

NOBORU MATSUDA

As of October 10, 2011

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Human-Computer Interaction Institute
Carnegie Mellon University
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5535 Hobart Street, APT#1
Pittsburgh, PA 15217
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EDUCATION

November 2004	University of Pittsburgh <i>PhD, Intelligent Systems</i> (Advisor: Kurt VanLehn)	Pittsburgh, PA
March 1988	Tokyo Gakugei University <i>MS, Mathematics Education</i>	Tokyo, Japan
March 1985	Tokyo Gakugei University <i>BS, Mathematics Education</i>	Tokyo, Japan

PROFESSIONAL EXPERIENCE

6/2009 – Current	Carnegie Mellon University <i>Systems Scientist</i> Human-Computer Interaction Institute, School of Computer Science	<u>Pittsburgh, PA</u>
11/2004 – 5/2009	Carnegie Mellon University <i>Post Doctoral Fellow</i> Human-Computer Interaction Institute, School of Computer Science <i>SimStudent Project</i> at the Pittsburgh Science of Learning Center	<u>Pittsburgh, PA</u>
1/1999 – 10/2004	University of Pittsburgh <i>Graduate Student Researcher</i> Learning Research and Development Center <i>Advanced Geometry Intelligent Tutoring System Project</i> at the Center for Interdisciplinary Research on Constructive Learning Environments	<u>Pittsburgh, PA</u>

- 3/1998 – 12/1998 University of Pittsburgh Pittsburgh, PA
Visiting Scholar
Learning Research and Development Center
Automated Geometry Theorem Prover Project
- 4/1993 – 12/1998 University of Electro Communications Tokyo, Japan
Assistant Professor
Graduate School of Information Systems
- 4/1988 – 3/1993 Kanazawa Institute of Technology Kanazawa, Japan
Assistant Professor
Center for Computer Assisted Instruction

RESEARCH INTERESTS

The Sciences of Learning: Cognitive theories of learning and teaching; Computational model of learning; Cognitive modeling for human and machine learning, teaching, and problem solving

Mathematics Education: Teaching and learning strategies, problem solving, curriculum development

Applied Computer Science for Education: Educational technology, intelligent tutoring systems, pedagogical agent, educational data mining

Artificial Intelligence: Automated theorem proving, knowledge representation, machine learning, data mining

PUBLICATIONS

Journal Papers

1. Matsuda, N., William, W. C., Stylianides, G. J., & Koedinger, K. R. (2011, accepted for a submission for the special issue on Advanced Learning Technologies). Empirical study on effect of tutor learning using a synthetic peer student -- Lessons Learned with SimStudent. *Journal of Educational Psychology*.

2. Matsuda, N., Cohen, W. W., Sewall, J., Lacerda, G., & Koedinger, K. R. (2011, in preparation). SimStudent: Building an Intelligent Tutoring System by Tutoring a Synthetic Student. *International Journal of Artificial Intelligence in Education*.
3. Matsuda, N. & VanLehn, K. (2004). GRAMY: A geometry theorem prover capable of construction. *Journal of Automated Reasoning*, 32(1), 3-33.
4. Ochi, T., Matsuda, N., & Okamoto, T. (1998). An object oriented distributed working environment to integrate cooperative work and personal work. *Transactions of Information Processing Society of Japan*, 39(1), 123-130.
5. Yoshida, T., Matsuda, N., & Okamoto, T. (1997). The system for supporting to learn/diagnose Z notation. *Transaction of Japan Society for Information and Systems in Education*, 14(1), 3-12.
6. Okamoto, T., Matsuda, N., & Sasaki, H. (1996). Intelligent CAI for geometric theorem proving with dynamic manipulative interface. *Transactions of Information Processing Society of Japan*, 37(9), 1679-1687.
7. Okamoto, T., Matsuda, N., & Furiya, T. (1995). A Study of the relationship between programming abilities and academic achievement in junior high school mathematics. *Japan Journal of Educational Technology*, 19(2), 85-100.
8. Okamoto, T., Morihiro, K., Matsuda, N., & Takuma, S. (1994). Application of analogical reasoning and extraction of tutoring rules for concept-formation learning. *Electronics and Communications in Japan Part Iii-Fundamental Electronic Science*, 77(3), 75-86.
9. Okamoto, T., Matsuda, N., & Yasuda, K. (1994). Study of CAI with algorithm diagnosis system for novice C programmers. *Journal of Japan Society for CAI*, 11(2), 63-74.
10. Matsuda, N. & Okamoto, T. (1993). Student modeling for procedural problem solving. *The IEICT (Institution of Electronics, Information, and Communication Engineering) Trans. of Informatics & Systems*, E77-D(1), 49-56.
11. Matsuda, N., Nagashima, S., Okamoto, T., & Takuma, S. (1993). On the system of learning and diagnosis for fostering space concept. *Journal of Japan Society for CAI*, 10(3), 114-121.
12. Matsuda, N. & Okamoto, T. (1992). Student model and its recognition by hypothesis-based reasoning in ITS. *Journal of Electronics and Communications in Japan, Part III*, 75(8), 85-95.
13. Okamoto, T. & Matsuda, N. (1992). Overview on the studies of intelligent CAIs/ITSs in Japan. *Educational Technology Research*, 15(1-2), 1-8.

