

# DANIEL B. LOPES DA SILVA

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## EDUCATION

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**Clemson University**, Clemson, SC May 2025 (Expected)  
Ph.D. in Industrial Engineering GPA: 3.78  
Advisor: Dr. Thomas Sharkey and Dr. Yongjia Song  
Thesis: Modeling Efficient Disruption of Human Trafficking Networks  
Vice-president of the INFORMS Student Chapter 2022-2023

**University of Arkansas**, Fayetteville, AR July 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 2020-2021 (Cum Laude Award 2021)  
P.K. Kuroda and W.R. Thomas Endowed Fellow

**Federal University of Pernambuco**, Recife, Brazil March 2019  
M.S. in Industrial Engineering GPA: 3.9  
Advisor: Dr. Sstenes Lins  
Thesis: Maximum weight closure problem: mathematical aspects, algorithms, and applications

**Federal University of Alagoas**, Delmiro Gouveia, Brazil December 2016  
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 - July 2015  
BSMP Research Experience for Undergraduates  
Advisor: Dr. Ed Pohl  
Research: Disruptive technologies' impact on the healthcare supply chain logistic

**Morgan State University**, Baltimore, MD August 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

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**Clemson University** August 2021 - Present  
*Graduate assistant* *Clemson, SC*  
· Research Assistant (Dr. Thomas Sharkey and Dr. Yongjia Song) Fall 2022 - Present  
· 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* *Fayetteville, AR*

- I worked with Dr. Kelly Sullivan on Wireless Sensors Network (WSNs) optimization and maintainability and in more general terms with heterogeneous network reliability estimation. We developed a method/algorithm to estimate the survival signature and two-terminal reliability of systems with two classes of components.

#### **Federal University of Pernambuco**

March 2017 - March 2019

*Research/teaching assistant*

*Recife, Brazil*

- 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**

October 2016 - March 2017

*Operations Manager*

*Brazil*

- As the operations manager, I coordinated the opening of a new distribution center in Arapiraca, Alagoas, Brazil.

#### **Federal University of Alagoas**

December 2010 - January 2014

*Tutorial Education Program*

*Brazil*

- Research: Simulation applied to transportation; Cleaner Production in Textile Manufacturing; Urban and Environmental Planning.
- Teaching: Mathematics for Engineering.
- Engineering & Technology Fairs and Expositions.

### **AWARDS & HONORS**

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|---|-----------|
| • Student Development Award, IE Department Clemson University                         | 2023      |
| • Research Travel Award, IE Department Clemson University - (\$500)                   | 2022      |
| • P.K. Kuroda and W.R. Thomas Endowed Fellowship                                      | 2019-2021 |
| • Brazil Scientific Mobility Program scholarship                                      | 2014-2015 |
| • Academic Achievement IES, Morgan State University                                   | 2014      |
| • Trained Six Sigma Green Belt, ISE Morgan State University                           | 2014      |
| • Honorable mention, 1 <sup>st</sup> Brazilian Mathematics Olympics of Public Schools | 2005      |

### **PROFESSIONAL AFFILIATION**

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| • INFORMS | 2019 - Present |
| • IISE    | 2019 - Present |

### **TECHNICAL SKILLS**

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

### **RELEVANT COURSEWORK**

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Network Optimization	Linear Programming	Network Reliability
Combinatorial Optimization	Bi-level Optimization	Stochastic Processes
Interdiction Problems	Integer Programming	Six Sigma Green Belt

## PUBLICATIONS

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- **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. (Submitted).
- **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).
- 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

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- **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.** Ensino, Pesquisa e Mobilidade Acadêmica: experiências de um doutorando em Engenharia de Produção no Exterior. Seminar for IE students from Federal University of Sao Francisco Valley, PE, Brazil, 2020.
- **Lopes da Silva, D. B.** Perspectivas Acadêmicas e Profissionais de um Egresso do Instituto Federal. Seminar for students from Federal Institute of Education, Science, and technology, AL, Brazil 2020.