DANIEL B. LOPES DA SILVA

211 Fernow Street, 278 Freeman Hall, Clemson, SC 29634

dlopesd@clemson.edu ⋄ github.com/dblsBR

EDUCATION

Ph.D. Candidate in Industrial Engineering, Clemson University   August 2025 (Expected)
Advisors: Dr. Thomas Sharkey and Dr. Yongjia Song
Thesis: Bilevel Network Interdiction Models for Human Trafficking Disruption

M.S., University of Arkansas, Industrial Engineering   2021
Advisor: Dr. Kelly Sullivan

M.S., Federal University of Pernambuco (Brazil), Industrial Engineering   2019
Advisor: Dr. Sóstenes Lins

B.S., Federal University of Alagoas (Brazil), Industrial Engineering   2017

EXPERIENCE

Clemson University

· Graduate Teacher of Record:
IE 3800 Deterministic Operations Research   Fall 2024

· Research Assistant:
Supervisors: Dr. Thomas Sharkey and Dr. Yongjia Song   Fall 2022 - Summer 2024

· Teaching Assistant:
IE 6910 Model Based System Engineering   Spring 2025
IE 8590 Capstone Design Project   Summer 2022
IE 3860 Production Planning & Control   Spring 2022
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

- **Lopes da Silva, D. B.**, Sharkey, T. C., Song, Y. A Bilevel Network Interdiction Problem to Minimize the Number of Active Special Arcs in the Maximum Flow. INFORMS Journal on Computing, 2025.

- **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, 72(2):169-186, 2025.

- 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

- **Lopes da Silva, D. B.**, Sharkey, T. C., Song, Y. A Robust Network Interdiction Problem with Applications in Human Trafficking Disruption (2025).

- **Lopes da Silva, D. B.**, Sharkey, T. C., Song, Y., Maass, K. L. Bi-Objective Bi-level Network Interdiction Models for Effective Disruption in Human Trafficking Networks (2025).

- Sharkey, T. C., Song, Y., Maass, K. L., **Lopes da Silva, D. B.**, Ayler, T., Forliti, T., Friedman, J., Mariotti, M., Nelson, C., Voller, V., Barrick, K., Martin, L. A Framework for Modeling Effective Interventions into Sex Trafficking with Operations Research Models (2025).

OTHER PUBLICATIONS

- **Lopes da Silva, D. B.**, Mao, L. The First Southeast INFORMS Student Chapter Retreat. ORMS Tomorrow, Fall-Winter, Vol. 11, No 2, 2024.

CONFERENCE PROCEEDINGS

- 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 (ENEGEP). 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

INFORMS Student Chapter at Clemson University - President 2023-2024
Magna Cum Laude Award 2024

INFORMS Student Chapter at Clemson University - Vice-president 2022-2023
Magna Cum Laude Award 2023

INFORMS Student Chapter at University of Arkansas - Secretary 2020-2021
Cum Laude Award 2021

K-12 Outreach Program 2023 - Current
Introducing Industrial Engineering concepts to K-12 students through hands-on games and challenges

Optimality Gap 2023 - Current
Podcast Series - INFORMS Student Chapter at Clemson University

PET Engenharias 2010 - 2014
Tutorial Engineering Education Program, Federal University of Alagoas, Brazil

CIME - Introductory Course of Mathematics for Engineering 2011 - 2014

ETEC - Exposition of Science, Engineering and Technology   2011 - 2013
Itinerant STEM fair in Delmiro Gouveia (Brazil) and neighboring cities.

Pre-ENEM Comunitario   2012 - 2013
Prep course for students in underprivileged communities, Delmiro Gouveia, Brazil

AWARDS & HONORS

- 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, 1st Brazilian Mathematics Olympics of Public Schools   2005

ACADEMIC AND PROFESSIONAL DEVELOPMENT

- 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

- 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

- INFORMS   2019 - Present
- IISE   2019 - Present

PRESENTATIONS

Invited

- **Lopes da Silva, D. B.**, Sharkey, T. C., Song, Y. A Robust Bi-level Network Interdiction Problem with Applications in Human Trafficking Disruption. 2024 INFORMS Annual Meeting, Seattle, WA, Oct 20-23.

- **Lopes da Silva, D. B.**, Sharkey, T. C., Song, Y., Maass, K. L. 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. C., 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. C., 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. C., Song, Y. A Bi-level Network Interdiction Problem with Applications in Human Trafficking Disruption. PhD Seminar Series, INFORMS Student Chapter at Texas Tech University, (Virtual), 2025.

- **Lopes da Silva, D. B.**, Sharkey, T. C., 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 Unviersity 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.