Bayesian Dictionary Learning for EEG Source Identification

Trine Nyholm Kragh & Laura Nyrup Mogensen
Mathematical Engineering, MATTEK

Master's Thesis

Mathematical Engineering
Aalborg University
http://www.aau.dk

AALBORG UNIVERSITY
STUDENT REPORT

Title:
Bayesian Dictionary Learning for EEG Source Identification

Theme:

Project Period:
Fall Semester 2019

Project Group:
Mattek9

Participant(s):
Trine Nyholm Kragh
Laura Nyrup Mogensen

Supervisor(s):
Jan Østergaard

Copies: 1

Page Numbers: 11

Date of Completion:
September 17, 2019

Abstract:

Here is the abstract

Matematik-Teknologi
Aalborg Universitet
http://www.aau.dk

AALBORG UNIVERSITET
STUDENTERRAPPORT

Titel:
Bayesian Bibliotek Læring for EEG Kilde Identifikation

Tema:

Projektperiode:
Efterårssemestret 2019

Projektgruppe:
Mattek9

Deltager(e):
Trine Nyholm Kragh
Laura Nyrup Mogensen

Vejleder(e):
Jan Østergaard

Oplagstal: 1

Sidetal: 11

Afleveringsdato:
17. september 2019

Abstract:

Her er resuméet

Preface

Here is the preface. You should put your signatures at the end of the preface.

Aalborg University, September 17, 2019

Trine Nyholm Kragh
<trijen15@student.aau.dk>

Laura Nyrup Mogensen
<lmogen15@student.aau.dk>

Danish Summary

Dansk resume ?

Contents

Introduction

Introduktion til hele projektet, skal kunne læses som en appetitvækker til resten af rapporten, det vi skriver her skal så uddybes senere. Brug dog stadigvæk kilder.

- kort intro a EEG og den brede anveldelse, anvendelse indenfor høreapperat.
- intro af model, problem med overbestemt system
- Seneste forslag til at løse dette
- vi vil efterviser dette og udvide til realtime tracking
- opbygningen af rapporten

Chapter 1

Problem Analysis

This chapter examines existing literature concerning source localisation from EEG measurements. At first a motivation for the problem is given, considering especially the application within the hearing aid industry. Further, the state of the art methods are presented follow by a description of the desired contribution.

1.1 Motivation

EEG recordings or measurements are used within medicine as an imaging technique measuring electric signals on the scalp, caused by brain activity.

The brain consist of a enormous amounts of cells, called neurons. These neurons are mutually connected in neural nets and when a neuron is activated, for instance by some physical stimuli, local current flows are produced[**\IeC {\textbullet }**]. As such the neurons are some how communicating(?).

Chapter 2

Problem Statement

problem statement

Chapter 3

Theory

3.1 Compressive Sensing

Appendix A

Appendix A