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Bayesian Modeling of Partially Observed Epidemic Count Data

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Abstract

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An incredible abstract with all the best words will appear here.

TABLE OF CONTENTS

	Page
List of Figures	iii
List of Tables	iv
Glossary	v
Chapter 1: Introduction and data setting	1
1.1 Motivating examples	1
1.1.1 Influenza in a British boarding school	1
1.1.2 Ebola in West Africa	1
1.1.3 Pandemic A(H1N1) influenza in Finland	1
1.2 Organization of this dissertation	1
Chapter 2: Background	2
2.1 Models for the spread of infectious disease	2
2.1.1 Deterministic representations	2
2.1.2 Stochastic representations	2
2.1.3 Large-population approximations	2
2.2 Computational approaches to fitting stochastic epidemic models	2
2.3 Bayesian computation	2
2.3.1 Markov chain Monte Carlo	2
2.3.2 Bayesian data augmentation	2
Chapter 3: Agent-Based Data Augmentation for Fitting Stochastic Epidemic Models to Prevalence Data	3
3.1 Overview	3
3.2 The data augmentation algorithm for an SIR model	3
3.3 Generalizing the algorithm to other models	3

3.3.1	Data augmentation for SEIR dynamics	3
3.3.2	Data augmentation for SIRS dynamics	3
3.3.3	Data augmentation for arbitrary dynamics	3
3.4	Simulation results	3
3.5	Example: Influenza in a British boarding school	3
3.6	Discussion	3
Chapter 4:	Approximate Inference for Stochastic Epidemic Models of Outbreaks in Large Populations	4
Chapter 5:	Dynamic Transmission Modeling of Pandemic A(H1N1) Influenza in Finland	5
Chapter 6:	Discussion and Future Work	6
Bibliography	7
Appendix A:	Appendix A	8

LIST OF FIGURES

Figure Number

Page

LIST OF TABLES

Table Number

Page

GLOSSARY

CTMC: Continuous-time Markov chain.

DA: Data augmentation.

LNA: Linear noise approximation.

MJP: Markov jump process.

SEM: Stochastic epidemic model.

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Very grateful to many people.

DEDICATION

Dedication to important people.

Chapter 1

INTRODUCTION AND DATA SETTING

1.1 Motivating examples

1.1.1 Influenza in a British boarding school

1.1.2 Ebola in West Africa

1.1.3 Pandemic A(H1N1) influenza in Finland

1.2 Organization of this dissertation

Chapter 2

BACKGROUND

2.1 Models for the spread of infectious disease

2.1.1 Deterministic representations

2.1.2 Stochastic representations

Agent-based models

Population-level models

2.1.3 Large-population approximations

Diffusion approximations of Markov jump processes

Linear noise approximation

2.2 Computational approaches to fitting stochastic epidemic models

2.3 Bayesian computation

2.3.1 Markov chain Monte Carlo

2.3.2 Bayesian data augmentation

Chapter 3

AGENT-BASED DATA AUGMENTATION FOR FITTING STOCHASTIC EPIDEMIC MODELS TO PREVALENCE DATA

3.1 Overview

3.2 *The data augmentation algorithm for an SIR model*

3.3 *Generalizing the algorithm to other models*

3.3.1 Data augmentation for SEIR dynamics

3.3.2 Data augmentation for SIRS dynamics

3.3.3 Data augmentation for arbitrary dynamics

3.4 Simulation results

3.5 Example: Influenza in a British boarding school

3.6 Discussion

Chapter 4

APPROXIMATE INFERENCE FOR STOCHASTIC EPIDEMIC MODELS OF OUTBREAKS IN LARGE POPULATIONS

Chapter 5

DYNAMIC TRANSMISSION MODELING OF PANDEMIC A(H1N1) INFLUENZA IN FINLAND

Chapter 6

DISCUSSION AND FUTURE WORK

BIBLIOGRAPHY

Appendix A

APPENDIX A