Michele Alessi
Massimo Lupo Giulio Di Cosimo
Andrea Lavarone
Antonio Santaniello

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UNIVERSITARIO
LUCIANO
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(Machine) Learning Inverse Problems

From theory to practice: a mathematical and computational overview of imaging inverse problems

We present the typical issues in addressing an inverse problem and show how their Regularisation can provide a well-posed problem. We also outline the critical points of this technique and hint to a possible integration of machine learning algorithms.
After showing a cartoon of these ideas, we provide the result of concrete implementation of different approaches. In particular, our implementation focuses on imaging algorithms, such as deblurring and denoising.

Causes — Effects

Training Set — Effects — Plausible Causes