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**, Foundations of Computational Mathematics.
2022	**On rectangle-decomposable persistence bimodules**, *with M. Botnan and S. Oudot*, Discrete and Computational Geometry, p. 1-24 (*initially accepted in:* Symposium on Computational Geometry, 2020).
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.* Supervision of reading groups on TDA, characteristic classes and O-minimal geometry, and "Maths for non-specialists".
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 activites

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)