

Dr. Tamara Babaian

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EDUCATION

Ph.D., Tufts University, Department of Electrical Engineering and Computer Science, May 2000

M.S. in Computer Science, Tufts University, May 1996

Honors Diploma of Higher Education (M.S. + B.S. equivalent) in Applied Mathematics, Yerevan State University of Armenia, May 1994

ACADEMIC EXPERIENCE

Bentley University, Computer Information Systems Department

Associate Professor

July, 2008 - present

Assistant Professor

September, 2001 - July 2008

On Standard Faculty Profile during Academic Years (AY) 2001-2003. On Scholarly Faculty Profile during AY 2004 until present time. Teaching load: 5 courses per year in AY 2001, 2002; 4 courses per year in AY 2003-present.

Harvard University, Division of Engineering and Applied Sciences

Postdoctoral Research Fellow

August, 2000 - August, 2001

Conducted research in collaborative user interfaces.

Tufts University, EECS Department

Lecturer

January, 2000 - May, 2000

Taught an undergraduate course in Analysis of Algorithms.

Research Assistant

September, 1997 - May, 1998

Researched topics in Automated Planning.

Teaching Assistant

September, 1998 - May, 1999

September, 1994 - May, 1997

Assisted faculty teaching Artificial Intelligence, Programming Languages, Database and Intro to Computer Science courses by tutoring students, grading, occasional lecturing, preparing homework solutions.

Suffolk University, Mathematics and Computer Science Department

Adjunct Lecturer

Summer 1995

Taught an undergraduate Introduction to Computer Science course.

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| PROFESSIONAL EXPERIENCE | <p>CONTEX Prepress Systems <i>Software Engineer</i> Summer 1996 Worked on performance evaluation and optimization of algorithms for transformation of bitmap images into vectorized representations (Bezier polynomials) for graphic displays and printing.</p> <p>ARAGAST BEN Software Corporation, Yerevan, Armenia <i>Software Engineer</i> June 1991 - August 1993 Designed, implemented and maintained Windows applications for WinFont system, supporting Russian and Armenian keyboard and fonts. Analyzed, designed and implemented a small database management application for a local bank.</p> |
| GRANTS AND AWARDS | <p>NSF grant #0819333, <i>Design and Evaluation Methodologies for Enhancing ERP System Usability</i> (with W. Lucas, H. Topi, J. Xu) \$400,000. (2008-2011)</p> <p>Bentley College Research Grant, <i>Enterprise Systems Usability</i> (with W. Lucas, H. Topi) \$20,000. (2003-2006)</p> <p>Summer Research Grant, Bentley (2001-2009)</p> <p>Faculty Affairs Committee Grant (2002, 2007)</p> <p>Faculty Publication Award (2002-2005)</p> |
| PUBLICATIONS | <p>Journal Articles</p> <p>Babaian, T., and Schmolze, J. Practical reasoning about knowledge states for open world planning with sensing. <i>Journal of Applied and Non-Classical Logics</i>, 19(1):7–41, 2009.</p> <p>Babaian, T., and Schmolze, J. G. Efficient open world reasoning for planning. <i>Logical Methods in Computer Science</i>, 2(3):1–39, 2006.</p> <p>Topi, H., Lucas, W., and Babaian, T. Using informal notes for sharing corporate technology know-how. <i>European Journal of Information Systems</i>, 15(5):486–499, 2006.</p> <p>Babaian, T., Lucas, W., and Topi, H. Improving ERP usability through user-system collaboration. <i>International Journal of Enterprise Information Systems</i>, 2(3):10–23, 2006.</p> <p>Babaian, T., and Lucas, W. Black-box testing in the introductory programming course. <i>Journal of Informatics Education Research</i>, 8(3):107–128, 2006.</p> <p>Carlin, A., Schmolze, J. G., and Babaian, T. Graphplan based conformant planning with limited quantification. <i>Research on Computing Science</i>, 16, Advances in Artificial Intelligence Theory:65–75, 2005.</p> |

Refereed Conference Papers

Cooprider, J., Topi, H., Xu, J., Dias, M., Babaian, T., Lucas, W. A collaboration model for erp user-system interaction. In *Proceedings of HICCS'2010*, forthcoming, 2010.

