

# Stefano Crotti

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## About

I'm a PhD student at the [Statistical Physics and Interdisciplinary Applications](#) group at Politecnico di Torino, Italy. We use techniques from the statistical physics of complex systems to study optimization and inference problems across various domains: biology, computer science, epidemic modelling, and more. During my Master's thesis and first year of PhD I have been working on approximate solutions to the Closest Vector Problem. I am now focusing on the study of atypical trajectories in stochastic dynamics on graphs.

## Education

- PhD in Physics, Politecnico di Torino
- 2021 DIPLOMA from [Alta Scuola Politecnica](#) (multidisciplinary honour program)
- 2020 MSc in Mathematical Engineering, Politecnico di Milano (double degree)
- 2020 MSc in [Physics of Complex Systems](#), Politecnico di Torino
- 2018 BSc in Electronic Engineering, Politecnico di Torino

## Publications

- 2023 **S. Crotti**, A. Braunstein, *Matrix Product Belief Propagation for reweighted stochastic dynamics over graphs*, Proceedings of the National Academy of Sciences, 120(47) ([PNAS](#), [arxiv](#))
- 2022 A. Braunstein, L. Budzynski, **S. Crotti**, F. Ricci-Tersenghi, *Closest-vector problem and the zero-temperature p-spin landscape for lossy compression*, Physical Review E 106 (5) ([APS](#), [arxiv](#))

## Teaching

*Algorithms for optimization, inference and learning* (2022/23, 2023/24) - Teaching Assistant