Stephan Bongers

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Current Position

2020–present | **Postdoc in Artificial Intelligence**
Delft University of Technology (NL)
Project: Deep Imaging-Genetics for Osteoarthritis

2015–2022 | **Ph.D. Candidate in Artificial Intelligence**
University of Amsterdam (NL)
Thesis: Causal Modeling & Dynamical Systems: A New Perspective On Feedback
Advisors: Joris M. Mooij and Max Welling

Education

2011–2014 | **M.Sc. in Mathematics** (GPA 3.97/4.00)
Utrecht University (NL)
Thesis: Geometric quantization of symplectic and Poisson manifolds
Advisor: Urs Schreiber (Radboud University Nijmegen, NL)

2005–2011 | **B.Sc. Mathematics, B.Sc. Physics and Astronomy** (both GPA 3.29/4.00)
Utrecht University (NL)
Thesis: The Impact of Relative ITS-TPC Alignment and Calibration on High-Pt Physics in the ALICE Experiment
Advisor: Raimond Snellings (National Institute for Subatomic Physics, NL)

Professional Experience

2014–2015 | **Data scientist at Accenture** (NL)
Topics: Statistical analysis of web and app clickstream data and developed and designed an end-to-end reporting solution

Publications and Preprints

Preprints/In preparation:

2021 | S. Bongers, T. Blom and J.M. Mooij
Causal Modeling of Dynamical Systems
arXiv:1803.08784v4 (preprint). *Submitted to the Journal of Causal Inference.*

Peer-reviewed papers:

2021 S. Bongers, P. Forré, J. Peters and J.M. Mooij
Foundations of Structural Causal Models with Cycles and Latent Variables
Annals of Statistics 49.5, pp. 2885–2915.

2019 T. Blom, S. Bongers and J.M. Mooij
Beyond Structural Causal Models: Causal Constraints Models
UAI 2019. *Plenary Talk.*

2018 S. Magliacane, T. van Ommen, T. Claassen, S. Bongers, P. Versteeg and J.M. Mooij
Domain Adaptation by Using Causal Inference to Predict Invariant Conditional Distributions
NeurIPS 2018.

2018 P.K. Rubenstein, S. Bongers, J.M. Mooij and B. Schölkopf
From Deterministic ODEs to Dynamic Structural Causal Models
UAI 2018.

2017 P.K. Rubenstein*, S. Weichwald*, S. Bongers, J.M. Mooij, D. Janzing, M. Grosse-Wentrup and B. Schölkopf, *equal contribution
Causal Consistency of Structural Equation Models
UAI 2017. *Plenary Talk.*

For a full list of my publications see my google scholar 🎓.

Presentations and Invited Talks

2018 **7th Causal Inference Workshop (UAI 2018)**, *Bridging the Gap between Random Differential Equations and Structural Causal Models (Poster)*

2016 **What if? Workshop (NIPS 2016)**, *Curing the Curse of Non-Recursiveness in Structural Causal Models (Poster)*

2016 **CMStatistics 2016 (ERCIM 2016)**, *Marginalization and Reduction of Structural Causal Models (Talk)*

Workshops and Summer Schools

2018 **Deep Learning and Reinforcement Learning Summer School (CIFAR)**, Toronto, CA

2017 **Machine Learning Summer School**, Tübingen, DE, *Poster Presentation*

2015 **Bioinformatics and Systems Biology Research School**, *Quantitative and Predictive Modelling*, Wageningen, NL

2011 **Villa de Leyva Summer School**, *Geometric, algebraic and topological methods for quantum field theory*, Villa de Leyva, CO

2010 **CERN Summer School**, Geneva, CH
Project: Integration and testing of next to leading order (NLO) Monte Carlo generators in the ALICE offline framework AliRoot
Advisor: Andreas Morsch (CERN, CH)

Scholarships, Grants and Awards

2015 First prize with UvA team in the CRM Causal Inference Challenge

2011 International Center for Pure and Applied Mathematics (CIMPA) grant

2011 A.F. Monnafonds grant

2010 CERN Summer Student scholarship

Teaching Activities

Teaching assistant (TA):

2022	Research project (Bachelor CS, Delft University of Technology)
2017–2018	Machine Learning 2 (Master AI, University of Amsterdam)
2016	Mathematical Principles of Pattern Recognition (Bachelor AI, University of Amsterdam)
2015	Machine Learning 1 (Master AI, University of Amsterdam)
2013	Advanced Mechanics (Bachelor Physics, Utrecht University)
2011–2013	Molecular Modelling and Mathematics (Bachelor Chemistry, Utrecht University)

Thesis supervision:

2016	David Woudenberg (Master thesis, University of Amsterdam)

Reviewing Activities

Reviewer:

2022	UAI 2022
2021	UAI 2021, NeurIPS 2021, JMLR

Skills

Programming/scripting languages: Python, C++, bash
Deep learning frameworks: PyTorch, Pyro
Favorite tools: Vim, tmux, zsh, git and neovim