

Hamid Osooli

CURRICULUM VITAE

Faculty of Aerospace Engineering
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Education

- 2017–2019 **M. Sc.**, *Aerospace Engineering*, Flight Dynamics and Control, K. N. Toosi University of Technology.
Thesis: **An integrated control algorithm for camera and flying object movement on the basis of Game Theory**, Advisor: Prof. J. Roshanian
- 2013–2016 **B. Sc.**, *Mechanical Engineering*, Solid Mechanics, University of Kashan.
Thesis: **Making a Robot Inspired by the Human Eye**, Advisor: Dr. M. Irani rahaghi
- 2011–2013 **B. Sc.**, *Information Technology Engineering*, Isfahan University of Technology.
After four semesters I changed my major and university (no degrees earned)

Experience

Research

- Dec 2019 **Senior Researcher**, Mechanical Engineering Department, K. N. Toosi University of Technology, Tehran, Iran.
A feasibility study on methods regarding inspection of subsea assets
- Nov 2018 **Researcher**, *Hardware implementation of Game Theory on eye robot movements*, Electrical Engineering Department, K. N. Toosi University of Technology, Tehran, Iran.
Dec 2019 Devising Gazist and Leaf algorithms for eye robot
- Sep 2018 **M. Sc. Thesis**, *An integrated control algorithm for camera and flying object movement on the basis of Game Theory*, Aerospace Engineering Department, K. N. Toosi University of Technology, Tehran, Iran.
Jul 2019 How to control flying object and the mounted cameras simultaneously, on the basis of Game Theory
- Jan 2018 **M. Sc. Seminar**, *Aerospace Engineering Department*, K. N. Toosi University of Technology, Tehran, Iran.
Jul 2018 Applications of Game Theory in Aerospace Problems
- Jun 2016 **Researcher**, *Programming and control of Eye Robot*, Robotics Laboratory, Mechanical Engineering Department, University of Kashan, Kashan, Isfahan, Iran.
- Sep 2015 **B.Sc. Final Project**, *Mechanical Engineering Department*, University of Kashan, Kashan, Isfahan, Iran.
Jun 2016 Design and construction of a 3D printed robot of human eye and implementation of extra-ocular muscles movement. Has so far resulted in 4 papers (2 journal articles and 2 conference proceedings), Robotic Ophtalmotrope Patent and XL_320 Toolbox

Work

- Mar 2020 **Teaching Assistant (TA)**, Aerospace Engineering Department, K. N. Toosi University of Technology, Tehran, Iran.
Present Algorithms and Computer Programming in Python
- Jul 2017 **English Language Teacher**, *BSCL, Beinolmelal Specialized Centre of Language*, Kashan, Isfahan, Iran.
- Sep 2017
- Jul 2016 **Mechanical Engineering Intern**, *Copper World Company*, Kashan, Isfahan, Iran.
- Aug 2016 To complete my B.Sc. studies
- Jan 2014 **Website Administrator**, *Parsa Language School*, Kashan, Isfahan, Iran.
- Jan 2016 Design of website by Drupal and students information system by PHP
- Feb 2014 **Taekwondo Instructor**, *Javaneh Iranian Institute*, Kashan, Isfahan, Iran.
- Jul 2014 Teaching Taekwondo to children
- Mar 2013 **Website designer**, *Javaneh Iranian Institute*, Kashan, Isfahan, Iran.
- May 2013 Website design using Joomla CMS
- Sep 2010 **Responsible for the Committee on Statistics and Information**, *Kashan Taekwondo Delegation*, Kashan, Isfahan, Iran.
- Sep 2011 Registering Taekwondo players in tkdbank.org
- Aug 2008 **Taekwondo Instructor**, *Mellipooshan Institute*, Kashan, Isfahan, Iran.
- Sep 2009 Teaching Taekwondo to children
- Oct 2006 **Responsible for the Committee on Culture and Advertising**, *Mellipooshan Institute*, Kashan, Isfahan, Iran.
- Aug 2008 Designing internal journal and managing website

