

Pedro Nascimento de Lima

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SUMMARY

Pedro Nascimento de Lima is an assistant policy researcher at RAND and a Ph.D. candidate at the Pardee RAND Graduate School. He has a B.S. and an M.S. in production engineering from UNISINOS University in Brazil. His primary research interests are the policy-relevant applications of Decision Making Under Deep Uncertainty (DMDU) methods.

Prior to joining Pardee RAND, he was a lecturer at UNISINOS, where he taught simulation modeling and other quantitative courses. Both his undergraduate and master's dissertations, focusing on wicked problems and decision under deep uncertainty, have received the Best Brazilian Dissertation in Production Engineering Prize from ABEPRO. As a member of the GMAP Research Group, he developed a Monte Carlo simulation R package and contributed to several applied research and consulting projects for government agencies and private clients. He is currently the communications and outreach chair of the RAND-affiliated Society for Decision Making Under Deep Uncertainty.

EDUCATION

Pardee RAND Graduate School, Santa Monica, CA

Ph.D. in Policy Analysis

Expected Jun 2024

UNISINOS University, São Leopoldo, Brazil

M.S. in Production Engineering

Feb 2018

B.S. in Production Engineering

Dec 2015

WORK EXPERIENCE

RAND Corporation

Santa Monica, CA

Assistant Policy Researcher

Sep. 2019 - Present

- Developed the R package containing the epidemiological model and the analytic data pipeline underlying **RAND's COVID-19 Tool**. The modules implemented are responsible for calibrating and running the model for all US states, and integrating results from the economic model. (PIs: Jeanne Ringel, Raffaella Vardavas).
- Developed the **famexplorer** R package - an **R/Shiny**-based visualization web app allowing researchers to create visualization websites for their microsimulation analyses. (PIs: Roland Sturm and Patricia Herman).
- Developed an Web App for the Flu Agent-Based Simulation model. (PIs: Raffaella Vardavas, Andrew Parker).

UNISINOS University

São Leopoldo, Brazil

Lecturer - Polytechnic School

Feb. 2018 - Jun. 2019

- Taught the following disciplines in undergraduate and MBA classes: Operations Research - Linear Programming; Simulation Modeling (Discrete Event Simulation); System Dynamics Simulation; Operations Management; Information Systems Management.
- Advised undergraduate and MBA students in their capstone research projects, one of which received the Best Brazilian Production Engineering Undergraduate Dissertation Award from ABEPRO (2019).

Master Research Assistant - GMAP — UNISINOS Research Group *Feb. 2016 - Feb. 2018*

- Developed a Monte Carlo Simulation package in R for cost-benefit analysis of Organizational Safety and Health Initiatives.
- Developed algorithms for exploratory modeling and analysis of system dynamics models in R.
- Developed a competition dynamics model for the Professional Additive Manufacturing Industry.

Undergraduate Research Intern - GMAP — UNISINOS Research Group *Jun. 2013 - Feb. 2016*

- Developed a model of global competition between iron ore producers, taking into account regional comparative advantages and detailed substitution dynamics among different iron ore types.
- Developed a VBA tool to run simulations, aggregate and summarize simulation results.
- Conducted Business Process Modeling of productivity and innovation induction programs for government agencies in Southern Brazil (AGDI and SEBRAE/RS).

**Rede Industrial
Chief Analyst**

*Presidente Lucena, Brazil
Jan. 2012 - Jun. 2013*

- Oversaw SIGMA's (a CMMS) software development and support teams.
- Conceptualized most of the new features included in the 2012 release, including the SIGMA's intergration module, Sigma SMS module and SIGMA's Android App.

Business Analyst

Jan. 2009 - Jan. 2012

- Conducted software requirements analysis for internal and external clients.
- Developed SQL queries for database reporting and bug troubleshooting.
- Quality Assured SIGMA's new features.
- Streamlined software development processes implementing and customizing Jira workflows.

DISTINCTIONS AND AWARDS

Innovation Spotlight Award

RAND Corporation, 2020

For developing the FAM Explorer R package - An interactive visualization tool for FAM-based dynamic microsimulation models.