Babaian, T. and Lucas, W. A Reasoned Approach to Error Handling In *Proceedings of the International Conference on Enterprise Information Systems (ICEIS-2008)*, pages 420-423, 2008.

Babaian, T.; Lucas, W.; and Topi, H. A data-driven design for deriving usability metrics. In *Proceedings of the International Conference on Software and Data Technologies (ICSOFT-2007)*, pages 154–159, 2007.

Babaian, T.; Lucas, W.; and Topi, H. Visualizing the process: A graph-based approach to enhancing system-user knowledge sharing. In *Proceedings of the International Conference on Enterprise Information Systems (ICEIS-2007)*, pages 123–128, 2007.

Topi, H., Lucas, W., and Babaian, T. Identifying usability issues with an ERP implementation. In *Proceedings of the International Conference on Enterprise Information Systems (ICEIS-2005)*, pages 128–133, 2005.

Topi, H., Babaian, T., and Lucas, W. Informal notes on technology use as a mechanism for knowledge representation and transfer. In *Proceedings of The Sixth European Conference on Organizational Knowledge, Learning, and Capabilities (OKLC-2005)*, 2005.

Babaian, T., and Lucas, W. Developing testing skills in an introductory programming class. In *Proceedings of the International Conference on Informatics Education Research*, pages 90–96, 2005.

Babaian, T., Lucas, W., and Topi, H. Collaborating to improve ERP usability. In *Proceedings of the International Conference on Enterprise Information Systems (ICEIS-2004)*, pages 164–168, 2004.

Babaian, T., Grosz, B. J., and Shieber, S. M. A Writer's Collaborative Assistant. In *Proceedings of Intelligent User Interfaces Conference (IUI-02)*, pages 7–14. ACM Press, January 2002.

Babaian, T., and Schmolze, J. PSIPLAN: open world planning with psi-forms. In *International Conference on Artificial Intelligence Planning and Scheduling (AIPS'2000)*, pages 292–300. AAAI Press, April 2000.

Refereed Workshop Papers

W. Lucas and T. Babaian. Reasoning for intelligent system-user interactions with Enterprise Resource Planning systems. In *Proceedings of IJCAI 2009 Workshop on Intelligence and Interaction*, pages 30–36, July 2009.

Babaian, T. Hypothetical planning. In *Proceedings of IJCAI 2005 Workshop on Planning*

and *Learning in A Priori Unknown or Dynamic Domains*, pages 90–96, August 2005.

Babaian, T. Learning user preferences by satisfying knowledge goals. In *Personalized Agents. Papers from 2002 AAAI Fall Symposium*, pages 1–5, North Falmouth MA, November 2002. AAAI Press.

Babaian, T., and Schmolze, J. G. PSIPOP: Planning with sensing over partially closed worlds. In *Search Techniques for Problem Solving under Uncertainty and Incomplete Information. Papers from 1999 AAAI Spring Symposium.*, pages 1–7, Stanford, CA, March 1999. AAAI Press.

Babaian, T., and Schmolze, J. G. Planning with incomplete knowledge and with quantified information. In *Proceeding of the Workshop on Integrating Planning, Scheduling and Execution in Dynamic and Uncertain Environments, held in conjunction with Fourth International Conference on Artificial Intelligence Planning Systems (AIPS-98)*, Pittsburgh, PA, July 1998.

Refereed Extended Abstracts

Babaian, T., Lucas, W., and Topi, H. Using a process graph to improve system-user knowledge sharing. In *CHIMIT '07: Proceedings of the 2007 symposium on Computer human interaction for the management of information technology*, article No. 9. ACM Press, 2007.

Babaian, T., Lucas, W., and Topi, H. Making memories: applying user input logs to interface design and evaluation. In *CHI '06 extended abstracts on Human factors in computing systems*, pages 496–501. ACM Press, 2006.

Babaian, T., Grosz, B. J., and Shieber, S. M. Writer's Aid: using a planner in a collaborative interface. In *Proceedings of International Joint Conference on Artificial Intelligence (IJCAI'2003), Intelligent Systems Demonstrations*, pages 1629–1630. Morgan Kaufmann Publishers, August 2003.

