

MOJGAN HASHEMIAN

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EDUCATION

- **PhD Candidate in Information Systems and Computer Engineering**, Instituto Superior Técnico, University of Lisbon, Lisbon, Portugal. *2016 - 2020*
- **M.Sc. in Computer Engineering - Artificial Intelligence and Robotics**, School of Electrical and Computer Engineering, University of Tehran, Tehran, Iran. *2011 - 2014*
- **B.Sc. in Computer Engineering - Hardware**, School of Computer Engineering, Iran University of Science & Technology, Tehran, Iran. *2005 - 2010*
- **Diploma in Mathematics and Physics**, Nemouneh High School*, Sabzevar, Iran. *2001 - 2005*
* Entrance to this school is only possible via a competitive exam

RESEARCH INTERESTS

Affective Computing, Human-Robot Interaction, Social Robotics, Socially Intelligent Agents.

AWARDS & HONORS

- **ACM Student Travel Grant** for AAMAS 2019.
- **AAAC Student Travel Grant** for ACII 2019.
- **UID/CEC/50021/2019** Fellowship, BIM Grant AMIGOS (Affect Modeling for robots In GrOup Social interactions): 2019-2020.
- **H2020-ICT-21-2014** Fellowship, Grant No. 644187 RAGE (Realising an Applied Gaming Ecosystem): 2015-2019.
- **Top 0.3%** of Iran's Nationwide University Entrance Exam for Graduate Students. 72th rank among nearly 20,000 participants, 2010.
- **Top 0.6%** of Iran's Nationwide University Entrance Exam for Undergraduate Students, among nearly 340,000 participants, 2005.

SELECTED ACADEMIC PROJECTS

- **Graduate Projects**
 - **Automatic Extraction of User's Mood State**, M.Sc. Thesis for Graduation in Artificial Intelligence and Robotics, Summer 2014.
In this project we propose a non-intrusive approach to recognize mood states, using emotional features observed in face. The proposed approach has been designed in two different methodologies, non-inductive and inductive methods. Both methods are tested and evaluated by three different experiments, and it is proved that they are promising.
 - **Localization and Obstacle Avoidance Planning for e-puck**, Advanced Robotics Course Project, Spring 2012.
In this project, after determining e-puck's sensor model, we performed robot localization and obstacle avoidance using UKF, AEKF, kalman, and particle filters, both in Webots and in the real-world.

- **Population Growth and Cooperation Dynamics in Evolutionary Game Theory**, Social Networks Course Project, Spring 2012.
The project consists of two parts, theory and simulation. In the theory phase, basics of Classic Game theory and it's extension as Evolutionary Game Theory have been surveyed. In the simulation part, the Prisoners Dilemma, one classic example in Game Theory, has been simulated the evolution of population growth is investigated.
- **The effect of Belief on Decision Making**, Machine Learning Course Project, Fall 2011.
In this project, the effect of internal beliefs on decision making process is examined. To do so, we propose a model which takes into account fuzzy-coded beliefs of an agent.
- **Classification of Persian Alphabet**, Pattern Recognition Course Project, Fall 2011.
In this project, 32 letters of Persian alphabet were classified using different techniques, such as Support Vector Machine (SVM), Neural Network Classifier and K- Means.
- **Undergraduate Projects**
 - **Extending the Neocognitron Neural Network to Complex Space**, B.Sc. Thesis for Graduation in Computer Hardware Engineering, Summer 2010.
In this project we extend the Neocognitron Artificial Neural Network, which has been used extensively for handwritten recognition, to complex space with the aim of using spacio-temporal information to make this network capable of processing on-line handwritten recognition.
 - **Simulating a Cache Server**, Computer Networks course Project, Spring 2010. In this project we simulate a cache server using Socket Programming in JAVA.