14. Matsuda, N. & Okamoto, T. (1992). Mental model of the process of composing geometric proofs using an intelligent tutoring system. *Japan Journal of Educational Technology*, 15(4), 167-182.
15. Okamoto, T., Matsuda, N., & Takuma, S. (1991). A knowledge based CAD to support students' learning elementary geometric concepts and diagnosing their misconceptions. *Japan Journal of Educational Technology*, 14(4), 147-157.
16. Matsuda, N. & Okamoto, T. (1990). An automatic generation of knowledge-base for an intelligent CAI on geometry theorem proving and a GUI to draw geometric figures. *Transactions of the Institution of Electronics, Information, and Communication Engineering*, J73-D-II(1), 88-99.
17. Okamoto, T. & Matsuda, N. (1989). Learning to recognize students' plan in geometry proof using intelligent CAI. *Transactions of Information Processing Society of Japan*, 30(8), 1046-1057.
18. Okamoto, T. & Matsuda, N. (1988). An intelligent CAI for geometry proof. *Transactions of Information Processing Society of Japan*, 29(3), 311-324.

Peer-reviewed Conference Papers

19. Matsuda, N., Keiser, V., Raizada, R., Yarzebinski, E., Watson, S., Stylianides, G. J., et al. (2012 under review). Studying the Effect of Tutor Learning using a Teachable Agent that asks the Student Tutor for Explanations International Conference on Digital Game and Intelligent Toy Enhanced Learning (DIGITEL 2012).
20. Ogan, A., Finkelstein, S., Mayfield, E., D'Adamo, C., Matsuda, N., & Cassell, J. (2012 under review). "Oh, dear Stacy!" Social interaction, elaboration, and learning with teachable agents Proceedings of CHI2012
21. Matsuda, N., Yarzebinski, E., Keiser, V., Raizada, R., Stylianides, G., Cohen, W. W., et al. (2011). Learning by Teaching SimStudent – An Initial Classroom Baseline Study comparing with Cognitive Tutor. In G. Biswas & S. Bull (Eds.), *International Conference on Artificial Intelligence for Education* (pp. 213-221): Springer.
22. Li, N., Matsuda, N., Cohen, W. W., & Koedinger, K. R. (2011). A Machine Learning Approach for Automatic Student Model Discovery. In C. Conati & S. Ventura (Eds.), *Proceedings of the International Conference on Educational Data Mining*.
23. Matsuda, N., Cohen, W. W., Koedinger, K. R., Stylianides, G., Keiser, V., & Raizada, R. (2010).

