

# Daniela Granados Rivera

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## PROFILE

Fifth-year PhD Candidate in Operations Research specializing in large-scale mathematical optimization and algorithm design for logistics and supply chain systems. Published first-authored research in the International Journal of Production Research. Experience in translating complex real-world problems into deployable optimization frameworks through direct industry collaboration. Seeking Operations Research Scientist or Applied Scientist roles starting Summer/Fall 2027.

## EDUCATION

- **PhD in Industrial and Systems Engineering (Operations Research)** | Auburn University | May 2027 (Expected)
- Dissertation: Using Mobile Additive Manufacturing and Drones for Dynamic, Adaptive, and Resilient Supply Chains
- Advisors: Dr. Alice E. Smith and Dr. Daniel F. Silva
- **MS in Industrial and Systems Engineering** | Auburn University | May 2025
- **Graduate Certificate in Modeling and Data Analytics** | Auburn University | May 2025
- **Master's in Design and Process Management (Logistics Systems)** | Universidad de La Sabana, Colombia | June 2022

## RECENT EXPERIENCE

### RESEARCH ASSISTANT | AUBURN UNIVERSITY | AUGUST 2022 - PRESENT

- Developed a two-stage matheuristic for drone-enhanced offshore logistics optimization, which reached 60x faster times than exact MILP with less than 6% optimality gap. Work published in the International Journal of Production Research (2025), conducted in collaboration with Fieldmade (Norway).
- Developing a Multi-Stage Stochastic MILP model capturing sequential disruption uncertainty across facility and demand locations, integrating relocation, production, and drone routing decisions applied to military logistics and post-disaster relief environments.
- Developing a Multiperiod Mobile Competitive Facility Location model integrating Multinomial Logit customer choice behavior, capacity sizing decisions, and multi-objective optimization. Parameters calibrated via Maximum Likelihood Estimation on survey data from 373 households.
- Contributed stochastic optimization components to Department of Defense-funded project with Frontier Technology Inc. (FTI) for large-scale personnel and mission scheduling with decision support for wargames simulation. Integrated with Genetic Algorithm, Simulated Annealing, and Random Search using Gurobi.

### INSTRUCTOR OF RECORD, ENGINEERING ECONOMICS (INSY 3600) | AUBURN UNIVERSITY | AUGUST 2025 - MAY 2026

- Independently taught 130 undergraduate students with full course responsibility across two semesters, achieving mean evaluation scores of 5.1-5.4 out of 6.0 with a 94.5% response rate.
- Recognized with Dr. Saeed Maghsoodloo Assistantship for outstanding graduate teaching contributions. Developed original course materials from scratch, incorporating student feedback semester over semester.

### VISITING PHD RESEARCHER | NORWEGIAN UNIVERSITY OF SCIENCE AND TECHNOLOGY, NORWAY | FEBRUARY 2024 - MAY 2024

- Conducted visiting research under the FutureLOG project (Research Council of Norway), collaborating with NTNU and IIM Ahmedabad on performance analysis and layout design optimization for Autonomous Mobile Robot logistics systems. Developed queueing models for system performance, validated through discrete-event simulation using AnyLogic.

## SKILLS

- Optimization and Modeling: MILP, Stochastic Optimization, Multi-Stage Stochastic Programming, Decomposition Methods, Heuristics, Algorithm Design, Metaheuristics, Multi-Objective Optimization, Facility Location, Vehicle Routing.
- Tools: Python (Pandas, NumPy, Matplotlib, Seaborn, Scikit-Learn), CPLEX, Gurobi, OPL, Java, R, SQL (in progress), Power BI, Excel, Git.
- Languages: Spanish (Native), English (fluent), Italian (B1).

## AWARDS AND INVOLVEMENT

- Dr. Saeed Maghsoodloo Assistantship for Outstanding Graduate Teaching Assistant, Auburn University (2026).
- 100+ Women Strong Departmental Annual Graduate Award, Auburn University (2025). 100+ Women Strong Departmental Travel Award, Auburn University (2024).
- INFORMS, local chapter | E-council representative (2023-2024), Secretary (2024-2025), Safety Officer (Present).