Mohammad Sharifzadeh

AFFILIATION: Ph.D. Student of Systems Engineering at Arizona State University, Research Assistant at IDEAlab

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Research Interests

Robotics & Mechatronics, Human-Robot Interaction (HRI), Parallel Mechanisms, Dynamic & Position Control of mechanisms, System Identification, Haptic, Analytic Control, Neural Networks.

Academic Background

2013 - 2016	**MSc**, University of Tehran, (Mechatronics Engineering) **GPA**: 18.4 (out of 20) **Research Team**: Human-Robot Interaction Laboratory (Taarlab). **Thesis**: Dynamical Control & Identification of 3-DOF Decoupled Parallel Mechanism (Tripteron) and Constructing a Human-Robot Interaction Interface (under supervision of Dr. Mehdi Tale Masouleh & Dr. Ahmad Kalhor) **Core modules**: Advanced Robotics, Mechatronics I-II, System Identification, Neural Networks, Optimal Control, Advanced Engineering Mathematics.
2008 - 2012	**BSc**: Shiraz University (Electrical Engineering, Control field). **GPA**: 15(out of 20) **Thesis**: Designing and constructing an AC/DC Converter with various ranges of output voltage (+2-50 Voltage) by new approach in digital controlling of Buck and Boost converters. (under supervision of Dr. Haidar Samet) **Core modules**: Computer Application in Control, Digital Control Systems, Modern Control Systems, Industrial Control I, Industrial Control II (PLC), Linear Control Systems, Instrumentation, Fundamentals of Microcomputers.
2004 - 2008	**High School**, National Organization for Development of Exceptional Talents, Shiraz branch, Dastgheib high school. **GPA**: 18.97(out of 20)

Accepted Papers

Journal of Meccanica, Springer, 2016	On Human-Robot Interaction of a 3-DOF Decoupled Parallel Mechanism Based on the Design & Construction of a Novel and Low-cost 3-DOF Force Sensor
Conference of ICRoM, 2016, will be indexed in IEEE	Experimental Identification of Friction and Dynamics of an Over-constrained 3-DOF Decoupled Parallel Mechanism
Conference of ICRoM, 2015, indexed in IEEE	Design, Construction & Calibration of a Novel Human-Robot Interaction 3-DOF Force Sensor

Submitted Papers

Transactions on Control Systems Technology, IEEE, 2016	An Experimental Dynamic Identification & Control of an Over-constrained 3-DOF Parallel Mechanism in Presence of Variable Friction and Feedback Delay
Journal of Mechanism and Machine Theory, Cambridge, 2016	An Experimental Study on the Direct & Indirect Identification of an Over-Constrained 3-DOF Decoupled Parallel Mechanism

Projects

Fall 2015-Now	Admittance control of Falcon Haptic device
Summer 2015-Now	Development of a 3-DOF force sensor for Falcon device
Winter 2016	Dynamic control of the 3-DOF parallel mechanism (Tripteron)
Winter 2015-Winter 2016	Dynamic identification of the 3-DOF parallel mechanism (Tripteron)
Spring 2015	Open-loop Speed/Position control of the 3-DOF parallel mechanism via the developed 3-DOF force sensor
Winter 2015	Development of a load-cell based 3-DOF force sensor
Fall 2014	Open-loop control of a 3-R̲RR planar parallel mechanism via Joy-stick
Summer 2014	Open-loop control of a cable driven planar parallel mechanism via Joy-stick

Teaching Assistance Experience

Summer 2015	Supervising a bachelor student on "Design & Construction of a Novel 3-DOF Force Sensor to be installed on Falcon Haptic device".
Spring 2015	Teaching assistant of Advanced Robotics, under supervision of Dr.Tale Masouleh
Fall 2014	Teaching assistant of Advanced Engineering Mathematics, under supervision of Dr.Tale Masouleh
Fall 2012	Teaching assistant of Instrumentation under supervision of Dr.Karim Aghaei

Industrial Experiences (Apprenticeship)

Spring & Summer 2013	**Shiraz Petrochemical Company (SPC)**, Shiraz, Fars, Iran. The company's activity is in producing Fertilizers. I spent 4 months in Utility department, especially in its Powerhouse. My duties: collecting information and data classification and PLC programming to renew the old Water Treatment Alarm system with Siemens PLC (S7 Family). Participating in renewing Generators' Alarm System with Shinkawa PLC.
Summer 2011	**Noavaran Hooshmand Fars Co.**, Shiraz, Iran. The company's activities are focused on intelligent buildings and building management systems (BMS). My duties were to perform a comprehensive research into mechanisms of BMS subsystems, in addition to teamwork with design and installation group, in which my contribution was to designing a fire alarm system for a residential building. It was a great opportunity for me to become familiar to mechanisms and application of BMS and its subsystems.

Honors

- Ranked 506 in National MSc entrance exam of Electrical Engineers (In Mechatronics Engineering filed)
- Ranked 427 in National BSc entrance exam of math and physics, Iran, 2008.
- Ranked 10 in Islamic Azad University's entrance exam, (In architecture engineering field), Iran, 2008.

Programming skills

- **Engineering Software**: MATLAB(Simulink), SolidWorks(Designing), Altium Designer, LabVIEW, Pspice(Orcad Capture), Proteus.
- **Programming**: Qt programming, MATLAB coding, C++ programming, Arduino ide, Bascom(AVR), CodeVision(AVR).
- **Office Software Suit**: LaTeX, Microsoft Office(Word, Excel and Power-point)

Extracurricular activities

- Active committee member of Society of Electrical Engineering at Shiraz University, 2008-2012.
- Active member and one of the founders of IEEE's Shiraz University Section (Iran). Recruiting new members and organizing events.
- Attending courses and workshops in business management and attending workshop of creativity and innovation.
- Attending introductory courses in Nano-Materials, Shiraz Nano Technology Research Centre.

Languages

- **English**: Fluent.
  TOEFL iBT: 104 $\rightarrow$ R.:27, L.: 30, S.: 23, W.: 24.
  GRE General CBT $\rightarrow$ V.: 140, Q.: 167, A.W.: 3.
- **Persian**: Mother tongue.
- **Arabic**: Basic Knowledge.

Personal Interests

- **Sport**: Playing chess, ping-pong and futsal with friends as the goalie.
- **Music and Movies**: I spend part of my spare time, listening to music and watch TV shows and movies.

References

Dr. Daniel Aukes	Dr. Mehdi Taleh Masouleh	Dr. Ahmad Kalhor
Assistant Professor	Assistant Professor	Assistant Professor
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