- Turning Cognitive Tutors into a Platform for Learning-by-Teaching with SimStudent Technology. In D. Pérez-Marín, I. Pascual-Nieto & S. Bull (Eds.), *Proceedings of the International Workshop on Adaptation and Personalization in E-B/Learning using Pedagogic Conversational Agents (APLeC)* (pp. 20-25). Hawaii.
24. Matsuda, N., Cohen, W. W., Koedinger, K. R., & Stylianides, G. (2010). Learning to solve algebraic equations by teaching a computer agent. In M. F. Pinto & T. F. Kawasaki (Eds.), *Proceedings of the Conference of the International Group for the Psychology of Mathematics Education* (Vol. 2, pp. 69).
 25. Matsuda, N., Keiser, V., Raizada, R., Tu, A., Stylianides, G., Cohen, W. W., et al. (2010). Learning by Teaching SimStudent: Technical Accomplishments and an Initial Use with Students. In V. Aleven, J. Kay & J. Mostow (Eds.), *Proceedings of the International Conference on Intelligent Tutoring Systems* (pp. 317-326). Heidelberg, Berlin: Springer. [acceptance rate: 0.38]
 26. Li, N., Matsuda, N., Cohen, W., & Koedinger, K. (2010). Towards a computational model of why some students learn faster than others. *Proceedings of the AAAI 2010 Fall Symposium on the Cognitive and Metacognitive Educational Systems*. Arlington, VA.
 27. Matsuda, N., Lee, A., Cohen, W. W., & Koedinger, K. R. (2009). A Computational Model of How Learner Errors Arise from Weak Prior Knowledge. In N. Taatgen & H. van Rijn (Eds.), *Proceedings of the Annual Conference of the Cognitive Science Society* (pp. 1288-1293). Austin, TX: Cognitive Science Society. [acceptance rate: 0.32]
 28. Matsuda, N., Cohen, W. W., Sewall, J., Lacerda, G., & Koedinger, K. R. (2008). Why Tutored Problem Solving may be better than Example Study: Theoretical Implications from a Simulated-Student Study. In B. P. Woolf, E. Aimeur, R. Nkambou & S. Lajoie (Eds.), *Proceedings of the International Conference on Intelligent Tutoring Systems* (pp. 111-121). Heidelberg, Berlin: Springer. [acceptance rate: 0.33]
 29. Matsuda, N., Cohen, W. W., & Koedinger, K. R. (2007). Evaluating a simulated student using real students data for training and testing. In C. Conati, K. McCoy & G. Paliouras (Eds.), *Proceedings of the international conference on User Modeling* (LNAI 4511) (pp. 107-116). Berlin, Heidelberg: Springer. [acceptance rate: 0.20]
 30. Matsuda, N., Cohen, W. W., & Koedinger, K. R. (2007). Predicting students performance with SimStudent that learns cognitive skills from observation. In R. Luckin, K. R. Koedinger & J.

- Greer (Eds.), *Proceedings of the International Conference on Artificial Intelligence in Education* (pp. 467-476). Amsterdam, Netherlands: IOS Press. [acceptance rate: 0.30]
31. Matsuda, N., Cohen, W. W., & Koedinger, K. R. (2005). Building Cognitive Tutors with Programming by Demonstration. In S. Kramer & B. Pfahringer (Eds.), *Proceedings of the International Conference on Inductive Logic Programming* (Technical report: TUM-I0510) (pp. 41-46): Institut für Informatik, Technische Universität München
 32. Matsuda, N., Cohen, W. W., & Koedinger, K. R. (2005). Applying Programming by Demonstration in an Intelligent Authoring Tool for Cognitive Tutors. In *AAAI Workshop on Human Comprehensible Machine Learning* (Technical Report WS-05-04) (pp. 1-8). Menlo Park, CA: AAAI association.
 33. Matsuda, N., & VanLehn, K. (2005). Advanced Geometry Tutor: An intelligent tutor that teaches proof-writing with construction. In C.-K. Looi, G. McCalla, B. Bredeweg & J. Breuker (Eds.), *Proceedings of The 12th International Conference on Artificial Intelligence in Education* (pp. 443-450). Amsterdam: IOS Press. [acceptance rate: 0.31]
 34. Matsuda, N. & VanLehn, K. (2003). Modeling Hinting Strategies for Geometry Theorem Proving. In P. Brusilovsky, A. Corbett & F. de Rosis (Eds.), *Proceedings of the 9th International Conference on User Modeling* (pp.373-377), Berlin, Heidelberg: Springer.
 35. Matsuda, N. & VanLehn, K. (2000). A Reification of a Strategy for Geometry Theorem Proving. In G. Gauthier, C. Frasson & K. VanLehn (Eds.), *Proceedings of the International Conference on Intelligent Tutoring Systems* (Lecture Notes in Computer Science, No.1839, p.660), Berlin, Heidelberg: Springer.
 36. Matsuda, N. & VanLehn, K. (2000). Decision Theoretic Instructional Planner for Intelligent Tutoring Systems. In B. du Boulay (Ed.), *Workshop Proceedings on Modeling Human Teaching Tactics and Strategies* (ITS2000, pp.72-83).
 37. Matsuda, N. (1998). Cognitive Contribution of Diagrammatic Reasoning Model towards Geometry ITS. In B. P. Goettl, H. M. Halff, C. L. Redfield, V. J. Shute (Eds.), *Workshop Proceedings on Cognitive Principles in Intelligent Tutoring Systems* (ITS98).
 38. Matsuda, N. & Okamoto, T. (1998). Diagrammatic Reasoning for Geometry ITS to Teach Auxiliary Line Construction Problem. In B. P. Goettl, H. M. Halff, C. L. Redfield & V. J. Shute (Eds.), *Proceedings of the International Conference on Intelligent Tutoring Systems*, (Lecture Notes in Computer Science No.1452, pp.244-253), Heidelberg, Berlin: Springer.

