

CS287r Project Proposal

WAEs for Natural Language Modeling

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We're utilizing the recently proposed Wasserstein Auto-Encoders (WAE), which has been shown to work well for image generation (generating samples with better FID scores) while sharing many of the properties of VAEs, to the problem of language modeling. The WAE model can be understood to be a generalization of Adversarial Auto-Encoders (AAE).

1 Details

1.1 Papers

1. **Major paper:** Wasserstein Auto-Encoders. Tolstikhin et al.
2. Generating Sentences from a Continuous Space. Bowman et al.
3. Toward Controlled Generation of Text. Hu et al.
4. Improved Variational Autoencoders for Text Modeling using Dilated Convolutions. Yang et al.

1.2 Time

We are presenting on April 5.

1.3 Baseline

Baselines for language modeling come from these models (in the supporting papers specified above):

1. LSTM-VAE
2. RNNLM
3. LCNN-VAE