Curriculum Vitae/Resume
Zahra Zahedi

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Summary

A Fourth-year PhD student in Computer Science, motivated and solution-oriented with a variety of professional and research experience. I'm working on trust, interpretability and fairness in Human-AI interaction.

Education

Arizona State University, Tempe, AZ.
- ***PhD*** *student in Computer Engineering. (GPA: 4/4)*   *2018-present*
  - ○ ***Supervisor:*** *Dr. Subbarao Kambhampati*

Shiraz University, Shiraz, Iran.
- ***Master*** *student in Electrical Engineering, Control. (GPA: 3.79/4) 2015-2017*
  - ○ ***Thesis Title:*** *Nash equilibrium seeking without steady-state oscillation*
  - ○ ***Supervisors:*** *Dr. Alireza Khayatian, Dr. Mohammad Mehdi Arefi*
- ***B.Sc.***, *Electrical Engineering, Control.(GPA: 3.73/4)*   *2011-2015*

Current Research Projects

- ***Game-Theoretic Model of Trust***
  - – *In this work, we modeled a game theoretic model of trust in Human robot interaction setting and introduced a solution as a trust boundary which is a proper human's monitoring strategy given the inferred trust. By choosing a monitoring strategy in that boundary, the human supervisor can assure that the robot or the artificial intelligent system will show a safe and interpretable behavior.*

- ***Trust-Aware Planning in longitudinal human robot interaction***
  - – *We propose a computational model for capturing and modulating trust in longitudinal human-robot interaction where the robot integrates human's trust and their expectations into planning to build and maintain trust over the interaction horizon. By establishing the required level of trust, the robot can focus on maximizing the team goal by eschewing explicit explanatory or explicable behavior. The human also with a high level of trust in the robot, might choose not to monitor the robot, or not to intervene by stopping the robot and save their resources.*

- ***Negotiation-Aware Task Allocation***
  - – *We considered a task-allocation problem where an AI Task Allocator (AITA) comes up with a fair allocation for a group of humans. And the AITA is able to provide explanation in the form of negotiation tree to convince humans who thinks a counterfactual allocation is more fair.*

Skills

- ***Programming Language:*** *Python, MATLAB, Clojure, C/C++.*

- ***Research and Planning:*** *Problem identification, Information gathering, Investigating different methods, Development, Evaluations, Analyzing and contributing results.*

- ***Interpersonal skills:*** *Communications, Teamwork, Confidence, Self management, Flexibility, Problem solving, creative and innovative to develop new solution.*

Publications

1. *S. Sengupta*, Z. Zahedi*, S. Kambhampati, "Game-theoretic Model of Trust to Infer Human's Observation Strategy of Robot Behavior," Robot for people workshop, R:SS 2021.*

2. *Z. Zahedi, M. Verma, S. Sreedharan, S. Kambhampati, "Trust-Aware Planning:Modeling Trust Evolution in Longitudinal Human-Robot Interaction," XAIP and PlabRob Workshop, ICAPS 2021.*

3. *Z. Zahedi, S. Kambhampati, "Human-AI Symbiosis: A Survey of Current Approaches," 2021.*

4. *Z. Zahedi*, S. Sengupta*, S. Kambhampati, "'Why didn't you allocate this task to them?' Negotiation-Aware Task Allocation and Contrastive Explanation Generation," Cooperative AI Workshop, NeurIPS2020.*

5. *S. Sengupta*, Z. Zahedi*, S. Kambhampati, "To Monitor or Not: Observing Robot's Behavior based on a Game-Theoretic Model of Trust," 21st International Workshop on Trust in Agent Societies (co-located with AAMAS), 2019.*

6. *Z. Zahedi*, A. Olmo*, T. Chakraborti, S. Sreedharan, S. Kambhampati, "Towards Understanding User Preferences for Explanation Types in Model Reconciliation," HRI Late Breaking Report, 2019.*

7. *Z. Zahedi, M. M. Arefi, A. Khayatian, "Seeking Nash equilibrium in non-cooperative differential games," submitted.*

8. *Z. Zahedi, M. M. Arefi, A. Khayatian, "Fast convergence to Nash equilibria without steady-State oscillation," Systems and Control Letters, 2019.*

9. *Z. Zahedi, M. M. Arefi, A. Khayatian, and H. Modares, "Fast seeking of Nash equilibria without steady-state oscillation in games with non-quadratic payoffs," in proc. 2018 American Control Conference.*

10. *Z. Zahedi, M. M. Arefi, and A. Khayatian, "Convergence without oscillation to Nash equilibria in non-Cooperative games with quadratic payoffs," 25th Iranian Conference on Electrical Engineering (ICEE), published in IEEE Xplorer, May 2017.*

11. *F. Zahedi, Z. Zahedi, "Real-time, Simultaneous Multi-Channel Data Acquisition Systems with no time skews between input channels," International Journal of Signal Processing Systems (IJSPS), vol. 4, no. 1, pp. 17-21, 2016.*

12. *F. Zahedi, Z. Zahedi, "A review of Neuro-fuzzy Systems based on Intelligent Control," Journal of Electrical and Electronic Engineering, vol. 3, no. 2-1, pp. 58-61, 2015.*

13. *F. Zahedi, Z. Zahedi, "Real-time, Simultaneous Multi-Channel Data Acquisition Systems with no time skews between input channels," 6th International Conference on Signal Processing Systems (ICSPS), 2014.*

14. F. Zahedi, Z. Zahedi, *"Review of Neuro-fuzzy based on Intelligent Control,"* 8th Symposium on Advances in Science & Technology," 2014 (Persian).

Honors	
• *Fulton Fellowship Award*	*2019-2020*
• *Grad Fellowship Award*	*Fall 2019 and Spring 2020*
• *Hassan Mahdi Award, Shiraz University*	*2018*
• *Honored as **Outstanding student**, Shiraz University*	*2017*
• ***2nd** rank among the Control students in Shiraz University*	*2016-2017*
• *Granted merit-based admission to M.Sc. in Shiraz University*	*2015*
• *Honored as **Active Student**, Shiraz University*	*2015*
• *Honored as **Exceptional Talent**, Shiraz University*	*2015*

- *Ranked within **top 10%** among more than 120 undergraduate students in Electrical and Computer Engineering Department, Shiraz University.*
- *Ranked Top **0.7%** among near 300,000 participants in the National University Entrance Exam (Konkoor) in Math & Physics*   *2011.*

Research Interests

- *Human Aware AI*
- *Human AI collaboration*
- *Automated Planning*
- *Game Theory*