

CONTENTS

Bayesian Linear Regression

Bayesian Linear Regression

- Classical Versus Bayesian Analyses
- Main Bayesian Analysis Components
- Posterior Estimation and Inference

Bayesian Linear Regression Workflow

- Workflow for Standard Bayesian Linear Regression Models
- Workflow for Bayesian Predictor Selection

Specify Gradient for HMC Sampler

Posterior Estimation and Simulation Diagnostics

- Diagnose MCMC Samples
- Perform Sensitivity Analysis

Tune Slice Sampler For Posterior Estimation

Compare Robust Regression Techniques

Bayesian Lasso Regression

Bayesian Stochastic Search Variable Selection

Replacing Discouraged Syntaxes of estimate

- Replace Discouraged Syntax When Estimating Analytical Marginal Posterior
- Replace Discouraged Syntax When Estimating Numerical Marginal Posterior
- Replace Discouraged Syntax When Estimating Conditional Posterior

Discrete-Time Markov Chains

- What Are Discrete-Time Markov Chains?
- Discrete-Time Markov Chain Theory

Markov Chain Modeling

- Discrete-Time Markov Chain Object Framework Overview
- Markov Chain Analysis Workflow

Create and Modify Markov Chain Model Objects

- Create Markov Chain from Stochastic Transition Matrix
- Create Markov Chain from Observed State Transitions
- Create Markov Chain from Random Transition Matrix
- Specify Structure for Random Markov Chain

Visualize Markov Chain Structure and Evolution

Determine Asymptotic Behavior of Markov Chain

Identify Classes in Markov Chain

Compare Markov Chain Mixing Times

Simulate Random Walks Through Markov Chain