

Thiago Serra

Freeman College of Management
Bucknell University
1 Dent Dr
Lewisburg, PA 17837

Website: ThiagoSerra.com

Last update: June 13, 2019

EDUCATION

Ph.D.	<i>Operations Research</i>	Carnegie Mellon University	2018	Advisor: J. Hooker
	♦ Gerald L. Thompson Dissertation Award in Management Sciences			
M.S.	<i>Operations Research</i>	Carnegie Mellon University	2015	
M.S.	<i>Computer Science</i>	University of Sao Paulo	2012	Advisor: Y. Wakabayashi
B.S.	<i>Computer Engineering</i>	University of Campinas	2008	Advisor: A. V. Moura
	♦ SBC Outstanding Student Award, IE Award, CREA Honorable Mention			
Certificate of Studies Abroad		IST, University of Lisbon	2007	

WORK EXPERIENCE

2019–	<i>Assistant Professor</i>	Bucknell University, USA
2018–2019	<i>Visiting Research Scientist</i>	Mitsubishi Electric Research Labs, USA
2017	<i>Summer Intern</i>	Mitsubishi Electric Research Labs, USA
2016	<i>Summer Intern</i>	Mitsubishi Electric Research Labs, USA
2009–2013	<i>Operations Research Analyst</i>	PETROBRAS, Brazil
2008–2009	<i>Operations Research Analyst</i>	Neolog Consulting, Brazil
2008	<i>Software Engineer</i>	Metacortex Consulting, Brazil
2007	<i>Software Engineering Intern</i>	Daitan Labs, Brazil
2003–2004	<i>R&D Intern</i>	Fiberwork Optical Communications, Brazil

PUBLICATIONS

T. Serra and J. Hooker
“*Compact Representation of Near-Optimal Integer Programming Solutions*”
Mathematical Programming (to appear)

T. Serra, A. Raghunathan, D. Bergman, J. Hooker, and S. Kobori
“*Last-Mile Scheduling Under Uncertainty*”
CPAIOR 2019

T. Serra, C. Tjandraatmadja, and S. Ramalingam
“*Bounding and Counting Linear Regions of Deep Neural Networks*”
ICML 2018
♦ Princeton Day of Optimization Best Poster Award: Optimization and Machine Learning

T. Serra, C. Tjandraatmadja, and S. Ramalingam
“*How Could Polyhedral Theory Harness Deep Learning?*”
U.S. Department of Energy, Scientific Machine Learning Workshop 2018 (position paper)

A. Raghunathan, D. Bergman, J. Hooker, T. Serra, and S. Kobori
“*The Integrated Last-Mile Transportation Problem (ILMTP)*”
ICAPS 2018

T. Serra, G. Nishioka, and F. Marcellino
“*The Offshore Resources Scheduling Problem: Detailing a Constraint Programming Approach*”
CP 2012

T. Serra, G. Nishioka, and F. Marcellino
“*A Constraint-Based Scheduling of Offshore Well Development Activities with Inventory Management*”
Brazilian Symposium on Operations Research (SBPO) 2011
♦ Finalist of the Best Paper Award

S. Barcelos, T. Serra, R. Rando, E. Rigon, N. Sasaki, W. Arellano, A. Alkschbirs, and D. Lima
“*Polarization Mode Dispersion (PMD) Field Measurements: Audit of Newly Installed Fiber Plants*”
NFOEC 2005

Under Review

A. Kumar, T. Serra, and S. Ramalingam
“*Equivalent and Approximate Transformations of Deep Neural Networks*”
Submitted to NeurIPS 2019

T. Serra and S. Ramalingam
“*Empirical Bounds on Linear Regions of Deep Rectifier Networks*”
Submitted to NeurIPS 2019

E. Balas and T. Serra
“*When Lift-and-Project Cuts are Different*”
Submitted to INFORMS Journal on Computing; second round

T. Serra
“*Reformulating the Disjunctive Cut Generating Linear Program*”
Submitted to Annals of Operations Research; first round
♦ INFORMS 2016 Annual Meeting Interactive Presentation Award First Place Winner

Working Papers

T. Serra
“*Branching with Less Repetition*”

A. Raghunathan, D. Bergman, J. Hooker, T. Serra, and S. Kobori
“*Seamless Multimodal Transportation Scheduling*”

Patents

A. Raghunathan, D. Bergman, and T. Serra
“*Systems and Methods for Joint Control of Multi-Modal Transportation Networks*”
U.S. Patent Application 15/785,540, filed October 2017 (pending)

