

Rahmat Beheshti

Assistant Professor

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 rbi@udel.edu

 goo.gl/83Br6p

RESEARCH INTERESTS Health Data Science, Computational Epidemiology (obesity, nutrition, addiction), Artificial Intelligence, Applied Machine Learning

APPOINTMENTS **Assistant Professor** 09/2018 – Present
Department of Computer & Information Sciences
Data Science Institute, Resident Faculty
Center for Bioinformatics & Computational Biology, Affiliated Faculty
University of Delaware

EDUCATION & TRAINING **Postdoctoral Trainee/Researcher** 05/2015 – 09/2018
Johns Hopkins Bloomberg School of Public Health
Education and Training Program (International Health Dept., Global Obesity Prevention Center)
Joint, Whiting School of Engineering (Applied Math & Statistics Dept., and Civil Eng. Dept.)
Mentors: Timothy Moran (primary), Takeru Igusa, Thomas Glass, and Jessica Jones-Smith.

Ph.D., Computer Science 08/2011 – 05/2015
University of Central Florida (UCF)
Dissertation: “Modeling Social Norms in Realistic Agent-based Simulations”
Advisor: Gita Sukthankar — Committee: Lotzi Bölöni, Samarth Swarup, Annie Wu

M.Sc., Artificial Intelligence 09/2008 – 04/2011
Iran University of Science and Technology (IUST)
Thesis: “A Learning-Based Negotiation Method for Holonic Multi-Agent Systems”
Advisor: Nasser Mozayani — Co-advisor: Adel Torkaman Rahmani

B.Sc. (Hons), Computer Software Engineering 09/2004 – 09/2008
Kharazmi University (KHU)

GRANTS & FELLOWSHIPS **NIH Pathway to Independence Award (K99/R00)**, Role: Sole PI, Total costs: \$924,214, Period: 09/2018-09/2023 – Declined the reception of the grant due to start of faculty position (impact score: 20, IC: NIH/NIIDDK).

UC San Francisco Center for Tobacco Control Research and Education (CTCRE) Post-Doctoral Fellowship (2015-17) – Declined.

University of Central Florida, **Graduate Research Excellence Fellowship** (2013-15).
Telecommunication Research Center (ITRC) Research Grant, awarded to my M.Sc. thesis (2009-11).

PUBLICATIONS JOURNALS

[J5] **R. Beheshti**, T. Igusa, J. Jones-Smith, “Taking dietary habits into account: A computational method for modeling food choices that goes beyond price,” *PLoS One* 12, 1-13, 2017. PMID:28542615. [Link](#)

[J4] **R. Beheshti**, M. Jalalpour, and T. A. Glass, “Comparing methods of targeting obesity interventions in populations: An agent-based simulation,” *Social Science & Medicine –Population Health*, vol. 3, pp. 211–218, 2017. [Link](#)

[J3] **R. Beheshti**, T. Igusa, and J. Jones-Smith, “Simulated models suggest that price per calorie is the dominant price metric that low-income individuals use for food decision-making,” *The Journal of Nutrition*, vol. 146, no. 11, pp. 2304–2311, 2016. [Impact Factor: 4.15] [Link](#)

[J2] **R. Beheshti** and G. Sukthankar, “A hybrid modeling approach for parking and traffic prediction in urban simulations,” *AI and Society*, vol. 30, no. 3, pp. 333-344, 2015. [Link](#)

[J1] **R. Beheshti** and N. Mozayani, "HOMAN, a learning based negotiation method for Holonic multi-agent systems," *Journal of Intelligent and Fuzzy Systems*, vol. 26, no. 2, pp. 655–666, 2014. [Link](#)

BOOK CHAPTERS

[BC2] **R. Beheshti** and N. Mozayani, "A new mechanism for negotiations in multi-agent systems based on ARTMAP artificial neural network," in *Agent and Multi-Agent Systems: Technologies and Applications*, vol. 6682 of *Lecture Notes in Computer Science*, pp. 311–320, Springer International Publishing, 2011. [Link](#)

