

# DANIEL B. LOPES DA SILVA

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## EDUCATION

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- Ph.D. Candidate in Industrial Engineering, Clemson University** Spring 2025 (Expected)  
Advisors: Dr. Thomas Sharkey and Dr. Yongjia Song  
Thesis: Modeling Effective Disruption of Human Trafficking Networks
- M.S., University of Arkansas, Industrial Engineering** 2021  
Advisor: Dr. Kelly Sullivan
- M.S., Federal University of Pernambuco (Brazil), Industrial Engineering** 2019  
Advisor: Dr. S3stenes Lins
- B.S., Federal University of Alagoas (Brazil), Industrial Engineering** 2017

## EXPERIENCE

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### Clemson University

- Graduate Teacher of Record - IE 3800 Deterministic Operations Research Fall 2024
- Research Assistant (Supervisors: Dr. Sharkey and Dr. Song) Fall 2022 - Summer 2024
- Teaching Assistant - IE-8590 Capstone Design Project Summer 2022
- Teaching Assistant - IE-3860 Production Planning & Control Spring 2022
- Teaching Assistant - IE-4460/6460 Modeling & Analysis of Manuf. Systems Fall 2021

### University of Arkansas

- Research Assistant (Supervisor: Dr. Kelly Sullivan) Fall 2019 - Summer 2021

## REFEREED JOURNAL PAPERS

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- Lopes da Silva, D.B.**, Sharkey, T., Song, Y. A Bi-level Network Interdiction Problem to Minimize the Number of Active Special Arcs in the Maximum Flow. (Under second round review at INFORMS Journal on Computing, 2023).
- Lopes da Silva, D.B.**, Sullivan, K.M. An Optimization-Based Monte Carlo Method for Estimating the Two-Terminal Survival Signature of Networks with Two Component Classes. Naval Research Logistics, 2024.
- Chakrabarty, N., Sullivan, K.M., **Lopes da Silva, D.B.** Time-based Redeployment of Multi-class Nodes for Reliable Wireless Sensor Network Coverage. Computers & Industrial Engineering, 2024.
- Lopes da Silva, D.B.** and Silva, G. Supply Chain Management and Performance: Proposition of a Conceptual Model. Exacta EP, 2020.

## WORKING PAPERS

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- Lopes da Silva, D.B.**, Sharkey, T., Song, Y., Mass, K.L., Ayler, T., Forliti, T., Friedman, J., Mariotti, M., Nelson, C., Barrick, K., Martin, L., Voller, V. Bi-Objective Bi-level Network Interdiction Models for Effective Disruption in Human Trafficking Networks (2024).

- **Lopes da Silva, D.B.**, Sharkey, T., Song, Y., A Robust Network Interdiction Problem with Applications in Human Trafficking Disruption (2024).

## CONFERENCE PROCEEDINGS

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- Santos, A.C.J., **Lopes da Silva, D.B.**, Barros, B.R., Amorim, J.A.. Contributions of cleaner production to a textile industry, in: XXXIII National Meeting of Industrial Engineering (ENEGETP). Bento Gonçalves-RS, Brazil, 2012.
- Santos, K.P., **Lopes da Silva, D.B.**, Barros, B.R., Amorim, J.A. Engineering and Technology Fair: an approach to motivate young students in engineering, in: XL Brazilian Congress of Engineering Education (COBENGE). Belém-PA, Brazil, 2012.
- **Lopes da Silva, D.B.**, Barros, B.R., Amorim, J.A. Urban trees in the semi-arid region of Alagoas, in: IV Latin-American Meeting of Sustainable Buildings and Communities (ELECS). Vitória-ES, Brazil, 2011.