Awards, Honors

- **Robotic Ophtalmotrope** was accepted for demonstration in Khayyam International Invention and Innovation Festival, Feb, 2020
- **Ranked 4'th in M.Sc. studies**, 2020
- **XL_320 Toolbox** earned the Personal Best Downloads Level 1 badge in MATLAB File Exchange, Nov 1, 2019
- **On-time MSc Thesis Defence and Graduation** The first and only defence among all 50 Aerospace Engineering students who were admitted in Fall 2017, Aug 1, 2019
- **Graduate Scholarship** Ministry of Science, Research and Technology, Iran, 2017-2019
- **Undergraduate Scholarship** Ministry of Science, Research and Technology, Iran, 2011-2016
- **Khwarizmi award** in the local section, 2008, for the Magnetic Bicycle Idea
- **Ranked 2'nd in the city**, 2006, in Computer Olympia
- **14 medallions** in Taekwondo Kiu-rogi
- **2 medallions** in Taekwondo Poomsae
- **Membership** in Kashan selected Taekwondo players team, 2005-2010

Certifications

- **"27'th Iranian Conference on Electrical Engineering"**, (ICEE 2019), Yazd University, Paper Presentation
- **25'th Annual International Conference on Mechanical Engineering**, (ISME 2017), Iranian Society of Mechanical Engineers, Paper Presentation
- **Taekwondo Kiu-rogi Referee**, 2014
- **Taekwondo 3'rd Dan Black Belt**, 2011, Islamic Republic of Iran Taekwondo Federation

Online Courses

- **Hello (Real) World with ROS – Robot Operating System**, By Dr. Mukunda Bharatheesha, Gijs van der Hoorn, Dr. Carlos Hernandez Corbato, Prof. Martijn Wisse, Mohamed Baioumy, Delft University of Technology, edx.org (in progress)
- **Machine Learning**, By Dr. Andrew Ng, Stanford University, coursera.org (in progress)
- **Writing in the Sciences**, By Dr. Kristin Sainani, Stanford University, coursera.org (100 / 100)
- **Game Theory**, By Prof. Matthew O. Jackson, Prof. Kevin Leyton-Brown, Prof. Yoav Shoham, Stanford University, The University of British Columbia, coursera.org (100 / 100)
- **Control of Mobile Robots**, By Prof. Magnus Egerstedt, Georgia Institute of Technology, coursera.org (100 / 100)

Publications

Journal Articles

- Osooli, H., Nikoofard, A. H., Shirmohammadi, Z., (2020) **Releaf: Design and implementation of a humanoid occlusion handling method on Eye robot**, (in preparation)
- Osooli, H., Roshanian, J., Nikoofard, A. H., (2020) **Integrated control of UAV and mounted camera rotations by game theory**, Robotics and Autonomous Systems (Submitted)
- Osooli, H., Irani rahaghi, M., (2019) **A Tendon Driven 3D Printed Eye Robot as an Active Vision System: Design and Simulation of Eye Movements**, International Journal of Humanoid Robotics (IJHR) (Under review)

Conference Proceedings

- Osooli, H., Nikoofard, A. H., Shirmohammadi, Z., (2019) **Game Theory for Eye Robot Movement: Approach and Hardware Implementation**. In 2019 27th Iranian Conference on Electrical Engineering (ICEE). Yazd: IEEE. <https://doi.org/10.1109/IranianCEE.2019.8786637>
- Osooli, H., Irani rahaghi, M., (2017) **Making a Robot Inspired by the Human Eye (in Persian)** In 2017 25th Annual International Conference on Mechanical Engineering (ISME). Tehran. https://www.civilica.com/Paper-ISME25-ISME25_324.html

Patents

- Osooli, H., (2018) **Robotic Ophtalmotrope**, (pending).

Skills

- **Mechanical Design:** Autodesk Inventor, CATIA
- **Programming:** MATLAB, C, C++, Python, JAVA, \LaTeX
- **Simulation:** Simulink, 20-sim, Ansys Gambit & Fluent
- **Web developing:** HTML, PHP, Drupal CMS, Joomla CMS
- **Image/Video Editing:** Adobe Photoshop, Adobe Premiere

Languages

- **English:** Highly Proficient
- **Persian:** Highly Proficient (Native)
- **Arabic:** Intermediate

Workshops

- **Movement Planning and Control for Advanced Robotic Systems**, Dr. M. Biglarbegian, K. N. Toosi University of Technology, April 21, 2018
- **Passivity-based Control of Robotic Systems**, Prof. Romeo Ortega, Sharif University of Technology, April 15 and 16, 2018
- **3rd Practical Summit of Organizational Architecture of Iran**, 2012
- **Athletic Nutrition and Supplements**, 2006

Research Interests

Robotics, Bio-mechatronics, Control, Game Theory