Contents

Evaluating the Feasibility of Learning Student Models from Data / 1
Anders Jonsson, Jeff Johns, Hasmik Mehranian, Ivon Arroyo, Beverly Woolf, Andrew Barto, Donald Fisher, and Sridhar Mahadevan

Topic Extraction from Item-Level Grades / 7
Titus Winters, Christian Shelton, Tom Payne, and Guobiao Mei

An Educational Data Mining Tool to Browse Tutor-Student Interactions: Time Will Tell! / 15
Jack Mostow, Joseph Beck, Hao Cen, Andrew Cuneo, Evandro Gonçalves, and Cecily Heiner

A Data Collection Framework for Capturing ITS Data Based on an Agent Communication Standard / 23
Olga Medvedeva, Girish Chavan, and Rebecca S. Crowley

Data Mining Patterns of Thought / 31
Earl Hunt and Tara Madhyastha

The Q-matrix Method: Mining Student Response Data for Knowledge / 39
Tiffany Barnes

Automating Cognitive Model Improvement by A*Search and Logistic Regression / 47
Hao Cen, Kenneth Koedinger, and Brian Junker

Looking for Sources of Error in Predicting Student’s Knowledge / 54
Mingyu Feng, Neil T. Heffernan, and Kenneth R. Koedinger

Time and Attention: Students, Sessions, and Tasks / 62
Andrew Arnold, Richard Scheines, Joseph E. Beck, and Bill Jerome

Logging Students’ Model-Based Learning and Inquiry Skills in Science / 67
Janice Gobert, Paul Horwitz, Barbara Buckley, Amie Mansfield, Edmund Burke, and Dimitry Markman