Machine Learning Autoencoder Applied to Communication Channels

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Outline

1. Introduction
2. Methodology
   - Reference Model
   - Design & Architecture
   - Training
   - Predictions
3. Results & Discussions
   - DNN Decoders
   - DNN Autoencoders
4. Conclusions
5. Future Work

Context

Communication system context in general - what field will I be treating

- My first point.
- My second point.

Context

Machine Learning applications - what could we do in communication system

- My first point.
- My second point.

Relevance & Challenges

Explain why the work is relevant and explain what are the challenges

- My first point.
- My second point.

Problem Statement

What exactly I will solve in this work

- My first point.
- My second point.

Second Slide Title

- First item.

Second Slide Title

- First item.
- Second item.

Second Slide Title

- First item.
- Second item.
- Third item.

Second Slide Title

- First item.
- Second item.
- Third item.
- Fourth item.

Second Slide Title

- First item.
- Second item.
- Third item.
- Fourth item.
- Fifth item.

Second Slide Title

- First item.
- Second item.
- Third item.
- Fourth item.
- Fifth item. Extra text in the fifth item.

Maximum a Posterior (MAP) Rule

Implementation of a MAP decoder for a linear block code through a BSC.

- My first point.
- My second point.

Neural Network's Architecture

Show the architecture used for each case and remarks some important parameters

- My first point.
- My second point.

Neural Network's Training

Show the best training parameters for each structure

- My first point.
- My second point.

Monte Carlo Simulations

Explain how we could use NN to predict the results with certain confidence.

- My first point.
- My second point.

Blocks

Block Title

You can also highlight sections of your presentation in a block, with it's own title

Theorem

There are separate environments for theorems, examples, definitions and proofs.

Example

Here is an example of an example block.

DNN Array Decoder

Show the results for the array decoder in terms of train p, Mep, Parameters, etc

- My first point.
- My second point.

DNN One-hot Decoder

Show the results for the one-hot decoder in terms of train p, Mep, Parameters, etc

- My first point.
- My second point.

DNN Autoencoder

Show the results for the autoencoder in terms of train p, Mep, Parameters, etc

- My first point.
- My second point.

Conclusions

- My first point.
- My second point.

Future Work

- My first point.
- My second point.

Acknowledgment

- My first point.
- My second point.

Bibliography I

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