Best Brazilian Production Engineering Undergrad Dissertation (Advisor) *ABEPRO, 2019*

Title: Process Mining and SLA violation prediction at a multinational software company. Student: Eduardo Mazzuco.

Best Brazilian Production Engineering Masters Dissertation (Author) *ABEPRO, 2018*

Title: Strategic Decision Making Under Deep Uncertainty in the 3D Printing Industry: A Robust Decision Making Analysis. (**full text**).

Best Brazilian Production Engineering Undergrad Dissertation (Author) *ABEPRO, 2016*

Title: Problem Structuring Methods: A Review of Methods to address Complex Problems. (**full text**).

PROSUP M.Sc. Scholarship

CAPES, 2016

Inovapps 2015 Prize

Brazilian Communications Ministry, 2015

For proposing and developing the open-source Avalia Brasil Android App. Collaborators: Nataniel Schling and Klaus Klein. (**github repository**)

PROFESSIONAL AFFILIATIONS AND ACTIVITIES

Society for Decision Making Under Deep Uncertainty

Communications and Outreach Chair

2019 - Present

Member, Communications Team Volunteer

2017 - 2018

NUGEEP - Rio Grande do Sul State Student Chapter - ABEPRO

President

2015 - 2016

PUBLICATIONS

Vardavas, Raffaele, Aaron Strong, Jennifer Bouey, Jonathan William Welburn, **Pedro Nascimento de Lima**, Lawrence Baker, Keren Zhu, Michelle Priest, Lynn Hu, and Jeanne S. Ringel (2020) **The Health and Economic Impacts of Nonpharmaceutical Interventions to Address COVID-19: A Decision Support Tool for State and Local Policymakers**. Santa Monica, CA: RAND Corporation, 2020. <https://www.rand.org/pubs/tools/TLA173-1.html>.

Lima, P. N., Dresch, A., Larcerda, D. P. (2019). **Do socio-economic contextual factors influence SMEs' service quality? A cross-sector and cross-city SERVPERF analysis**. International Journal of Business Performance Management, 20(3), 195-211.<https://doi.org/10.1504/IJBPM.2019.101998>

Veit, D. R., Larcerda, D. P., **Lima, P. N.** (2019). **The impacts of Additive Manufacturing on production systems**. In J. Mula, R. Barbastefano, M. Díaz-Madroñero, Raúl Poler (Eds.), Lecture Notes in Management and Industrial Engineering (pp. 187–194). <https://doi.org/10.1007/978-3-319-93488-4>

Dresch, A., Veit, D. R., **Lima, P. N.**, Lacerda, D. P., Collatto, D. C. (2019). **Inducing Brazilian manufacturing SMEs productivity with Lean tools**. International Journal of Productivity and Performance Management, 68(1), 69–87. <https://doi.org/10.1108/IJPPM-10-2017-0248>

R PACKAGES

c19randepimod: RAND's COVID-19 Epidemiological Models *RAND Corporation, 2020*
The c19randepimod package is the R package behind RAND's COVID-19 State Decision Support Tool.

famexplorer: A Visualization tool for the FAM Microsimulation Model *RAND Corporation, 2019*
The famexplorer package reads data from the creates an shiny app on-the fly for

oshcba: Occupational Safety and Health Cost-Benefit Analysis Package *GMAP/SESI/RS, 2018*
OSHCBA computes the costs and benefits of investing in occupational safety projects, from the firm perspective. The package has been tested and used to support the decision to invest in a safer manufacturing work environment in several companies in Brazil.

Arena2R: Plots, Summary Statistics and Tools for Arena Simulation Users *Personal, 2018*
Arena2R is a personal package I developed while I taught Discrete Event Simulation. The package reads summary data from Arena and displays summary statistics.

TECHNICAL SKILLS

Programming	R (my primary language), python (as needed)
Web Apps Development	R's Shiny Package
Relational Databases	mySQL, MS SQL Server
Modeling and Simulation	iThink, Arena, deSolve R package
Other Tools	Tableau, Wordpress, Git
Github profile	github.com/pedroliman
Blog with R-related posts	www.pedronl.com