Educational Data Mining

Papers from the AAAI Workshop

Technical Report  WS-06-05

AAAI Press
American Association for Artificial Intelligence
Educational Data Mining

Papers from the AAAI Workshop

*Joseph E. Beck, Esma Aimeur, and Tiffany Barnes, Cochairs*

Technical Report  WS-06-05

AAAII Press
Menlo Park, California
Organizing Committee

Joseph E. Beck, Carnegie Mellon University (Cochair)
Esma Aimeur, Université de Montréal (Cochair)
Tiffany Barnes, University of North Carolina at Charlotte (Cochair)

Reviewers

Hao Cen
Sebastien Gambs
John Stamper
Jeanette Williams
Titus Winters

This AAAI–06 Workshop was held July 17, 2006, in Boston, Massachusetts USA
Contents

Predicting End-of-Year Accountability Assessment Scores from Monthly Student Records in an Online Tutoring System / 1  
Nathaniel O. Anozie and Brian W. Junker

Feature Discovery in the Context of Educational Data Mining: An Inductive Approach / 7  
Andrew Arnold, Joseph E. Beck, and Richard Scheines

Do Skills Combine Additively to Predict Task Difficulty in Eighth-Grade Mathematics? / 14  
Elizabeth Ayers and Brian Junker

Comparative Analysis of Concept Derivation Using the Q-matrix Method and Facets / 21  
Tiffany Barnes, John Stamper, and Tara Madhyastha

Using Association Rules for Course Recommendation / 31  
Narimel Bendakir and Esma Aïmeur

Kai-min Chang, Joseph E. Beck, Jack Mostow, and Albert Corbett

Item-based Bayesian Student Models / 47  
Michel C. Desmarais, Michel Gagnon, and Peyman Meshkinaf

Using Mixed-Effects Modeling to Compare Different Grain-Sized Skill Models / 57  
Mingyu Feng, Neil Heffernan, Murali Mani, and Cristina Heffernan

Modeling and Assessing Student Activities in On-Line Discussions / 67  
Jihie Kim, Erin Shaw, Donghui Feng, Carole Beal, and Eduard Hovy

Inferring Use Cases from Unit Testing / 75  
Jaime Spacco, Titus Winters, and Tom Payne

Mining Student Learning Data to Develop High Level Pedagogic Strategy in a Medical ITS / 82  
Michael V. Yudelson, Olga Medvedeva, Elizabeth Legowski, Melissa Castine, Drazen Jukic, and Rebecca S. Crowley