CSC2547 Learning Discrete Latent Structure: Generative Adversarial Networks via Gradient Estimators

Aparna Balagopalan*
University of Toronto
27 King's College Circle
Toronto, ON M5S
aparna@cs.toronto.edu

Satya Krishna Gorti*
University of Toronto
27 King's College Circle
Toronto, ON M5S
satyag@cs.toronto.edu

Mathieu Ravaut*
University of Toronto
27 King's College Circle
Toronto, ON M5S
mravox@cs.toronto.edu

Raeid Saqur*
University of Toronto
27 King's College Circle
Toronto, ON M5S
raeidsaqur@cs.toronto.edu

Abstract

1 Introduction

2 Background

2.1 Generative Adversarial Networks (GANs)

2.2 Sequential GANs

2.3 REINFORCE

2.4 REBAR & RELAX

3 SeqGAN with policy gradient

4 Backpropagation through time

5 Experiments

5.1 Toy data

5.2 Pre-training with MLE

5.3 Comparison of gradient estimators

5.4 Quality of generated sequences

6 Conclusion

* indicates equal contribution