Jalaladdin Abbasi

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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**, *Mirzakouchak High School, National Organization for Development of Exceptional Talents*, Rasht, Iran, GPA - 18.61/20

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*

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
Apr. 2018
Transport Phenomena, Teaching Assistant, Prof. S.Firoozi, School of Material Engineering, Amirkabir University of Technology

Scientific Language, Teaching Assistant, Prof. N.Parvin, School of Material Engineering, Amirkabir University of Technology

Teacher

Sep. 2013
Sep. 2015
Astronomy, Physics, Mathematics, Ghalamchi Educational Foundation, Tehran, Iran

Working Experiences

June. 2017
Sept. 2017
Simulation Team Member, *Final Degree Internship*,
I-Ream Research Based Company, Bandar-e-Emam Petrochemical Company 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
Sept. 2018
English Translator,
Translated Scientific Documentaries and Generated Persian Subtitles

Dec. 2015
Mar. 2017
Data Specialist,
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
July. 2017
Secretary of Coordination Council of Extracurricular students club,
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 coordination 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 Polytechnic)

July. 2015
Dec. 2016
Secretary of "Astronomy Center",
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

Technical Skills

Programming — Python, Matlab, C++, LaTeX

Softwares — ROS, Adams MSC, Ansys Fluent, Solidworks, Abaqus CAE, Procast

Self-studied Courses

- DeepLearning.AI: Neural Networks and Deep Learning
- Stanford University: Machine Learning
- University of Toronto: Introduction to Self-Driving Cars

Languages

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