Stephan Bongers

Updated: February 17, 2020

PhD Candidate, Amsterdam Machine Learning Lab
Science Park 904, 1098 XH Amsterdam, The Netherlands

srbongers@gmail.com
https://www.stephanbongers.com
srbongers

Education

- **University of Amsterdam** — Amsterdam, The Netherlands
  Ph.D. Candidate Artificial Intelligence (current) — *since May 2015*
  - PhD candidate at the Amsterdam Machine Learning Lab (AMLab)
  - Advisors: dr. Joris M. Mooij and prof. Max Welling
  - Research the connection between dynamical systems and causal models including feedback loops and confounders.
- **Utrecht University** — Utrecht, The Netherlands
  M.Sc. Mathematics — *Sept 2011 - Jan 2014*
  - Graduated with GPA 3.97/4.0
  - Thesis: Geometric quantization of symplectic and Poisson manifolds.
  - Advisor: dr. Urs Schreiber (Radboud University Nijmegen)
- **Utrecht University** — Utrecht, The Netherlands
  B.Sc. Mathematics, B.Sc. Physics and Astronomy — *Sept 2005 - Aug 2011*
  - Graduated with GPA 3.29/4.0
  - Thesis: The Impact of Relative ITS-TPC Alignment and Calibration on High-Pt Physics in the ALICE Experiment.
  - Advisor: prof. Raimond Snellings (National Institute for Subatomic Physics)

Professional Experience

- **Accenture** — Amsterdam, The Netherlands
  Data Scientist — *Mar 2014 - May 2015*
  - Implemented statistical model to perform web and app clickstream analysis in Hadoop.
  - Developed and designed an end-to-end reporting solution.

Publications and Preprints

- S. Bongers, J. Peters, B. Schölkopf, J.M. Mooij, **Theoretical Aspects of Cyclic Structural Causal Models** *(preprint)*.
- S. Bongers, J.M. Mooij, **From Random Differential Equations to Structural Causal Models: the stochastic case** *(preprint)*.
- T. Blom, S. Bongers, J.M. Mooij, **Beyond Structural Causal Models: Causal Constraints Models**, UAI (2019), *Plenary Talk*.

- S. Magliacane, T. van Ommen, T. Claassen, S. Bongers, P. Versteeg, J.M. Mooij, **Domain Adaptation by Using Causal Inference to Predict Invariant Conditional Distributions**, NeurIPS (2018).
- P.K. Rubenstein, S. Bongers, J.M. Mooij, B. Schölkopf, **From Deterministic ODEs to Dynamic Structural Causal Models**, UAI (2018).
- P.K. Rubenstein*, S. Weichwald*, S. Bongers, J.M. Mooij, D. Janzing, M. Grosse-Wentrup, B. Schölkopf, **Causal Consistency of Structural Equation Models**, UAI (2017), *Plenary Talk.* *equal contribution.

Full list: `https://scholar.google.nl/citations?user=UGhA4YgAAAAJ&hl=nl`

Presentations and Invited Talks

- **7th Causal Inference Workshop at UAI 2018** — Monterey, USA
  Bridging the Gap between Random Differential Equations and Structural Causal Models (Poster) — *Aug 10, 2018*
- **What if? Workshop at NIPS 2016** — Barcelona, Spain
  Curing the Curse of Non-Recursiveness in Structural Causal Models (Poster) — *Dec 10, 2016*
- **CMStatistics 2016 (ERCIM 2016)** — Seville, Spain
  Marginalization and Reduction of Structural Causal Models (Talk) — *Dec 10, 2016*

Workshops and Summer Schools

- **CIFAR: Deep Learning and Reinforcement Learning Summer School** — Toronto, Canada
  Summer student — *Jul 25-Aug 3, 2018*
- **Machine Learning Summer School** — Tübingen, Germany
  Summer student; Poster presentation — *Jun 19-30, 2017*
- **Bioinformatics and Systems Biology Research School** — Wageningen, The Netherlands
  Quantitative and Predictive Modelling — *Jun 22-26, 2015*
- **Villa de Leyva Summer School** — Villa de Leyva, Colombia
  Geometric, algebraic and topological methods for quantum field theory — *Jul 4-22, 2011*
- **CERN Summer School** — Geneva, Switzerland
  Summer student — *Jul 6-Aug 27, 2010*
  - Project: Integration and testing of next to leading order (NLO) Monte Carlo generators in the ALICE offline framework AliRoot
  - Advisor: dr. Andreas Morsch (CERN)

Scholarships, Grants and Awards

First prize with UvA team in the CRM Causal Inference Challenge 2015
International Center for Pure and Applied Mathematics (CIMPA) grant 2011
A.F. Monnafonds grant 2011
CERN Summer Student scholarship 2010

Miscellaneous

- **Teaching (TA):**
  - Machine Learning 2, 2017 & 2018 (Master AI, University of Amsterdam)
  - Mathematical Principles of Pattern Recognition, 2016 (Bachelor AI, University of Amsterdam)
  - Machine Learning 1, 2015 (Master AI, University of Amsterdam)
  - Advanced Mechanics, 2013 (Bachelor Physics, Utrecht University)
  - Molecular Modelling and Mathematics, 2011 & 2013 (Bachelor Chemistry, Utrecht University)
- **Thesis supervision:**
  - David Woudenberg (Master thesis, 2016)
- **Event co-organization:**
  - 31st Conference on Uncertainty in Artificial Intelligence (UAI 2015, Amsterdam)
- **Programming/scripting languages:** Python, C++, bash
- **Deep learning frameworks:** PyTorch