

Regularization of Inverse Problems by Neural Networks

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Abstract

Inverse problems are characterized by its ill-posed nature. Its stable solution requires special solution techniques based on regularization. Many classical regularization methods are well investigated. Recently, deep learning and neural network based algorithms appeared as new paradigm for solving inverse problems in a data driven manner. In this talk we present and analyze data consistent regularization of inverse problems based on neural networks. We investigate convergence, derive convergence rates, and propose possible training strategies.