39. Matsuda, N. & Okamoto, T. (1996). Parallel Computing Model for Problem Solver Towards ITSs. In C. Frasson, G. Gauthier & A. Lesgold (Eds.), *Proceedings of the International Conference on Intelligent Tutoring Systems* (Lecture Notes in Computer Science No.1086, pp.234-242), Heidelberg, Berlin: Springer.
40. Matsuda, N. & Okamoto, T. (1994). Student Modeling for an ITS to Study Problem Solving. In H Ueno & V. L. Stefanuk (Eds.), *Proceedings of Japan-CIS Symposium on Knowledge Based Software Engineering* (pp.94-99), Saitama, Japan: Isshinsha.
41. Matsuda, N. & Okamoto, T. (1992). Student Model Diagnosis for Adaptive Instruction in ITS. In C. Frasson, G. Gauthier & G.I. McCalla (Eds.), *Proceedings of the International Conference on Intelligent Tutoring Systems* (Lecture Notes in Computer Science No.608, pp.467-474), Heidelberg, Berlin: Springer-Varlag.

Book Chapters

42. Matsuda, N. (2006). How to get a Ph.D in America. In Akira Arimoto and Ikuo Kitagaki (Eds.) *University Authority*, (pp.132-137). Tokyo: Minervashobo Publishers Inc.
43. Matsuda, N. (2005). Instructional strategies. In Hozumi Tanaka (Ed.) *Encyclopedia of Artificial Intelligence*. Tokyo: Japan Society of Artificial Intelligence.
44. Matsuda, N. (2005). Natural language processing in educational systems. In Hozumi Tanaka (Ed.) *Encyclopedia of Artificial Intelligence*. Tokyo: Japan Society of Artificial Intelligence.
45. Matsuda, N. (1999). Cognitive model of geometry theorem proving with construction and its application to intelligent tutoring systems. In Yoshishige Sugiyama (Ed.) *Towards new practical theories in mathematics education*. Tokyo: Toyokan Publishers Inc.
46. Matsuda, N. (1993). Computer networking. In Okamoto, T. (Ed.) *Introduction to Information Education for Teachers: Cases in High-School Education*, (pp.180-197). Tokyo: Personal Media.
47. Matsuda, N. (1992). Foundations of Computers. In Okamoto, T. (Ed.) *Introduction to Information Education for Teachers: Cases in Middle-School Education*, (pp.88-119). Tokyo: Personal Media.
48. Matsuda, N. (1990). What is CAI? In Okamoto, T. (Ed.) *Introduction to C Programming*, (pp.201-236). Tokyo: Personal Media.
49. Matsuda, N. & Kazuhiko Hatano (1990). Knowledge communication. In Okamoto, T. and Riichiro Mizoguchi (Eds.) *Artificial Intelligence and Tutoring Systems*, (pp.447-456). Tokyo:

Ohmu Inc. This is a Japanese translation of Etienne Wenger, *Artificial Intelligence and Tutoring Systems*, Los Altos, CA: Morgan Kaufmann (1987).

