

Master's Thesis

Machine Learning Based Blind SINR Estimation

Transmissions may experience AWGN and interference. One source of interference are intentional or unintentional jammers. Estimating the power of Gaussian noise is a well-known problem, however estimating the power of interference from jammers with unknown characteristics is a challenging problem without pilot symbols. Examples interference signals are a single sinusoidal signal with constant or changing frequency, or a signal that has the same properties as the desired transmission. The goal of this thesis is to train a neural network to build a robust blind interference or SINR estimator. Its performance should be evaluated against meaningful benchmarks. Possible hardware implementations should be considered when optimizing its structure.

Prerequisites

- In-depth knowledge of communication
- Basic knowledge of machine learning

Advisors

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