AWARDS AND HONORS

2018 Carnegie Mellon Univ. Gerald L. Thompson Doctoral Dissertation Award in Management Science
2018 Princeton Day of Optimization Best Poster Award: Optimization and Machine Learning
2016 INFORMS Judith Liebman Award
2016 INFORMS Annual Meeting Interactive Presentation Award First Place Winner
2011 Brazilian Symposium on Operations Research Best Paper Finalist

Undergraduate

2009 Brazilian Computing Society (SBC) Outstanding Student Award
2009 Sao Paulo Institute of Engineering (IE) Award
2009 Sao Paulo Reg. Board of Engineering, Architecture, and Agronomy (CREA) Honorable Mention
2007 ACM International Collegiate Programming Contest South America Bronze Medal
2006 Portuguese National Programming Contest (MIUP) Third Place
2005 ACM International Collegiate Programming Contest South America Bronze Medal
2004 ACM International Collegiate Programming Contest South America Bronze Medal
2003 Brazilian Olympiad in Informatics Gold Medal

FELLOWSHIPS, GRANTS, AND SCHOLARSHIPS

2018	Carnegie Mellon Gerald L. Thompson Doctoral Dissertation Award
2018	MIP Workshop Travel Support
2018	Carnegie Mellon Graduate Student Conference Funding
2017	MIP Workshop Travel Support
2017	Carnegie Mellon Graduate Student Conference Funding
2016	INFORMS Annual Meeting Interactive Presentation Award
2015	Tepper School of Business Dean’s Fund
2013–2017	William Larimer Mellon Fellowship
2006–2007	Luso-American Development Foundation Scholarship
2004–2005	Sao Paulo Res. Fdn. Undergraduate Res. Grant
2003–2004	Sao Paulo Res. Fdn. Innovative Res. in Small Business Grant

INVITED PRESENTATIONS

Jul 2019 University of Campinas, Institute of Computing

Past

May 2019 UCLA, Institute for Pure and Applied Mathematics

Apr 2019 Brown University, Computer Science Department

Mar 2019 University of Massachusetts Amherst, INFORMS Student Chapter

Dec 2018 Rensselaer Polytechnic Institute, Industrial and Systems Engineering

Dec 2018 Bucknell University, Freeman College of Management

Oct 2018 The University of Utah, School of Computing

Oct 2018 Colby College, Mathematics and Statistics Department

Jun 2018 Mitsubishi Electric Research Laboratories

Mar 2018 Carnegie Mellon University, Process Systems Engineering

Feb 2018 Brookhaven National Laboratory, Computational Science Initiative

Jun 2017 Northeastern University, INFORMS Student Chapter

May 2013 University of Campinas, IEEE Computational Intelligence Society Student Chapter

CONFERENCE PRESENTATIONS

Talks

- Scientific Machine Learning Workshop, DOE, 2018
- INFORMS Annual Meeting 2012, 2015, 2016, 2017, 2018
- INFORMS Optimization Society Conference 2016, 2018
- INFORMS Computing Society Conference 2017
- MOPTA 2016
- CP 2012
- SPARK and COPLAS workshops, ICAPS 2012
- CPAIOR 2011
- ALIO INFORMS 2010

Posters

- Workshop on Non-convex Optimization and Deep Learning, MIT Institute for Foundations of Data Science (MIFODS), 2019
- Princeton Day of Optimization, 2018
- Fundamentals of Data Analysis Summer School, IFDS Madison, 2018
- MIP 2016, 2017, 2018
- NemFest 2017
- INFORMS Annual Meeting 2016

Journal Peer Review

- Annals of Operations Research
- Constraints
- International Transactions in Operations Research
- Transportation Research B: Methodological

Proceedings Peer Review

- AAAI-17
- CP 2016, 2017
- CPAIOR 2017, 2018, 2019

Volunteering and Leadership

2018–	<i>Committee Member</i>	INFORMS Undergrad. Operations Research Prize
2017–	<i>Member</i>	INFORMS Education Strategy Committee
2017–2018	<i>Consulting Board Member</i>	CMU INFORMS
2015–2017	<i>President</i>	CMU INFORMS
	♦ 2017 INFORMS Student Chapter Award: Magna Cum Laude	
	♦ 2016 INFORMS Student Chapter Award: Summa Cum Laude	
	♦ 2016 INFORMS Judith Liebman Award	
2014–2015	<i>Co-Founder; Secretary</i>	CMU INFORMS
2015	<i>Twitter Curator</i>	ISMP
2012–	<i>Contributor</i>	INFORMS Annual Meeting Blog

LANGUAGES

Portuguese	(native)
English	(fluent)

PROFESSIONAL MEMBERSHIPS

2012–	INFORMS
2015–2018	SIAM

REFERENCES

Available upon request.