Refereed Book Chapters

Lucas, W.; Babaian, T.; and Topi, H. Applying collaboration theory for improving ERP system-user interaction. *Advanced Topics in Enterprise Information Systems, edited collection*, (Vol. 2) pages 1–21, Idea Group Inc, Hershey, PA, 2008

Babaian, T. Reasoning about user preferences. In Khosrow-Pour, M., editor, *Encyclopedia of Information Science and Technology*, pages 2403–2408. Information Science Reference, 2005.

Babaian, T. Knowledge-based personalization. In Ditsa, G., editor, *Information Management: Support Systems and Multimedia Technology*, pages 26–34. Idea Group Inc., 2003.

Invited Talks and Panels

Building Collaborative Systems. IPM/CIS Seminar, Bentley College, January, 2007.

Putting Automated Reasoning to Work in a Collaborative System. Math Department Seminar, Bentley College, November, 2006.

Enterprise Systems Usability. Panel discussion at the 35th Annual Meeting of the Decision Sciences Institute, Boston, MA, November, 2004.

Identifying ERP Usability Issues. Enterprise Resource Planning Workshop, Bentley College, October, 2004.

Planning in Open Worlds with Psi-forms. Computer Science Department Colloquium, University of New Hampshire, November, 1999.

Writer's Aid: Planning in a Collaborative Interface. Mitsubishi Electric Research Lab, Cambridge, MA, February, 2002.

Poster presentation: PSIPLAN: Planning with psi-forms over partially closed worlds. European Conference on Planning, Durham, Great Britain, September 1999.

COURSES

Bentley

Taught

CS350 *Database Management*

CS180 *Programming Fundamentals*

CS603 *Object-Oriented Programming*

CS652 *Database Management*

CS361 *Data Management with SQL (half-semester course)*

CS362 *Computer Aided Systems Engineering (half-semester course)*

CS450 *Object-Oriented Technology*

CS230 *Algorithm and Data Abstractions (with Java)*

CS230 *Algorithm and Data Abstractions (with pseudocode)*

Developed

INT402 *Armenia and an Introduction to the Southern Caucasus*
(in collaboration with Philip Uhlmann)

CS180 *Programming Fundamentals*

CS230 *Algorithm and Data Abstractions (with Java)*

Tufts University

Taught *Analysis of Algorithms*

Suffolk University

Taught *Introduction to Programming (in C++)*

SCHOLARLY
ACTIVITIES

Member of the Master's Thesis Committee for Alan Carlin (Tufts University, 2005).

Program committee member for the third ACM SIGCHI Symposium on Computer Human Interaction for Management of Information Technology (CHIMIT-09).

Reviewer for

- ACM SIGCHI Symposium on Computer Human Interaction for Management of Information Technology (CHIMIT)
- ACM SIGCHI Conference on Human Factors in Computing Systems (CHI)
- IEEE International Conference on Information Technology: Coding and Computing (ITCC)
- Americas Conference on Information Systems (AMCIS)
- Information Sciences (published by Elsevier)
- Enterprise Information Systems (published by Taylor & Francis)

Participated in creating course curriculum for PhD program at Bentley by submitting a description of an elective seminar (2005).

Developed an Automated Testing System for use in programming courses at Bentley.

PROFESSIONAL
SERVICE AT
BENTLEY

Institutional and Departmental Committee Service

- Member of the Teaching and Scholarly Activities Committee (Spring 2007 - Spring 2009)
- Member of the CIS Department Research Committee (Spring 2006 - present)
- Member of the Board of Trustees Information Services Committee (Spring 2006 - Spring 2007)
- Member of Student Affairs Committee (Fall 2003 - Spring 2006)
- Member of Faculty Advisory Board (Spring 2003 - Fall 2003)
- Member of the CIS Department Curriculum Committee (Spring 2002 - Fall 2004)

Participate in recruitment and training of the CIS Lab tutors. (Fall 2004 - present)

PROFESSIONAL
AFFILIATIONS

- Association for Advancement of Artificial Intelligence (AAAI, formerly American Association for Artificial Intelligence)
- Association for Computing Machinery (ACM)
- ACM Special Interest Group in Computer Human Interaction (SIGCHI)