## ACADEMIC SERVICE AND LEADERSHIP

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<b>INFORMS Student Chapter at Clemson University - President</b>	2023-2024
Magna Cum Laude Award 2024	
<b>INFORMS Student Chapter at Clemson University - Vice-president</b>	2022-2023
Magna Cum Laude Award 2023	
<b>INFORMS Student Chapter at University of Arkansas - Secretary</b>	2020-2021
Cum Laude Award 2021	
<b>Tutorial Education Program for Engineering (Brazil) - Member, President</b>	2010-2014
<b>K-12 Outreach Program</b>	2023 - Current
Introducing Industrial Engineering concepts to K-12 students through hands-on games and challenges	
<b>Optimality Gap</b>	2023 - Current
Podcast Series - INFORMS Student Chapter at Clemson University	
<b>PET Engenharias</b>	2010 - 2014
Tutorial Education Program in Engineering, Federal University of Alagoas, Brazil	
<b>CIME - Introductory Course of Mathematics for Engineering</b>	2011 - 2014
Mathematics course for first-year Engineering students.	
<b>ETEC - Exposition of Science, Engineering and Technology</b>	2011 - 2013
Itinerant STEM exposition in Delmiro Gouveia (Brazil) and neighboring cities.	
<b>Pre-ENEM Comunitario</b>	2012 - 2013
Prep course for students in underprivileged communities, Delmiro Gouveia, Brazil	

## AWARDS & HONORS

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- Student Development Award (Outstanding Research Paper), IE Dep. Clemson University 2023
- P.K. Kuroda and W.R. Thomas Endowed Fellowship, University of Arkansas 2019-2021
- Brazil Scientific Mobility Program scholarship (Fully Funded) 2014-2015
- Honorable mention, 1<sup>st</sup> Brazilian Mathematics Olympics of Public Schools 2005

## ACADEMIC AND PROFESSIONAL DEVELOPMENT

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- Trailblazers in Engineering Fellow (Purdue University) 2024
- IISE Future Faculty Fellow (3F) Program 2023-2024
- BSMP Research Experience for Undergraduates, University of Arkansas 2015
- Non-degree international student, Morgan State University 2014 - 2015
- Academic Achievement IES, Morgan State University 2014
- Trained Six Sigma Green Belt, ISE Morgan State University 2014

## TRAVEL AWARDS AND GRANTS

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- GSG Graduate Travel Grant, Clemson University 2024
- CECAS GSAB Supplementary Travel Award, Clemson University 2024
- Research Travel Award, IE Department Clemson University 2022, 2024

## PROFESSIONAL AFFILIATION

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- INFORMS 2019 - Present
- IISE 2019 - Present

## PRESENTATIONS

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### Invited

- **Lopes da Silva, D. B.**, Sharkey, T., Song, Y., Maass, K. Bi-objective Bi-level Network Interdiction Problems with Applications in Human Trafficking Disruption. 2024 IISE Annual Conference and Expo, Montreal, Canada, May 18-21.
- **Lopes da Silva, D. B.**, Sharkey, T., Song, Y. A Human Trafficking Bi-level Network Interdiction Problem. 2023 INFORMS Annual Meeting, Phoenix, AZ, October 14-18.
- **Lopes da Silva, D. B.**, Sullivan, K. M. An Optimization-Based Monte Carlo Method for Estimating the Two-Terminal Survival Signature of Systems with Two Component Classes. 2023 INFORMS Conference on Quality, Statistics & Reliability (ICQSR), Raleigh, NC, June 6-8.
- **Lopes da Silva, D. B.**, Sharkey, T., Song, Y. A Bilevel Network Interdiction Problem with Applications in Human-Trafficking Disruption. 2022 INFORMS Annual Meeting, Indianapolis, IN, October 16-19.
- **Lopes da Silva, D. B.**, Sullivan, K.M. Efficiently Estimating Survival Signature of Heterogeneous Two-Terminal Networks through Multi-Objective Optimization. 2022 INFORMS Conference on Security (IconS), Arlington, VA, August 29-30.

### Contributed

- **Lopes da Silva, D. B.**, Sullivan, K.M. An Optimization-Based Monte Carlo Method for Estimating the Two-Terminal Survival Signature of Systems with Two Component Classes. 2023 INFORMS Conference on Quality, Statistics & Reliability (ICQSR), Raleigh, NC, June 6-8.

### Others

- **Lopes da Silva, D. B.**, Sharkey, T., Song, Y. A Bi-level Network Interdiction Problem with Applications in Human Trafficking Disruption. ScholarsConnect, INFORMS OU Student Chapter, (Virtual), 2024.
- **Lopes da Silva, D. B.**, Teaching, Research, and Academic Mobility: experiences of an IE Ph.D student abroad. Seminar for IE students from Federal University of Sao Francisco Valley, PE, Brazil, 2020.
- **Lopes da Silva, D. B.**, Academic and Professional Perspectives of an IFAL alum. Seminar for students from the Federal Institute of Education, Science, and Technology (IFAL), AL, Brazil 2020.