

Leveraging Permutation Group Symmetries for the design of Equivariant Neural Networks

Wednesday 16 December 2020 18:00 (30 minutes)

Learning of irregular data, such as sets and graphs, is a prominent research direction that has received considerable attention in the last few years. The main challenge that arises is which architectures should be used for such data types. I will present a general framework for designing network architectures for irregular data types that adhere to permutation group symmetries. In the first part of the talk, we will see that these architectures can be implemented using a simple parameter-sharing scheme. We will then demonstrate the applicability of the framework by devising neural architectures for two widely used irregular data types: (i) Graphs and hyper-graphs and (ii) Sets of structured elements.

Presenter: MARON, Haggai (NVIDIA Research)

Session Classification: Physics meets ML seminar