ETH

Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

Applying the GAN Framework to Recommender Systems

Master Thesis

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Abstract

This example thesis briefly shows the main features of our thesis style, and how to use it for your purposes.

Contents

Chapter 1

Introduction

- Introduce Problem statement
- Describe the goal of the thesis
- Clear question to be answered during the thesis

Chapter 2

Background

2.1 Recommendation Systems

- Specify the Problem of Recommendation as a scoring problem on items

- Describe possile bases for recommendation (User Based, Item Based, Session Based)

- Describe most popular existing solutions (Collaborative Filtering, Wide and Deep Learning)

2.2 Concepts/Models/...

- Describe RNNs

- Describe Hiearchical RNNs

- Describe the GAN Framework

- Describe Professor Forcing as an application of the GAN Framework to RNNs

- Describe Meta-Prod2Vec as an embedding framework and where we would use it inside our model

2.3 KPIs

- Describe different KPIs

- What do they meaure, how to optimize for it

Chapter 3

System Overview

3.1 Model Architecture

- Describe Model Architecture
- Describe different Components of Model Architecture
- Describe different variants of the model (with/without pf, with/without embeddings)

3.2 Implementation

- Describe Class Diagram
- Describe Code Structure
- Describe Deployment
- Describe prediction mode/training mode

Chapter 4

Experiments

For each of the model variants evaluate the experiments offline and online.

4.1 Offline

4.1.1 Experiment Setup

4.1.2 Measurements

4.2 Online/Production Experiment Setup

4.2.1 Experiment Setup

4.2.2 Measurments

Chapter 5

Results

- bring everything together
- compare best performing model to automl from google

Appendix A

Dummy Appendix

You can defer lengthy calculations that would otherwise only interrupt the flow of your thesis to an appendix.

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