

Shaghayegh Gharghabi

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RESEARCH INTERESTS

Data Mining, Machine Learning

EDUCATION

- **Ph.D. Candidate**, University of California-Riverside (UCR) 2016– 2020(expected)
Major: Computer Science, Advisor: Prof. Eamonn Keogh
- **M.S.**, Amirkabir University of Technology (AUT) 2012 - 2015
Major: Robotics Engineering, Advisor: Prof. Reza Safabakhsh
- **B.S.** Shahid Beheshti University (SBU) 2008 - 2012
Major: Computer Engineering, Advisor: Dr. Eslam Nazemi

RESEARCH EXPERIENCE

Graduate Student Researcher, Data Mining and Machine learning Lab, UCR Dec 2016 – Present
(<https://www.cs.ucr.edu/~eamonn/>)

- Proposed a novel algorithm for domain agnostic and unsupervised semantic segmentation of time series data
 - It is domain agnostic
 - It has only one parameter
 - It can handle data streaming at a high rate
- Proposed a novel algorithm for time series classification and clustering
 - It is much more robust than current distance measures
 - It can handle data with missing values and spurious regions
 - It can be computed so efficiently as to allow analytics on very fast arriving streams

Technical committee member at International Robotic and Artificial Intelligence Competition (AUTCUP 2015) Oct 2015

- Referee for speech recognition league

Researcher and developer at the Artificial Intelligence Group of national robotics project of Iran

(University of Teharn Sourena |||, Website: <http://surenahumanoid.com>) Jun 2014 - Feb 2015

- Research and proposed a method for gesture recognition for Human Robot Interaction

Research assistance of @home robot Lab, AUT Jan 2013 - Dec 2015
(<http://sar.aut.ac.ir/en/?p=96>)

- Introduced a method for human following task by robot

Graduate Student Researcher, Machine Vision Lab, AUT Jan 2013 - Dec 2015

- Introducing a novel online person recognition method for service robots using Kinect

Graduate Student Researcher, Humanoid Robot Lab, AUT Sep 2012 - Dec 2012

- Performed implementation of ball detection for soccer robot competition

WORK AND TEACHING EXPERIENCE

- Researcher and developer at Faraadid Company, Tehran, Iran Mar 2015 – Aug 2016
(<http://www.faraadid.com>)
- Proposed a high-performance algorithm for car detection and classification in videos for traffic project
 - Implementing Vision Algorithms on Embedded Chips (MIPS, Axis Camera)
- Instructor of Java Programming, and, Tehran, Iran Fall - Spring 2015
- Afarinesh Research Center
 - Absal High School
- Instructor of Robotics held by students' scientific association, (AUT), Tehran, Iran Fall 2014
- Instructor of ICDL to undergraduate student, Tehran, Iran Fall 2012
- Avaye Baran School

HONORS AND AWARDS

- **Student Travel Award**, from U.S. National Science Foundation Spring 2018
- **Department Fellowship Award**, Department of Computer Science Fall 2017
- **Dean's Distinguished Fellowship Award**, Department of Electrical Engineering Fall 2016
- **Participation** in @Home Robot League competition, WorldCup Robotics, Brazil Summer 2014
- **2nd Place** in @Home Robot League, International IranOpen RoboCup Competition Spring 2014
(IranOpen 2014)
- **1st Place** in @Home Robot League, International Amirkabir RoboCup Competition Winter 2013
(AUTCup 2013)
- **Ranked 91th** among more than 30,000 participants Winter 2012
(in the National University Entrance Exam for M.S)

SKILLS

- **Languages:** C/C++, MATLAB, Python, C#, Java
- **Tools:** SQL, PCL (Point Cloud Library), Intel OpenCV/Emgu, AXIS camera SDK, Git, Kinect SDK
- **Operating Systems:** Linux/Unix Based OS, ROS (Robot Operating System)
- Self-motivated, History of being effective team member with full understanding of underwriting process and team needs.