50. Matsuda, N. (1988). Drill, Practice, and Machine Learning. In Okamoto, T., Kanji Akahori, and Setsuo Yokoyama (Eds.) *Computer environments for children*, (pp.21-40). Tokyo: Personal Media. This is a Japanese translation of Cynthia Solomon, *Computer environments for children*, Cambridge, MA: MIT Press (1986).

Dissertation

51. Matsuda, N. (2004). The impact of different proof strategies on learning geometry theorem proving. Unpublished Ph.D dissertation. University of Pittsburgh.

Other Publications

52. Matsuda, N., William W. Cohen, Jonathan Sewall, and Kenneth R. Koedinger (2006). Applying Machine Learning to Cognitive Modeling for Cognitive Tutors, Technical report CMU-ML-06-105, School of Computer Science, Carnegie Mellon University.
53. Matsuda, N., William W. Cohen, Jonathan Sewall, and Kenneth R. Koedinger (2006). What characterizes a better demonstration for cognitive modeling by demonstration? Technical report CMU-ML-06-106, School of Computer Science, Carnegie Mellon University.

Invited Talks

54. SimStudent: A Teachable Agent that advances theories of learning (2011). Department of Instructional Technology and Learning Sciences, Utah State University. Logan, UT.
55. SimStudent: A Pedagogical Machine-Learning Agent and its Application for the Sciences of Learning (2010). Department of Instruction Science, Sungkyunkwan University. Seoul, Korea.
56. SimStudent for STEM Education: A synthetic student to explore theories of learning and build effective interventions (2009). School of Education, Public Policy and Civic Engagement, University of Massachusetts Dartmouth. Fairhaven, MA.
57. SimStudent: Teaching a smart machine to learn how people learn (2008). Human Computer Interaction Graduate Program, Iowa State University. Ames, IA.
58. Beyond Building Cognitive Tutors by Demonstration – When SimStudent helps building a bridge between technology and education (2007). School of Education, Stanford University. Palo Alto, CA.

59. Using Simulated Student to build Cognitive Tutors and beyond – Cognitive Modeling with Programming by Demonstration (2006). Department of Computer Science Colloquium, Northern Illinois University. DeKalb, IN.
60. Building Cognitive Model for Cognitive Tutors by Demonstration (2006). Seminar series on e-Learning, Kumamoto University. Kumamoto, Japan.
61. Building Robust Learning Theories for Robust Learning (2006). International Symposium on e-Learning, Osaka Prefecture University. Osaka, Japan.

GRANTS

- 2012 (pending) **Department of Education, Institute of Education Sciences, Education Technology**
Studying the effects of cognitive and meta-cognitive help on learning by teaching.
Principal Investigator (co-PIs: Kenneth R. Koedinger, William W. Cohen, and Gabriel J. Stylianides). June 2012 to May 2015. \$1,500,000
- 2011 (pending) **National Science Foundation, Transforming Undergraduate Education in Science, Technology, Engineering and Mathematics (TUES)**
Improving Students' Professional Communication Skills by Employing an Integrated System of Learning Tools and Methods. Senior Project Personnel (PI: Suguru Ishizaki).
 January 2012 to December 2013. \$199,995
- 2009/08 **National Science Foundation, Research and Evaluation on Education in Science and Engineering (REESE)**
Learning by Teaching a Synthetic Student: Using SimStudent to Study the Effect of Tutor Learning. Principal Investigator (co-PIs: Kenneth R. Koedinger, William W. Cohen, and Gabriel J. Stylianides). August 1, 2009 to July 31, 2012. Award No. 0910176. \$508,439
- 2009/06 **Department of Education, Institute of Education Sciences, Education Technology**
Learning by Teaching Synthetic Student: Using SimStudent to Study the Effect of Tutor Learning. Principal Investigator (co-PIs: Kenneth R. Koedinger, William W. Cohen, and Gabriel J. Stylianides). June 1, 2009 to May 31, 2012. Award No. R305A090519. \$1,413,273

