

Samad Kardan
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Education:

- 2009-present
 - **PhD** student in Computer Science: University of British Columbia, **GPA = 86.6/100 (4.0/4.0)**
Thesis: A Data Mining Approach for Adding Adaptive Interventions to Exploratory and Open-Ended Environments - **Supervisor:** Dr. Cristiana Conati
 - 2006-2009
 - **M.Sc.** in Information Technology – E-Commerce: Amirkabir University of Technology (Tehran Polytechnic). Ranked 2nd, **GPA = 18.41/20 (3.91/4.0)**
Thesis: Presenting a Technique for Detecting Learning-Contents' Tendency by Estimating Learners' Skill Mastery - **Supervisor:** Dr. Ahmad Kardan
 - 2001-2006
 - **B.S.** in Computer Engineering – Software: Ferdowsi University of Mashhad. Ranked 5th, **GPA = 16.55/20. (3.31/4.0)**
Thesis: A Tool for Protecting the Integrity of Binary Files.
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Research Interests:

- *User Modeling*
 - Mining patterns within usage data such as activity logs, eye-tracking and other sensor-based data, to identify different types of users for various interactive applications.
 - Building user models based on the extracted user's interaction patterns.
 - Using Bayesian Networks to model users and handle relevant uncertainties.
 - *Human Computer Interaction*
 - Design and implementation of Intelligent/Adaptive User Interfaces, Cognitive Tools and Pedagogical Animated Assistants.
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Academic Experience:

➤ Research:

- 2009 - present
 - **Research Assistant** in Laboratory for Computational Intelligence (LCI).
 - Developed a datamining framework to capture distinguishing user interaction behaviours in open-ended and interactive environments (using Python).
 - Developed EMDAT, a data analysis toolkit to analyze raw eye-tracking data (using Python).
Available at: <http://www.cs.ubc.ca/~skardan/EMDAT>

- 2007-2008
 - **Research Assistant** in Advanced E-Learning Technologies (AELT) Lab.
 - Designed and developed an online Intelligent Tutoring System (ITS) delivering learning content adaptive to user's performance.
 - Supervised a B.S. Project titled "*Sequencing the Learning Objects Based on the Prior Knowledge of Learners in Intelligent Tutoring Systems*".
- 2007
 - **TMR2:** Designed and developed a lightweight Trust Model for Micropayment Systems based on Micali and Rivest's MR2.
- 2007-2008
 - **Adaptive Caching Working Set:** Designed an adaptive database caching system for web-based applications using Bayesian Networks.

➤ **Teaching:**

- 2009 - present
 - **University of British Columbia-Graduate Teaching Assistant**
 - Introduction to Software Development, Fall 2009.
 - Introduction to Artificial Intelligence, Fall 2010 and Winter 2012.
 - Introduction to Computation in Engineering Design, Winter 2011 and Winter 2013.
- 2007-2008
 - **Amirkabir University of Technology-Graduate Teaching Assistant**
 - Computer Algorithms, Spring 2007.
 - Machine Language and System Programming, Fall 2007.
 - E-Commerce, Spring 2008.
 - Information Technology Engineering (I), Spring 2008.
 - Electronic Payment Systems, Fall 2008.
- 2007-2008
 - **Virtual Education Graduate College, Amirkabir University of Technology:**
 - Electronic Payment Systems, Fall 2007.
 - Information Technology for Managers, Spring 2008.
 - E-Learning, Spring 2008.
- 2007-2008
 - **Visiting Lecturer at Islamic Azad University, Bueen-Zahra Branch:**
 - Advanced Computer Programming.
 - Operating Systems.
 - Operating Systems Lab.