SELECTED PUBLICATIONS

Conference

- **M. Hashemian**, M.Couto, S. Mascarenhas, A. Paiva, P. A Santos, R. Prada, *Investigating Reward/Punishment Strategies in the Persuasiveness of Social Robots*, in The 29th IEEE International Conference on Robot & Human Interactive Communication (RO-MAN2020), Naples, Italy, (in press).
- **M. Hashemian**, A. Paiva, S. Mascarenhas, P. A Santos, R. Prada, *The Power to Persuade: A Study of Social Power in Human-Robot Interaction*, in The 28th IEEE International Conference on Robot & Human Interactive Communication (RO-MAN2019), New Delhi, India, (Link).
- **M. Hashemian**, R. Prada, P. Santos, J. Dias, S. Mascarenhas, *Emotion Recognition from Touching Patterns*, 8th International Conference on Affective Computing & Intelligent Interaction (ACII 2019), (Link).
- **M. Hashemian**, R. Prada, P. A. Santos, S. Mascarenhas, *Enhancing Believability of Virtual Agents using Social Power Dynamics*, In ACM SIGAI International Conference on Intelligent Virtual Agents (IVA), 2018, (Link).
- **M. Hashemian**, H. Moradi, M. S. Mirian, M. Tehrani-doost, *Determining mood via emotions observed in face by induction*. In Robotics and Mechatronics (ICRoM), 2014 Second RSI/ISM International Conference on (pp. 717-722). IEEE. (Link).
- **M. Hashemian**, H. Moradi, M. S. Mirian, M. Tehrani-doost, A. Nikoukaran, *Determining Mood using Emotional Features*, in 7th International Symposium on Telecommunications (pp. 418-423), Tehran, Iran, September 2014. IEEE (Link).

Book Chapter

- **M. Hashemian**, H. Moradi, M. S. Mirian, *“How is his/her Mood?: A question that a Companion Robot may be able to answer”*, 8th International Conference on Social Robotics, November 2016, Kansas City, USA, November 2016. Springer International Publishing (pp.274-284). (Link).

- R. B. Paradedda, **M. Hashemian**, R. A. Rodrigues, A. Paiva, “*How Facial Expressions and Small Talk May Influence Trust in a Robot*”, 8th International Conference on Social Robotics, November 2016, Kansas City, USA, November 2016. Springer International Publishing (pp.169-178). (Link).
- **M. Hashemian**, H. Moradi, M. S. Mirian, M. Tehrani-doost, R. K. Ward, *Is the Mood really in the Eye of Beholder?*, 17th International Conference on Human-Computer Interaction, Los Angeles, CA, USA, August 2015. Springer International Publishing (pp. 712-717). (Link).

Abstract

- **M. Hashemian**, M. Couto, S. Mascarenhas, A. Paiva, P. A. Santos, R. Prada, *The application of Social Power in Persuasive Social Robots*, in the 15th Annual ACM/IEEE International Conference on Human Robot Interaction (SIGCHI HRI2020), Cambridge, UK. (Link).
- **M. Hashemian**, A. Paiva, S. Mascarenhas, P. Santos, R. Prada, *Social Power in Human-Robot Interaction: Towards more Persuasive Robots*, in 18th International Conference on Autonomous Agents and Multiagent Systems (SIGCHI AAMAS2019), Canada, (Link).
- R. B. Paradedda, **M. Hashemian**, C. Guerra, R. Prada, J. Dias, A. Paiva, *FIDES: How Emotions and Small Talks May Influence Trust in an Embodied vs. Non-embodied Robot*, in 16th International Conference on Autonomous Agents and Multiagent Systems (SIGCHI AAMAS2017), Brazil. (Link).

TECHNICAL STRENGTHS

Modeling & Analysis	SPSS, R
Academic Software Packages	Weka, Clementine, Elan, Netlogo, Gephi, Webots (Robotic Sim.)
Software & Tools	ModelSim Simulator, Moodle CMS; FaceReader
Programming Languages	Python, Java, Matlab, C/C++, C#. <i>Logic</i> : (PROLOG), <i>Hardware Description Language</i> : (Verilog, VHDL), <i>Web</i> : (HTML, PHP, JavaScript), <i>Database</i> : (MySQL & Oracle).

RESEARCH EXPERIENCE

– GAIPS INESC-ID <i>Projects:</i>	Jul. 2015-Present <i>Lisbon, Portugal</i>
· Fides: a study on Trust in Human-Robot Interaction	
· RAGE: Emotion Recognition from Touching Patterns	
· AMIGOS: Empowering Social Robots using Social Power Dynamics	
– Advanced Robotics and Intelligent Systems Lab, University of Tehran <i>Projects:</i>	Jun. 2012-2016 <i>Tehran, Iran</i>
· Modeling humans in human-computer interaction	
· Evaluation of Cognitive Games	

TEACHING EXPERIENCE

– University of Hull <i>Part-time lecturer</i>	Oct. 2020- Jan. 2021 <i>Hull, UK</i>
· Data Analysis and Visualization (Graduate)	

– **Instituto Superior Técnico**

Teaching Assistant

2017-2018

Lisbon, Portugal

- Autonomous Agents and Multi-Agent Systems, Spring 2018.