[BC1] **R. Beheshti** and N. Mozayani, "Negotiations in Holonic multi-agent systems," in *Recent Advances in Agent-based Complex Automated Negotiation*, pp. 107–118, Springer International Publishing, 2016. [Link](#)

CONFERENCE PROCEEDINGS Full papers, Peer-reviewed

NOTE: In the field of computer science, full papers published in the proceedings of the top-ranked, highly selective conferences, are viewed as equally (if not more) important than journal articles. These are highly peer-reviewed (with typical acceptance rates ranging from 15% to 30%) and are considered archival publications.

[C9] **R. Beheshti**, A. M. Ali, and G. Sukthankar, "Cognitive social learners: An architecture for modeling normative behavior," in *Proc. of the 29th AAAI Conf. on Artificial Intelligence*, pp. 2017–2023, 2015. [Acceptance rate: 21%] [Link](#)

[C8] **R. Beheshti** and G. Sukthankar, "A normative agent-based model for predicting smoking cessation trends," *Inter. Conf. on Autonomous Agents and Multi-agent Systems (AAMAS)*, pp. 557–564, 2014. [Acceptance rate: 23%] [Link](#)

[C7] **R. Beheshti** and G. Sukthankar, "Analyzing agent-based models using category theory," in *IEEE/WIC/ACM Inter. Conf. on Intelligent Agent Technology (IAT)*, pp. 280–286, 2013. [Acceptance rate: 25%] [Link](#)

[C6] **R. Beheshti** and G. Sukthankar, "Improving Markov Chain Monte Carlo estimation with agent-based models," *Conference on Social Computing, Behavioral Modeling and Prediction (SBP)*, pp. 495–502, 2013. [Link](#)

[C5] **R. Beheshti** and G. Sukthankar, "Extracting agent-based models of human transportation patterns," *ASE/IEEE Inter. Conf. on Social Informatics*, pp. 157–164, 2012. [Link](#)

[C4] **R. Beheshti** and N. Mozayani, "Predicting opponents' offers in multi-agent negotiations using ARTMAP neural network," *Inter. Conf. on Future IT and Management. Engineering (FITME)*, pp. 600–603, 2009. [Link](#)

[C3] **R. Beheshti** and A. Rahmani, "A multi-objective genetic algorithm method to support multi-agent negotiations," *Inter. Conf. on Future IT and Management Engineering (FITME)*, pp. 596–599, 2009. [Link](#)

[C2] **R. Beheshti**, M. Analui, and B. Minaei-Bidgol, "A pairwise classification method with support vector machines, based on game theory and alpha-beta algorithm," *Inter. Conf. of Iran Operation Research Society*, 2009. [Link](#)

[C1] **R. Beheshti**, N. Mozayani, and A. T. Rahmani, "A new hybrid evolutionary method with ant colony and PSO algorithms based on fuzzy decision making," *Inter. Conf. of Iranian Operation Research Society*, 2009. [Link](#)

SHORT PAPERS

[S2] **R. Beheshti** and G. Sukthankar, "Modeling tipping point theory using normative multi-agent systems," in *Proc. of the Inter. Conf. on Autonomous Agents and Multi-agent Systems (AAMAS)*, pp. 1731–1732, 2015. [Link](#)

[S1] **R. Beheshti**, R. Barmaki, and N. Mozayani, "Negotiations in Holonic multi-agent systems," *International Workshop on Agent-based Complex Automated Negotiations (ACAN)*, 2014. [Link](#)

ABSTRACTS

[20] **R. Beheshti**, Y. Treesukosol, T. Igusa, and T. H. Moran, "How Much Will This Rat Eat? – A Mathematical Model to Predict Calorie Intake," *The Obesity Society (TOS) Annual Meeting*, 2017. [Link](#)

