Machine Learning for Fiber-Optical Communications

Intensity-Modulation and Direct-Detection (IMDD) transceivers can be built with low hardware complexity, low power consumption and small form factors, which makes them a promising approach for fiber-optical transmission over short distances. However, by their reduced hardware complexity, nonlinear distortions are introduced, which need to be compensated.

The student's task is to understand and implement aspects of [1], [2] in order to communicate via an IMDD connection. In particular, the signal processing of received signals using neural networks will be compared to traditional signal processing approaches like [3].


Advisors

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