– **Asre Dino Danesh (ADD University)**

Guest Lecturer

2013-2014

Tehran, Iran

- Web-Based Programming, Fall 2013.
- Data Structure, Fall 2013.
- Information Technology in Organizations, Spring 2014.

– **School of ECE, Univeristy of Tehran**

Teaching Assistant

2011-2013

Tehran Iran

- Social Networks (Graduate), Fall 2012.
- Introduction to Computer Systems and Programming, Fall 2011, 2012, 2013.
- Introduction to E-Learning, Spring 2013.

WORK EXPERIENCE

– **FANAP**

Java Developer

January 2015-August 2015

Tehran, Iran

- MIDHCO Enterprise Total Solution Database Middleware: Developing an Object Relational Mapping (ORM), which maps Java OOP objects to Oracle and MySQL tables.

RELEVANT COURSEWORK

Graduate

- Affective Computing
- Social Robotics and Human-Robot Interaction
- Machine Learning
- Pattern Recognition
- Advanced Robotics
- Bio-inspired Computing
- Social Networks
- System Identification
- Fuzzy Systems
- Inferential Statistics

Undergraduate

- Artificial Intelligence
- Signal and Systems
- Linear Algebra
- Linear Control Systems
- Advanced Programming in Java
- Introduction to programming in C++
- Algorithm Analysis and Design
- Probability and Statistics for Engineers

Online

- Python for Computer Vision with OpenCV and Deep Learning
- Python for Data Science and Machine Learning Bootcamp

STUDENTS MENTORED

- Payam Jom'e Yazdian: M.Sc. Thesis: User Mood Detection in a Social Network Messenger Based on Facial Cues.
- Fojan Babaali: Mood recognition using facial emotional cues and personality.

PROFESSIONAL PREPARATIONS

- Summer School on Sensor-Based Behavioral Machine Learning (TILES S3B2-ML), 3-4 August 2020.
- Workshop on statistics - from basic to advanced level, Mind-Brain College of ULisboa, Feb 13-15 2019, Lisbon, Portugal.
- Workshop on Methods and Research on gaze tracking, Mind-Brain College of ULisboa, 2018, Lisbon, Portugal.
- Advanced School on Artificial Intelligence applied to the development of Digital Games (EAIA'16), 2016, Barcelos, Portugal.
- How to Write a Scientific Paper-Workshop by Springer, 27 May 2015, Tehran, Iran.
- Workshop on Observing and Simulating Human Behavior, 5th International Conference on Cognitive Science, IRICSS, 2013, Tehran, Iran.

COMMUNITY SERVICE

- GHC (Grace Hopper Celebration of Women in Computing), Program Committee of the Artificial Intelligence track 2018, 2019 and 2020.
- Referee/Reviewer
 - IEEE Transaction on Affective Computing
 - Frontiers in Psychology
 - The 15th Annual ACM/IEEE International Conference on Human Robot Interaction (HRI 2020)
 - The ACM Interaction Design and Children conference (IDC 2020)
 - The ACM International Conference on Human-Agent Interaction (HAI 2020)
 - The 12th International Conference on Social Robotics (ICSR 2020)
 - The 8th International Conference on Social Robotics (ICSR 2016)
 - The 24th Iranian Conference on Electrical Engineering (ICEE 2016)

VOLUNTEER

- **Website Coordinator** of ACM-W UK
- **Student Volunteer** in ACII (8th International Conference on Affective Computing & Intelligent Interaction), 2019.
- **Student Volunteer** in AAMAS (International Conference on Autonomous Agents and Multiagent Systems), 2019.
- **Remote Volunteer** in Women of MENA in Tech Conference, 2019.
- **Head of Scientific Unit** of the Union of Islamic Students Associations in Lisbon, 2018.
- **Supervisor** of Mehrabani Charity.

LANGUAGE SKILLS

- **Persian:** Native.
- **English:** Fluent (IELTS Score: Overall 7 [Listening 7, Reading 7, Writing 7, Speaking 7]).
- **Portuguese:** Intermediate (B2 Level).

- **Arabic:** Familiar.

HOBBIES

Hiking, Traveling, Reading, Listening to Music, Watching Movies, Live Theatre.

PERSONAL TRAITS

- Highly motivated and eager to learn new things.
- Strong motivational and leadership skills.
- Ability to work as an individual as well as in group.