Statistics Colloquium

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"Statistical learning in biological neural networks"

MONDAY, MAY 8, 2023, at 4:30 PM
Jones 303, 5747 S. Ellis Avenue
Refreshments before the seminar at 4:00 PM in Jones 303.

ABSTRACT

Compared to artificial neural networks (ANNs), the brain learns faster, generalizes better to new situations and consumes much less energy. ANNs are motivated by the functioning of the brain, but differ in several crucial aspects. In particular, it is biologically implausible that the learning of the brain is based on gradient descent. In this talk we look at the brain as a statistical method for supervised learning. The main contribution is to relate the local updating rule of the connection parameters in biological neural networks (BNNs) to a zero-order optimization method. The talk is based on arxiv:2301.11777.