DANIEL B. LOPES DA SILVA

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EDUCATION

Clemson University, Clemson, SC — Aug 2021 - May 2025 (Expected)
Ph.D. Candidate in Industrial Engineering — GPA: 3.82
Advisor: Dr. Thomas Sharkey and Dr. Yongjia Song
Thesis: Modeling Efficient Disruption of Human Trafficking Networks
President of the INFORMS Student Chapter — 2023-2024
Vice-president of the INFORMS Student Chapter (Magna Cum Laude Award 2023) — 2022-2023

University of Arkansas, Fayetteville, AR — Aug 2019 - Jul 2021
M.S. in Industrial Engineering — GPA: 3.75
Advisor: Dr. Kelly Sullivan
Thesis: Efficiently Estimating Survival Signature and Two-Terminal Reliability for Heterogeneous Networks through Multi-objective Optimization
Secretary of the INFORMS Student Chapter (Cum Laude Award 2021) — 2020-2021
P.K. Kuroda and W.R. Thomas Endowed Fellow

Federal University of Pernambuco, Recife, Brazil — Mar 2017 - Mar 2019
M.S. in Industrial Engineering — GPA: 3.9
Advisor: Dr. Sóstenes Lins
Thesis: Maximum weight closure problem: mathematical aspects, algorithms, and applications

Federal University of Alagoas, Delmiro Gouveia, Brazil — Mar 2010 - Feb 2017
B.S. in Industrial Engineering — GPA: 8.83/10
Advisor: Dr. Glessia Silva
Senior Design Thesis: Supply chain management and performance

University of Arkansas, Fayetteville, AR — May 2015 - Jul 2015
BSMP Research Experience for Undergraduates
Advisor: Dr. Ed Pohl
Research: Disruptive technologies' impact on the healthcare supply chain logistics

Morgan State University, Baltimore, MD — Aug 2014 - May 2015
Industrial and Systems Engineering, non-degree international student — GPA: 3.50
Brazilian scientific mobility program fully funded scholarship recipient
Advisor: Dr. Massud Salimian

EXPERIENCE

Clemson University — August 2021 - Present

- Graduate Teacher of Record (IE 3800 - Deterministic Operations Research) — Fall 2024
- Research Assistant (Dr. Thomas Sharkey and Dr. Yongjia Song) — Fall 2022 - Summer 2024
- IE-8590 Capstone Design Project. Instructor: Dr. Ozgur Kabadurmus — Summer 2022
- IE-3860 Production Planning & Control. Instructor: Dr. Thomas Sharkey — Spring 2022
- IE-4460/6460 Mod & Analysis of Manuf. Systems. Instructor: Dr. Bill Ferrell — Fall 2021

University of Arkansas — August 2019 - July 2021
Research Assistant

· My research with Dr. Kelly Sullivan focuses on developing efficient methods to estimate heterogeneous network reliability measures. We have developed an optimization based method to estimate the Two-Terminal Survival Signature of Networks with two classes of components and we are working towards generalizing this methodology.

Federal University of Pernambuco Mar 2017 - Mar 2019

· Research: mathematical aspects, algorithms and applications of the maximum weight closure problem.
· Teaching: Graph theory, undergraduate level course for Computer Science and Computer Engineering students (instructor assigned grade: 10/10).

FEMAC Construction Supplier Oct 2016 - Mar 2017
Operations Manager

· As the operations manager, I coordinated the opening of a new distribution center in Arapiraca, AL, BR.

Federal University of Alagoas Dec 2010 - Jan 2014
PET Engenharias - Tutorial Education Program for Engineering Students *Brazil*

· PROA Jr: mentoring freshmen students and helping them to adapt to first year in Engineering;
· Research: Simulation applied to transportation; Cleaner Production in Textile Manufacturing; Urban and Environmental Planning.
· Teaching: Mathematics for Engineering.
· Engineering & Technology Fairs and Expositions.
· Prep course for high school students.

AWARDS & HONORS

- Student Development Award, IE Department 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
- 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 2024
- Research Travel Award, IE Department Clemson University 2022

PROFESSIONAL AFFILIATION

- INFORMS 2019 - Present

- IISE 2019 - Present

TECHNICAL SKILLS

- **Programming:** C++, Python, Gurobi, R, Mathematica, MatLab, Latex.
- **Software:** ReliaSoft Weibull++, BlockSim.
- **Languages:** Portuguese (native), English (fluent), Spanish (basic).

RELEVANT COURSEWORK AND RESEARCH AREAS

Network Optimization & Interdiction	Linear & Integer Programming
Bi-level Programming	Network Reliability & Resiliency
Human Trafficking Disruption	Operations Research (OR) for Social Good

REFEREED JOURNAL PAPERS

- **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 Review).
- **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* (Link) .
- Chakrabarty, N., Sullivan, K. M., **Lopes da Silva, D. B.** Time-based Redeployment of Multiclass Nodes for Reliable Wireless Sensor Network Coverage. (Under review)
- **Lopes da Silva, D. B.** and G. Silva. Supply Chain Management and Performance: proposition of a conceptual model. *Exacta EP*, 2020. (doi.org/10.5585/ExactaEP.v18n3.8612).

CONFERENCE PROCEEDINGS

- Santos, A. C. J., **D. B. Lopes da Silva**, B. R. Barros, J. A. Amorim. Contributions of cleaner production to a textile industry, in: XXXIII National Meeting of Industrial Engineering (ENEGEP). Bento Gonçalves-RS, Brazil, 2012.
- Santos, K. P., **D. B. Lopes da Silva**, B. R. Barros, J. A. Amorim. 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.**, B. R. Barros, J. A. Amorim. Urban trees in the semi-arid region of Alagoas, in: IV Latin-American Meeting of Sustainable Edifications and Communities (ELECS). Vitória-ES, Brazil, 2011.

PRESENTATIONS

- **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.
- **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.