

Thiago Serra

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EDUCATION

Ph.D.	<i>Operations Research</i>	Carnegie Mellon University	2018
M.S.	<i>Operations Research</i>	Carnegie Mellon University Advisor: John Hooker	2015
M.S.	<i>Computer Science</i>	University of Sao Paulo Advisor: Yoshiko Wakabayashi	2012
B.S.	<i>Computer Engineering</i>	University of Campinas	2008
	<i>Certificate of Studies Abroad</i>	IST, University of Lisbon	2007

WORK EXPERIENCE

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

International Conferences and Workshops

T. Serra, C. Tjandraatmadja, and S. Ramalingam
“*Bounding and Counting Linear Regions of Deep Neural Networks*”
ICML 2018

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

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

T. Serra, G. Nishioka, and F. Marcellino

“*The Offshore Resources Scheduling Problem: Detailing a Constraint Programming Approach*”
CP 2012

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

T. Serra and J. Hooker

“*Compact Representation of Near-Optimal Integer Programming Solutions*”
Submitted to Mathematical Programming; second round

E. Balas and T. Serra

“*When Lift-and-Project Cuts are Different*”
Submitted to INFORMS Journal on Computing; first round

T. Serra

“*Reformulating the Disjunctive Cut Generating Linear Program*”
Winner of the INFORMS 2016 poster competition
Submitted to Annals of Operations Research; first round

A. Raghunathan, D. Bergman, J. Hooker, T. Serra, and S. Kobori

“*Seamless Multimodal Transportation Scheduling*”
Submitted to Transportation Science; first round

Working Papers

T. Serra

“*Branching with Less Repetition*”

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

2016 INFORMS Judith Liebman Award

2016 INFORMS Annual Meeting Interactive Presentation Award First Place Winner

2012 Brazilian Symposium on Operations Research Best Paper Runner-up

Undergraduate

2009 Brazilian Computing Society Outstanding Student Award

2009 Sao Paulo Institute of Engineering Award
2009 Sao Paulo Regional Board of Engineering, Architecture, and Agronomy 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
2002 Sao Paulo State Olympiad in Physics Bronze Medal

FELLOWSHIPS, GRANTS, AND SCHOLARSHIPS

2018 MIP Workshop Travel Support
2018 Carnegie Mellon Graduate Student Conference Funding
2017 MIP Workshop Travel Support
2017 Carnegie Mellon Graduate Student Conference Funding
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. Fndn. Undergraduate Res. Grant
2003–2004 Sao Paulo Res. Fndn. Innovative Res. in Small Business Grant

INVITED PRESENTATIONS

May 2019 UCLA, Institute for Pure and Applied Mathematics
Sep 2018 University of Massachusetts – Amherst, INFORMS Student Chapter

Past

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

Posters

- Fundamentals of Data Analysis Summer School, IFDS Madison, 2018
- MIP 2016, 2017, 2018
- NemFest 2017
- INFORMS Annual Meeting 2016

TEACHING EXPERIENCE

Instructor

Fall 2016 *Mathematical Models for Consulting* **Carnegie Mellon University, Undergraduate**
Registered: 25 Overall Teaching: 4.67/5.00 Overall Evaluation: 4.50/5.00

Recitation Leader

Spring 2017 *Optimization* **Carnegie Mellon University, MBA**
Spring 2016 *Optimization* **Carnegie Mellon University, MBA**

Office Hours and Grading

Spring 2016 *Disjunctive Programming* **Carnegie Mellon University, PhD**
Fall 2015 *Optimization* **Carnegie Mellon University, MBA**
Fall 2015 *Applications of Operations Research* **Carnegie Mellon University, MBA**
Fall 2006 *File Structures* **University of Campinas, Undergraduate**

TEACHING-RELATED TRAINING

<i>Future Faculty Program</i>	Eberly Center, Carnegie Mellon University	2014–2017
<i>Teaching Effectiveness Colloquium</i>	INFORMS	2017
<i>Teaching Effectiveness Colloquium</i>	INFORMS	2016
<i>Acting for Non-Majors</i>	School of Drama, Carnegie Mellon University	2015
<i>Language and Culture for Teaching</i>	ICC, Carnegie Mellon University	2013

ACADEMIC SERVICE

Session Chair

“*Machine Learning and Discrete Optimization*”

- 2018 INFORMS Annual Meeting

“New Paradigms for Cut Generation”

- 2018 INFORMS Optimization Society Conference
- 2017 INFORMS Computing Society Conference
- 2016 INFORMS Optimization Society Conference

“Decision Diagrams for Optimization”

- 2017 INFORMS Annual Meeting

“Applications in the Energy Sector of Emerging Countries”

- 2012 INFORMS Annual Meeting

Journal Peer Review

- Annals of Operations Research
- Constraints

Proceedings Peer Review

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

Volunteering and Leadership

2018–	<i>Committee Member</i>	INFORMS Undergrad. Operations Research Prize
2017–	<i>Member</i>	INFORMS Education Strategy Committee
2012–	<i>Contributor</i>	INFORMS Annual Meeting Blog
2017–2018	<i>Consulting Board Member</i>	CMU INFORMS
2015–2017	<i>President</i>	CMU INFORMS
2014–2015	<i>Co-Founder; Secretary</i>	CMU INFORMS
2016–2017	<i>Mentor</i>	Brazilian Students Association (BRASA)
2015	<i>Twitter Curator</i>	ISMP
2014–2015	<i>Events Officer</i>	Public Comm. for Researchers (CMU)

LANGUAGES

Portuguese	(native)
English	(fluent)

PROFESSIONAL MEMBERSHIPS

2012–	INFORMS
2015–	SIAM

REFERENCES

Available upon request.