- 2008/09 **Pittsburgh Science of Learning Center** (Pittsburgh, PA)
Towards a Theory of Learning Errors: Application of a Synthetic Student to Model How Students Learn Errors. Principal Investigator (co-PIs: William W. Cohen and Kenneth R. Koedinger; CMU). September 1, 2008 to August 31, 2009. \$72,335
- 2008/12 **Japan Ministry of Education, Culture, Sports, Science and Technology**
Computer Supported Learning System for learning Communication Skills for Students with High-functioning Autism. Co-principal Investigator (PI: Kiyoshi Tajitsu, Hokusei University, Hokkaido, Japan). Award No. 20330197. Approximately \$207,000
- 2005/09 **National Science Foundation, Advanced Learning Technologies (ALT)**
Building Cognitive Tutors with Programming by Demonstration: When Simulated Students help Cognitive Modeling and Educational Studies. Co-Principal Investigator (PI: William W. Cohen, CMU. co-PI: Kenneth R. Koedinger, CMU). September 15, 2005 to August 31, 2009. Award No. REC-0537198. \$499,473
- 2006/07 **Japan Ministry of Education, Culture, Sports, Science and Technology**
Developing a Computer Assisted Instruction System for teaching Communication Skills using Pictograms for Students with Autism. Co-principal investigator (PI: Ikuya Murata, Hokkaido University of Education). Approximately \$24,400
- 1995/04 **Japan Ministry of Education, Culture, Sports, Science and Technology**
Intelligent Learning Environment for Exploratory Learning, Principal Investigator, Approximately \$10,000
- 1994/04 **University of Electro-Communications** (Tokyo, Japan)
Advanced Problem Solving Model for Intelligent Tutoring Systems, Principal Investigator, Approximately \$9,000
- 1993/04 **Japan Ministry of Education, Culture, Sports, Science and Technology**
Modeling Students Competence in Procedural Problem Solving, Principal Investigator, Approximately \$10,000
- 1990/04 **Japan Ministry of Education, Culture, Sports, Science and Technology**
Plan Recognition for an Intelligent Tutoring System in Geometry Theorem Proving, Principal Investigator, Approximately \$10,000

AWARDS AND CERTIFICATES

Award

- 2010 **Best Demo Award**
 Learning by teaching SimStudent
International Conference on User Modeling and Adaptive Personalization
- 1988 **Outstanding Young Researcher Research Award**
 GEOMEX II: An Intelligent Tutoring System for Geometry Theorem Proving
Japan Society of Educational Technology

Certificate

- 1985 **Teaching Certificate** in Mathematics for all grade levels (1st through 12th grade)
Japan Ministry of Education, Culture, Sports, Science and Technology

SERVICES TO THE FIELD

Editorial Board

- 1996 – 1999 Journal of Japanese Society of Information and Systems in Education

Reviewer for Grant Proposals

- NSF review panel. Human-Centered Computing. 2007

Reviewers for Journals

- Applied Artificial Intelligence
 Computers & Education
 IEICE Transactions on Information and Systems (IEICE: Institution of Electronics, IEEE
 Information and Communication Engineering)
 International Journal of Human-Computer Studies
 Japan Journal of Educational Technology
 Journal of Ambient Intelligence and Humanized Computing
 Journal of Educational Technology
 Journal of Educational Research

Journal of Information Processing Society of Japan
Journal of Intelligent Systems
Journal of Machine Learning Research
Journal of Technology, Instruction, Cognition, and Learning
Transaction of Japanese Society for Information and Systems in Education
Transactions on Learning Technologies
User Modeling and User-Adapted Interaction

Reviewers for Peer-reviewed Conferences

Cognitive Science Society, 2009-2011
IEEE International Conference on Digital Gam and Intelligent Toy Enhanced Learning, 2012
International Conference on Artificial Intelligence in Education, 1995, 2005-2011
International Conference on Computers in Education, 2001, 2006-2011
International Conference on Educational Data Mining, 2008-2011
International Conference on Intelligent Tutoring Systems, 1998, 2000, 2006-2010

