heat, Calculus III, Thermodynamics, Statics & Mechanics of Solids, Electricity & Magnetism	
<i>Pre-Collegiate Summer Scholars program (PSSP)</i>	<i>June 2024 – August 2024</i>
◆ Coursework: Calculus I, Operations Research, Spatial Visualization	
<i>Engineering summer Math Research Institute (ESMI)</i>	<i>June 2025 – August 2025</i>
◆ Coursework: Differential Equations	

EXPERIENCE

<i>Engineering Summer Math Research Institute (ESMI)</i>	<i>Ithaca, NY</i>
<i>Student Researcher</i>	<i>Summer 2025</i>
<i>Project:</i> Stochastic Queue Jockeying & Deterministic Platoon Optimization for Autonomous Vehicle Bottleneck Flow.	
◆ Analyzed traffic efficiency improvements across I-95 at SR-4 (Fort Lee, NJ) and I-285/I-85N (Atlanta, GA), demonstrating measurable improvements in sustained average vehicle speed compared to observed congestion metrics.	
◆ Designed and implemented a queueing-theoretic model (M/M/1) to simulate autonomous vehicle traffic flow under bottleneck conditions, incorporating stochastic lane-jockeying behavior.	
◆ Developed a deterministic platoon optimization model by converting real-world 24-hour speed/traffic profiles into fixed arrival streams, enabling comparison against U.S. highway bottleneck case studies.	
◆ Presented at a symposium, showcasing data-driven insights into AV platooning and queueing strategies as scalable tools for future traffic management systems.	
<i>NYC Department of Youth & Community Development (DYCD)</i>	<i>Brooklyn, NY</i>
<i>Summer Youth Employment Program (SYEP) Intern</i>	<i>Summer 2022</i>
◆ Organized and coordinated a summit aimed at educating youth on the critical issue of gun violence	
◆ Partnered with city-wide organizations to plan and execute community-building events that fostered engagement and strengthened local connections	
◆ Distributed weekly meals to low-income areas	
◆ Cultivated strong communication and teamwork skills through effective collaboration and active participation in group initiatives	
◆ Engaged in team meetings and community events that strengthened social, civic, and leadership skills	

<i>Cornell University Dining (North Star Dining)</i>	<i>Ithaca, NY</i>
<i>Student Dining Associate</i>	<i>February 2025 – Present</i>
◆ Delivered friendly and professional customer service to a diverse student and faculty community.	
◆ Strengthened communication skills through interaction with customers and coordination with team members.	
◆ Collaborated effectively with coworkers to ensure efficient service during peak dining hours and special events.	
◆ Supported operations including food preparation, restocking, and maintaining health and safety standards.	

SKILLS

- ◆ Awards: NYC State of Civic Readiness, Ryan Scholar
- ◆ Languages: English (fluent), Fulani (native), French (Intermediate)
- ◆ Technical Skills: Python, CAD-Fusion 360, Microsoft Office, Google Suite