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# **Automatic Graph Tracking in Dynamic Probabilistic Programs via Source Transformations**

**Master's Thesis**

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Master of Science

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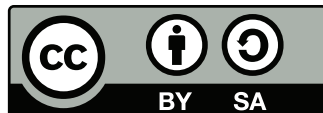
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## ***ABSTRACT***

Alles sehr abstract hier.





# Contents

<b>1</b>	<b>Introduction</b>	<b>1</b>
1.1	Problem Description . . . . .	1
1.2	Related Work . . . . .	1
<b>2</b>	<b>Background</b>	<b>3</b>
2.1	Bayesian Inference and Probabilistic Programming . . . . .	3
2.2	Computation Graphs and Automatic Differentiation . . . . .	3
2.3	Metaprogramming and Compilation in Julia . . . . .	3
<b>3</b>	<b>Implementation of Dynamic Graph Tracking in Julia</b>	<b>5</b>
3.1	Automatic Graph Tracking and Extended Wengert Lists . . . . .	5
<b>4</b>	<b>Graph Tracking in Probabilistic Models</b>	<b>7</b>
4.1	Dependency Analysis in Dynamic Models . . . . .	7
4.2	JAGS-Style Automatic Calculation of Gibbs Conditionals . . . . .	7
4.3	Evaluation . . . . .	7
<b>5</b>	<b>Discussion</b>	<b>9</b>
5.1	Future Work . . . . .	9
	<b>Bibliography</b>	<b>11</b>



# **1 Introduction**

## **1.1 PROBLEM DESCRIPTION**

## **1.2 RELATED WORK**



## 2 Background

Some introduction here. sdf sd sld fslkdjf sldkj  
sldk sldkfs dfsdkd flsdkjf lskdfj

### **2.1 BAYESIAN INFERENCE AND PROBABILISTIC PROGRAMMING**

### **2.2 COMPUTATION GRAPHS AND AUTOMATIC DIFFERENTIATION**

### **2.3 METAPROGRAMMING AND COMPILATION IN JULIA**



## 3 Implementation of Dynamic Graph Tracking in Julia

### 3.1 AUTOMATIC GRAPH TRACKING AND EXTENDED WENGERT LISTS





# **4 Graph Tracking in Probabilistic Models**

## **4.1 DEPENDENCY ANALYSIS IN DYNAMIC MODELS**

## **4.2 JAGS-STYLE AUTOMATIC CALCULATION OF GIBBS CONDITIONALS**

## **4.3 EVALUATION**



# **5 Discussion**

## **5.1 FUTURE WORK**





## COLOPHON

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