

Jalaladdin Abbasi

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in Jalal Abbasi

Research Interests

- Mechatronics and Robotics
- Artificial Intelligence and Machine Learning
- Modeling Dynamic Systems and Control

Education

- 2019 - 2021 **M.Sc., Mechanical Engineering, Mechatronics and Robotics field,** *Politecnico di Milano*, Milan, Italy, GPA - 26.84/30 (3.7/4)
Notable Effective Courses: Mechatronics and Laboratory(30 Cum Laude/30), Measurements(28/30), Control and Actuating Devices(27/30), Smart Structures and Devices(28/30), Automatic Control(25/30), Design and Management of Production Systems(27/30), Applied Metallurgy(28/30), Functional Mechanical Design(27/30)
Excess Courses: Robotics and Design(29/30), Electric Systems for Transportation(26/30), Materials for Electronics(25/30), Dynamics of Electrical Machines and Drives(25/30), Electrochemical Energy Generators(27/30)
- 2013 - 2018 **B.Sc., Material Engineering,** *Amirkabir University of Technology (AUT)*, Tehran, Iran, GPA - 15.91/20 (3.33/4)
- 2013 **Diploma in Mathematics and Physics Discipline,** *Mirzakhouchak High School, National Organization for Development of Exceptional Talents,* Rasht, Iran, GPA - 18.61/20

Technical Skills

Programming Python, Matlab, C++, L^AT_EX
Softwares ROS, Adams MSC, Ansys Fluent, Solidworks, Abaqus CAE, Procast

Self-studied Courses

- DeepLearning.AI: Neural Networks and Deep Learning
- Stanford University: Machine Learning
- Python Object Oriented Programming

Notable Projects

- **Optimal Control of a Quad-copter Drone**, Mechatronic Systems and Laboratory Course, Prof. Francesco Braghin
Applied LQR, PID controller and Kalman Filter
- **Warrior Robot Competitions, HEROKIDNA**, Robotics and Design Course, Prof. Andrea Bonarini
Chosen as the course's best student Project: [Video](#)
- **Press and Discharging System: Mechanism of Tilting Pad** Functional Mechanical Design Course, Prof. Simone Cinquemani
Synthesized a slider crank and a cam mechanism for an actual pick and place system by evaluating the mechanism through kinematic parameters and computing the motion law
- **Bandgap Formation and Energy Harvesting Using Electric Shunts and Piezoelectric Sensors**, Smart Structures and Devices Course, Prof. Alper Erturk
Investigated the possibility to harvest electrical energy from vibration of bar by placing piezoelectric sensors and to damp out vibrations in a specific frequency range by placing electric shunts
- **Modal Analysis of a Rectilinear Beam**, Mechanical Systems Dynamics Course, Prof. Roberto Corradi
Identified modal parameters and mode shapes of a rectilinear beam using experimental modal analysis
- **FEM Analysis of a Bridge**, Mechanical Systems Dynamics Course, Prof. Roberto Corradi
Implemented a FEM model for the structure of a real-life bridge, analysed the modal characteristics of the bridge and designed a tune-mass-damper for damping out the vibrations
- **Determining Milling Chatter Stability Limit**, Advance Manufacturing Processes Course, Prof. Ali Gokhan Demir
Examined the stability limit depth of cut for different spindle speeds using semi-discretization time domain method
- **Open-Cell Metallic Foams Thermal Simulation**, Bachelor's Degree Thesis, Prof. S.M.H Mirbagheri, Amirkabir University of Technology
Analysed the fluid and heat flow of open-cell metallic foams using ANSYS fluent software

Teaching Experiences

Teaching Assistant

- Sep. 2017 **Transport Phenomena**, Teaching Assistant, Prof. S.Firoozi, School of
Apr. 2018 Material Engineering, Amirkabir University of Technology
Scientific Language, Teaching Assistant, Prof. N.Parvin, School of
Material Engineering, Amirkabir University of Technology

Teacher

- Sep. 2013 **Astronomy, Physics, Mathematics**, Ghalamchi Educational Founda-
Sep. 2015 tion, Tehran, Iran

Working Experiences

- June. 2017 **Simulation Team Member**, *Final Degree Internship*,
Sept. 2017 I-Ream Research Based Company, Bandar-e-Emam Petrochemical Com-
pany and Niroo Research Institute, Tehran, Iran
Evaluated a Risk-Based Inspection of heat exchanger EA-704C for
the key Petrochemical Company of Iran
- Sept. 2017 **English Translator**,
Sept. 2018 Translated Scientific Documentaries and Generated Persian Subtitles
- Dec. 2015 **Data Specialist**,
Mar. 2017 *JahanAstaneh Trading Company, Tehran, Iran*
Gathered and organized all required data for the project of bringing
the technology of Waste to Energy conversion for the first time to
Iran by establishing a contract with Viatech, PlasmaFannavaran,
and Roch-Intermediaries Companies
- Dec. 2016 **Secretary of Coordination Council of Extracurricular students club**,
July. 2017 *Amirkabir University of Technology, Tehran, Iran*
Director of student clubs office (17 clubs, active in the fields of Art,
Social Causes, Religion, and Culture) and Secretary of the coord-
ination council, consisting of Head of College's Cultural Social
Coordination office, Heads of all Clubs, and some other members
of Cultural and Social Coordination board of AUT (Tehran Poly-
technic)
- July. 2015 **Secretary of "Astronomy Center"**,
Dec. 2016 *Amirkabir University of Technology, Tehran, Iran*
Outperformed to reach among the top 3 Astronomy Centers of the
Country awarded by Ministry of Science, Research and Technology
in 2016

Leading and Executive Experiences

- Oct 9, 2017 **Member of the executive team in the National Conference of The "Latest Findings and Experiences in Maintenance Management Excellence", Iran Maintenance Association and the Seville University**
Gathered more than 700 maintenance experts from primary industries all over the country to participate in a two day conference, updating them with the latest maintenance and overhaul methods for the first time in the country
- Feb 10, 2017 **The Organizer and head of the executive team in the "Reunion Ceremony of Tehran Polytechnics first graduates", AUT, Tehran, Iran**
Gathered Amirkabir University's first graduates in the period of 1928-1948, for the first time in the history of the university
- Dec 14, 2016 **The head of the Executive Team in National Conference of "Cultural, Scientific and Social Centers of Iran, Rooyesh", AUT, Tehran, Iran**
Organized and led 70 members of the executive team in the biggest gathering of universities' cultural, social, and scientific centers for one week
- Sep 27, 2016 **The Organizer and Head of Executive team of "first Ide Bazaar (The Idea of the Market) event in Material Engineering", AUT, Tehran, Iran**
Organized the ideas received by the participants and led the executive team in the final evaluation ceremony
- Sep 26, 2016 **The Organizer and Head of Executive Team in "13th international Conference of Material Engineering", AUT, Tehran, Iran**
Organized the papers received by students, provided all facilities needed for the conference, invited international guests and, led the executive team on the day of the conference

Honours and Awards

- 2015 **Winner of Faculty of Engineering (FoE) award, Ranked 2nd Among 60 ME Students, School of Material Engineering, Amirkabir University of Technology**
- 2011 **Semifinalist in National Olympiad, Olympiad of Astronomy and Astrophysics**

Languages

○ Persian(Native) , English (Fluent) , Italian(Familiar) , Arabic(Familiar)