Work Experience:

- 2009
 - **Researcher** at APA laboratory of Amirkabir University of Technology (APA-AUTCERT):
 - Lead researcher and manager of a team of 3 developers working on the Smart Incident Identification System (SIIS) project (using PHP/MySQL for web interface and C++ for the inference engine)
 - SIIS was nominated for the Best Practices Contest in the FIRST conference (<http://www.first.org/>) in 2009 by Iran Telecommunication Research Centre (ITRC) <http://ircert.cc/en/default>

- 2005-2006
- **Freelance Programmer:**
 - Developed information management applications for small and medium-sized enterprises (using Delphi).
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Technical Skills:

- *Programming languages:* **proficient** in Java, C, C++ and Assembly
- *Scripting languages:* **proficient** in Python, **familiar** with PHP, Java Script
- *Databases:* MySQL
- *Libraries and Tools:* **proficient** with WEKA, NumPy; **familiar** MATLAB

Academic Honours and Awards:

- Faculty of Science **Graduate Award**, University of British Columbia, 2010, 2011, 2012 and 2013.
 - **Research Grant** from ITRC (Iranian Telecommunication Research Center), Iran, 2008.
 - Recognized as **Distinguished student**, Amirkabir University of Technology, Iran, 2007 and 2008.
 - Recognized as **Distinguished Student** in National Annual Graduate Schools Entrance Exam By National Organization for Educational Testing (NOET), Iran, 2006.
 - **Ranked 4th** in National Annual Graduate Schools Entrance Exam in Information Technology Subject, Iran, 2006.
 - **Ranked top 1%** of the country, in the Annual National University Entrance Exam, with about 1,200,000 applicants. Iran, 2001.
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Publications:

➤ Journal Papers

1. **Samad Kardan** and Mehdi Shajari, "A Lightweight Buyer's Trust Model for Micropayment Systems", *WSEAS Transactions on Information Science & Applications*, June 2008 (ISSN: 1709-0832).
2. Ahmad Kardan and **Samad Kardan**, "Adaptive Assessment and Knowledge Level Estimation by Means of Knowledge Model and Bayesian Networks", *Journal of Technology of Education*, Summer 2009; 3(4):267-280.

➤ Selected Refereed Conference Papers

1. **Samad Kardan**, Cristina Conati, "Comparing and Combining Eye Gaze and Interface Actions for Determining User Learning with an Interactive Simulation", the 21th Conference on User Modeling, Adaptation, and Personalization (UMAP 2013), Rome, Italy (to appear).
2. **Samad Kardan**, "Data mining for adding adaptive interventions to exploratory and open-ended environments", Proceedings of the 20th Conference on User Modeling, Adaptation, and Personalization (UMAP 2012), 365-368.
3. **Samad Kardan**, Cristina Conati, "Exploring gaze data for determining user learning with an interactive simulation", Proceedings of the 20th Conference on User Modeling, Adaptation, and Personalization (UMAP 2012), 126-138.

4. **Samad Kardan**, Cristina Conati, "A Framework for Capturing Distinguishing User Interaction Behaviours in Novel Interfaces", Proceedings of the 4th International Conference on Educational Data Mining (EDM2011), 159-168.
5. **Samad Kardan**, Ahmad Kardan, "Towards a More Accurate Knowledge Level Estimation," ITNG, pp.1134-1139, 2009 Sixth International Conference on Information Technology: New Generations, 2009
6. Ahmad Kardan and **Samad Kardan**, "Knowledge Level Assessment and Adaptive Evaluation of Learners in an E-Learning Systems", 3rd National E-Learning Conference, 2008, Tehran, Iran.
7. Ahmad Kardan and **Samad Kardan**, "Learning Object Tendency: A new Concept for Adaptive Learning Improvement". In Proceedings of the 3rd International Conference of Virtual Learning (ICVL 2008), 2008, Constanta, Romania.
8. **Samad Kardan** and Mehdi Shajari, "Design and Test of a Low Overhead Trust Structure for MR2 Micro Payment Scheme". In Proceedings of the 13th Computer Society of Iran's Computer Conference (CSICC2008) – Persian Section, Sharif University of Technology, 9-11 May, 2008, Kish Island, Iran.
9. **Samad Kardan** and Ali R. Bagheri, "Improvement of Database Caching in Web-Based Systems, Using the Caching Working Set". In Proceedings of the 13th Computer Society of Iran's Computer Conference (CSICC2008) – Persian Section, Sharif University of Technology, 9-11 May, 2008, Kish Island, Iran.