

Vadim LEBOVICI

PhD student in Mathematics at Orsay Mathematics Laboratory and Inria
(DataShape team)

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Birth: 04/09/1996 (26 years old)

Education

- 2020 – 2023 **PhD in mathematics**, Université Paris-Saclay / INRIA Saclay, *Datashape team*.
- Ma – Ju 2020 **Master 2 internship**, Inria Saclay, France, under the supervision of Steve Oudot and François Petit.
- 2019 – 2020 **Senior civil servant internship**, Ministry of Education, France, under the supervision of Charles Torossian.
- 2018 – 2019 **Master 2 in Pure Mathematics**, Sorbonne Université.
- Fe – Ju 2018 **Research internship**, Jyväskylä University, Finland, under the supervision of Mikko Salo.
- 2016–2020 **"Elève" at Ecole Normale Supérieure (ENS Ulm)**, Paris, France.

Publications

- 📄 2022 **Hybrid transforms of constructible functions**, to appear in Foundations of Computational Mathematics.
- 📄 2022 **On rectangle-decomposable persistence bimodules**, with M. Botnan and S. Oudot, Discrete and Computational Geometry, p. 1-24.
- 📄 2020 **Local characterization of indecomposable poset representations: the case of rectangle representations in the plane**, with M. Botnan and S. Oudot, to appear in: Algebras and Representation Theory.
- 📄 2019 **Reconstruction of piecewise constant functions from x-ray data**, Inverse Problems, 35(9):095003.

Contributed talks and posters

- Jun 2022 **ATMCS10 Conference** (talk), University of Oxford, England.
- Jun 2022 **Young Researchers Forum of CGWeek 2022** (talk), Berlin, Germany.
- May 2022 **Computational Geometry Days** (talk), online.
- May 2022 **DataShape team annual seminar** (talk), Porquerolles, France.
- Apr 2022 **Applied Topology Seminar** (talk), EPFL, Lausanne, Switzerland.
- Dec 2021 **DataShape team weekly seminar** (talk), Paris-Saclay University, France.
- Jun 2020 **Symposium on Computational Geometry** (talk), ETH Zürich, Switzerland.
- Aug 2018 **Inverse problems, PDE and geometry conference** (poster), Jyväskylä University, Finland.

Invitations

- Dec 2022 **Interactions between representation theory and topological data analysis** (workshop), Center for Advanced Study, Oslo, Norway.

Teaching

- 2020 – 2023 **Teaching assistant**, ENS Ulm.
"Maths for non-specialists" and supervision of reading groups on TDA, characteristic classes and O-minimal geometry.
- Mar 2019 **"How to get students interested?"** (TEDx talk), IMT Lille-Douai, with L. Willems.
- 2017 – 2020 **Foundation of "Savoirs Pour Tous"** (association), with Lucas Willems.
Savoirs Pour Tous (Knowledge For All) is a non-governmental organization that introduces a wide range of academic subjects to secondary school students through problem-based talks, published on [YouTube](#) (more than 40 talks).

Supervisions

- Ju – Au 2022 **Co-supervision of Hugo Passe's Bachelor internship (ENS Lyon)**, with S. Oudot, Implementation of a Python and C++ software that computes topological and hybrid transforms on cubical complexes, [GitHub](#).

Organizing activities

- 2021 **Reading group on Sheaves on manifolds** - Kashiwara, Schapira (co-organizer), ENS Ulm.
- 2020 **Reading group on Random Fields and Geometry** - Adler, Taylor (co-organizer), ENS Ulm.

Distinctions

- Sep 2021 **"Mathematics and Industry Challenge"** (1st place), with O. Hacquard and E. Lasalle, [GitHub](#).

Languages

French (Native), English (Fluent) and German (B1)

Programming skills

Python, GAP (Advanced)