

# Super Resolution

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## 1. Tntroduction

The framework can yield specific training algorithms for many kinds of model and optimization algorithm. In the article, the authors explore the special case when the generative model generates samples by passing random noise through a multilayer perceptron, and this discriminative model is also a multilayer perceptron. We refer to this special case as adversarial nets. In this case, we can train both models and using only the highly successful backpropagation and dropout algorithms [2] and sample from the generative model using only forward propagation. No approximate inference or Markov chains are necessary.

## 2. Related work

An alternative to directed graphical models with latent variables are undirected graphical models with latent variables, such as restricted Boltzmann machines (RBMs) [4], deep Boltzman machines (DBMs) [3] and their numerous variants. The interactions within such models are represented as the product of unnormalized potential functions, normalized by a global summation over all states of the random variables. This quantity and its gradient are intractable for all but the most trivial instances, although they can be estimated by Markov chain Monte Carlo (MCMC) methods. Mixing poses a significant problem for learning algorithms that rely on MCMC [1].

## References

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