PUBLICATIONS

Google Scholar: <https://scholar.google.com/citations?user=EITBCIYAAAAJ&hl=en>

H. A. Dau, A. Bagnall, K. Kamgar, C. C. M. Yeh, Y. Zhu, **S. Gharghabi**, C. A. Ratanamahatana, E. Keogh, The UCR Time Series Archive, in *International Journal of Data Mining and Knowledge Discovery* (DAMI 2018), 2018, (Submitted).

Y. Zhu, **S. Gharghabi**, D. F. Silva, H.A. Dau, CC. M. Yeh, N. S. Senobari, A. Almaslukh, G. Funning, A. Mueen, E. Keogh, "The Swiss Army Knife of Time Series Data Mining: Ten Useful Things you can do with the Matrix Profile and Ten Lines of Code, in *International Journal of Data Mining and Knowledge Discovery* (DAMI 2018), 2018, (Submitted).

S. Gharghabi, S. Imani, A. Bagnall, A. Darvishzadeh, and E. Keogh, 2018, November. An ultra-fast time series distance measure to allow data mining in more complex real-world deployments, in *International Journal of Data Mining and Knowledge Discovery* (DAMI 2018), 2018, (Submitted).

S. Gharghabi, S. Imani, A. Bagnall, A. Darvishzadeh, and E. Keogh, 2018, November. Matrix Profile XII: MPdist: A Novel Time Series Distance Measure to Allow Data Mining in More Challenging Scenarios, in *2018 IEEE International Conference on Data Mining (ICDM)* (pp. 965-970). IEEE.

S. Gharghabi, Y. Ding, C. M. Yeh, Y. Ding, W.Ding, P. Hibbing, S. LaMunion, A. Kaplan, S. E. Crouter and E. Keogh, Domain Agnostic Online Semantic Segmentation for Multi-Dimensional Time Series, in *International Journal of Data Mining and Knowledge Discovery* (DAMI 2018), 2018.

S. Gharghabi, Y. Ding, C. M. Yeh, K. Kamgar, L. Ulanova, and E. Keogh, Matrix Profile VIII: Domain Agnostic Online Semantic Segmentation at Superhuman Performance Levels, in *IEEE Int. Conf. on Data Mining (ICDM2017)*, 2017.

S. Gharghabi, B. Azari, F. Shamshirdar, R. Safabakhsh, Improving Person Recognition by Weight Adaption of Soft Biometrics, in *6th International Conference on Computer and Knowledge Engineering (ICCKE2016)*, (pp. 36-40).

S. Gharghabi, R. Safabakhsh, Person Recognition Based on Face and Body Information For Domestic service robots, in *3rd IEEE RSI/ISM International Conference on Robotics and Mechatronics (ICRoM 2015)*, Aug 2015.

S. Gharghabi, F. Shamshirdar, T. A. Shangari, F. Maroufkhani, People Re-identification Using 3D Descriptor with Skeleton Information, in *4th IEEE International conference on Informatics, Electronics and Vision (ICIEV 2015)*, June 2015.

M. Falahi, T. A. Shangari, A. Sheikhjafari, **S. Gharghabi**, A. Ahmadi, and S. Ghidary, Adaptive handshaking between humans and robots, using imitation: Based on gender-detection and person recognition, in *2nd IEEE RSI/ISM International Conference on Robotics and Mechatronics (ICRoM)*, pp. 936-941, October 2014.

E. Mehrabi, E. Babaians, A. Ahmadi, A. Sheikhjafari, **S. Gharghabi**, N.K. Korghond and S.S. Ghidary, "AUT@ Home 2016 Team Description Paper," 2016.

M. Falahi, T. A. Shangari, A. Sheikhjafari, **S. Gharghabi**, A. Ahmadi, and S. Ghidary, Adaptive handshaking between humans and robots, using imitation: Based on gender-detection and person recognition, in *2nd IEEE RSI/ISM International Conference on Robotics and Mechatronics (ICRoM)*, pp. 936-941, October 2014.

A. Ahmadi, E. Babaians, A. Badamchi, M. Falahi, **S. Gharghabi**, R. Gomari, S. Jahangiri, M. Kariminoori, E. Khani, I. Mehrabi and A. Sheikhjafari, "AUT@ Home 2014 Team Description Paper". (Names are in alphabetic order).