Conference Program Committee

IEEE International Conference on Digital Gam and Intelligent Toy Enhanced Learning, 2012
International Conference on Artificial Intelligence in Education, 1997, 2011
International Conference on Computers in Education, 2006-2012
International Conference on E-learning and Games (Edutainment), 2011
International Conference on Educational Data Mining, 2008-2010
International Conference on Intelligent Tutoring Systems, 2010
International Florida Artificial Intelligence Research Society Conference, 2006, 2008-2012
Joint National Conference on Educational Technology in Japan, 1994, 1997

Membership in Professional Organization

Association for the Advancement of Artificial Intelligence
Cognitive Science Society
International Artificial Intelligence in Education Society
International Educational Data Mining Society
International Group for the Psychology of Mathematics Education

Japanese Society of Artificial Intelligence
 Japanese Society for Information and Systems in Education
 Japan Society of Mathematical Education

TEACHING EXPERIENCE

- 9/2010-present **Carnegie Mellon University** Pittsburgh, PA
 Co-instructor
 05-430 Programming Usable Interfaces (2011 Fall)
 05-571 Undergraduate Project in HCI (2011 Spring)
 05-832 Cognitive Modeling and Intelligent Tutoring Systems (2010 Fall)
- 4/2004 – present **Pittsburgh Japanese School** Pittsburgh, PA
Lecturer (full lecturing responsibility)
 A full-day school open every Sundays for K-12 students to learn Japanese language and math in Japanese. Topics: 7th and 8th graders mathematics
- 11/2001 – 5/2003 **Chatham College** Pittsburgh, PA
Tutor for learning aid (a part time tutor at the Chatham Learning Center)
 Topics: Mathematics, Statistics, Physics, Signal Communication, Java
- 4/1995 – 3/1998 **Tokyo Zokei University** Tokyo, Japan
Lecturer (full lecturing responsibility)
 Topics: Introduction to information processing and Internet
- 4/1993 – 12/1999 **University of Electro-Communications** Tokyo, Japan
Assistant Professor (graduate level, voluntary)
 Topics: Artificial Intelligence, Programming language (C, Java, LISP, Prolog), Unix operating system and networking

MENTORING EXPERIENCE

Postdoctoral Research Fellow:

- 2011/09-present Amy Ogan (Human-Computer Interaction Institute, Carnegie Mellon University; co-mentored with Justine Cassell)

Ph.D Student:

2009-present Nan Li (Machine Learning Department, Carnegie Mellon University; co-mentored with Ken Koedinger and William Cohen)

Graduate Interns:

2009/11-2011/03 Mari Sano (Visiting graduate student from Tokyo Institute of Technology)

2010/01-04 Alicia Tseng (Master student in Human-Computer Interaction Institute, Carnegie Mellon University)

Undergraduate Interns:

2011/06-08 Andre Plate, Claudia D'Adamo (NSF REU), Huan Truong (PSLC Summer Intern), Nick Rock, Rebecca Chen, Anthony Santos (Summer interns on the SimStudent project)

2010/12-2011/05 Xi Yang, Veronica Borges

2010/06-08 Evelyn Yarzebinski, Sam Anzaroot (NSF REU), Jaclyn Downs (Summer Intern at Pittsburgh Science of Learning Center), Nischal Gullapalli, Yael Engel, Samantha Payne, Steve Keiser

2010/02-05 Steven Hansen

2009/10-2010/03 Jinyu Lin

2008/10-2009/08 Andrew Lee, Tatyana Tsybalenko, and Travis Mandel (NSF REU, co-supervised with William Cohen and Ken Koedinger)

2008/06-07 Sarah Epstein (Summer Intern at Pittsburgh Science of Learning Center, co-supervised with Ken Koedinger)

2006/06-08 Anthony Zana and Reid VanLehn (NSF REU, co-supervised with William Cohen and Ken Koedinger)

Research Staffs:

2011/05-present Evelyn Yarzenbinski (Research Associate)

2010/12-present Shayna Watson (Research Associate)

2009/12-present Rohan Raizada (Research Programmer)

2009/11-present Victoria Keiser (Research Programmer)
2009/11-2010/03 Arthur Tu (Research Associate)
2006/08-2008/08 Gustavo Lacerda (Research Associate)

REFERENCE

Dr. Kenneth R. Koedinger

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Dr. William W. Cohen

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Dr. Kurt VanLehn

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