MATH-681

Reading group in applied topology II

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Cursus	Sem.	Type
Mathematics		Opt.

Language of teaching	English
Credits	1
Session	
Exam	Oral presentation
Workload	30h
Hours	**14**
Courses	14
Number of positions	

Frequency

Every year

Summary

In this reading group, we will work together through recent important papers in applied topology. Participants will take turns presenting articles, then leading a discussion of the contents.

Content

The field of applied topology is growing extremely rapidly, in terms of both the development of new theory and the elaboration of significant new applications. The goal of this reading group is to provide a framework in which to survey the literature efficiently, to ensure that all participants are aware of the most significant recent developments.

In the spring semester of 2026, we will focus on the field of geometric deep learning. The first half of the reading group will be dedicated to working through the book "Geometric Deep Learning: Grids, Groups, Graphs, Geodesics, and Gauges" by Bronstein, Bruna, Cohen and Velickovic. In the second half, we will review several recent articles on the topic, including work from the subfield of geometric deep learning known as topological deep learning.

Keywords

Applied topology, network, machine learning.

Resources

Moodle Link

- https://go.epfl.ch/MATH-681