[21] **R. Beheshti**, M. Jalalpour, T. Igusa, C. Nau, and T. A. Glass, "Comparing methods of targeting obesity interventions in populations: an agent-based simulation," The Obesity Society (TOS) Annual Meeting, 2015. [Link](#)

HONORS & AWARDS

Early Career Award Competition Finalist 2017
The Obesity Society (TOS) Annual Meeting

Doctoral Student of the Year award 2015
UCF Department of Computer Science (first runner up among 132 PhD students)

Dissertation Completion Scholarship 2014
UCF College of Engineering and Computer Science

INVITED TALKS

"Complex Models to Understand Complex Health Behaviors"

University of Utah Sep 2018
Washington University in St. Louis, Institute for Informatics (I²) May 2018
University of Nevada, Reno May 2018
Virginia Tech (Blacksburg, VA) May 2018
Cincinnati Children's Hospital Apr 2018
University of Delaware Apr 2018
Case Western Reserve University Apr 2018
University of North Texas Apr 2018
Virginia Tech Carilion School of Medicine & Research Inst. (Roanoke, VA) Apr 2018
Rochester Institute of Technology Apr 2018
University of South Carolina Mar 2018
Wake Forest School of Medicine Mar 2018
University of Maryland, Baltimore County Feb 2018
George Mason University Mar 2017
University of North Carolina at Charlotte Mar 2017
The Ohio State University Apr 2017

"How price affects our food decision making? an agent-based model simulation"

NIH Pathways to Prevention [**Travel Award recipient**] [Link](#) Dec 2017
The Obesity Society (TOS) Annual Meeting [Link](#) Nov 2016

"An Agent-based Transportation Simulation of the UCF Campus"

SwarmFest Conference, Orlando [Link](#) July 2013

INDUSTRY RESEARCH

Researcher 2006-2007
Data Mining Research Group, Bank Mellat Research Center

TEACHING

Co-Instructor – **MOOC on Coursera platform**, Title: "Systems Science and obesity." [Link](#)
Instructor – Artificial Intelligence (CISC481/681), University of Delaware, Fall 2018
Johns Hopkins Preparing Future Faculty teaching academy certificate.
Instructor – "Complex systems & obesity," Johns Hopkins Bloomberg SPH, 2015 & 16.
Lecturer – "Software Engineering," Semnan University, Spring 2011.
Teaching Assistant – Multiple courses at JHU, UCF, IUST and KHU.

MENTORING

Current PhD Students:
Syed Ali Asif
Md Mozaharul Mottalib

MEDIA MENTIONS

UDaily, University of Delaware newsletter. [Link](#)

ACM AI Matters newsletter, Volume 2, Issue 1, Sep 2015 - Modeling Social Norms in Real-World Agent-Based Simulations. [Link](#)

PROFESSIONAL ACTIVITIES	<p>Chair/Vice President..... 2012-14 UCF Graduate Students Association (GSA) Advisory Board/Executive Branches</p> <p>Graduate Students Representative Fall 2012-13 UCF Admissions and standards committee</p> <p>University Representative..... 2006-2007 Elected as the representative of scientific associations of KHU in the Ministry of Science, Research and Technology</p> <p>Editor in chief 2006-07 Abacus (<i>Chortkeh</i> in Persian) magazine (in IT & CS), published in KHU</p>
PROGRAM COMMITTEE	<p>NOTE: Program Committee members in top tier CS conferences, generally review 5-10 full papers in each round.</p> <p>IEEE Artificial Intelligence and Virtual Reality AIVR 2018 Int'l. Joint Conf. on Artificial Intelligence IJCAI 2015 & 2017 Conf. on Autonomous Agents and Multi-agent Systems AAMAS-16 – 19 Conference on Complex Systems CCS-17 & 18 AAAI Conference on Artificial Intelligence AAAI-14</p>
REVIEWER	<p>Journal of AI and Society Pattern Recognition Letters Journal Journal of Nutrition (JN) American Journal of Clinical Nutrition (AJCN) Journal of Physical Activity & Health Journal of Medical Internet Research</p>