

Dr. Safar Pourabbas



, was born in Iran-Tabriz in 1975. He received his PhD degree from Nanyang Technological University (NTU-Singapore) in 2012. He is currently serving as faculty member of İstanbul Gelişim University (İGU) at Mechatronics Engineering Department. Tabriz Islamic Art University since 2012. His main focus is on Mechatronics and mechanical design; and he recently works mainly on 3D printers and 3D printing. The following provides the details for the C.V.:

Education Background (last one first):

a- PhD degree from Mechanical and Aerospace Engineering (MAE) school in NTU

During the study in NTU-MAE since January 2007, the following courses with the total average 4.33 out of 5.0 as:

- * Advanced Mechatronics
- * Advanced Metrology and Measurement systems
- * Advanced Mechanism Design
- * Microprocessor
- * Computer Control Systems
- * Mechanical Vibration

As for the research topic, it was focusing on developing a tactile sensing system for robotics surgery. The tactile sensing system was aimed to measure both force and stiffness in the grasper-tissue interface in order to safe grasping and safe handling of tissues.

Some teaching assistance was involved in too, among which “study on the vibration and dynamic balance of a 4 cylinder engine” and “PID control of a ball screw system” as Lab Projects were found to be the most informative.

b- Masters Degree in Manufacturing from Sharif University of Technology (Tehran-Iran)

He joined Sharif University of Technology (the most recognized university in Iran-Tehran) to do his Master degree in the Manufacturing field in October 2000. As in the qualification entrance exam for the master course, he receives the 4th rank among 871 students competing country wide to enter this field in the Sharif University of Technology. He graduated in February 2002 with the total average 17.0 out of 20.0. His research project was in the FEM field and it was focusing on computer coding for “thermo-elastic-plastic analysis of metal cutting with large deformations”.

c- BSc I Mechanical Engineering from Tabriz University (Tabriz-Iran)

He joined to Tabriz University (Iran-Tabriz) to study in Mechanical Engineering in October 1996 and graduated in April 2000. His total average was 15.2 out of 20.0. The final year project was on “the Design of a Cartesian Robot”.

Publications

For the link of publications, one can click the following google scholar link:

https://scholar.google.com/citations?user=1_UhhjEAAA&hl=en

Supervised Projects

- “Design and Fabrication of a wood bending machine”, Final Year Bachelor Degree Project
- “Design of a set of faucet and shower head with the approach to sustainable design”, Master’s Degree
- “Analysis of ergonomic factors effects on design of men’s footwear”, Master’s Degree.
- “Design and fabrication of a clay based water cooler inspired by double-shelled pottery containers of Seljuk era”, Master’s Degree.

Working Experiences (more relevant ones first)

a- Teaching Experience as University Faculty Member

He has been with Tabriz Art University (<http://www.tabriziau.ac.ir>) as a full time lecturer for four years before joining NTU in his PhD study. He was a full-time

assistant professor in the same university since 2012 again until end of 2016. He was lecturing the technical subjects at the Industrial Design Division in the university. He is currently serving as faculty member of İstanbul Gelişim University (İGU) at Mechatronics Engineering Department.

During his academic carrier he has thought the following subjects: ‘Technical Drawings’, ‘Dynamics’, ‘Machine Design’ and ‘Plastics and processes’, ‘Design for Manufacturability’, ‘Advanced production processes’, ‘Industrial Design’, ‘Hydraulics and Pneumatics Systems’, ‘Mechanical Parts’, ‘System Dynamics’ and ‘Computer Aided Design’.

b- **MEMS Fabrication Process**

During study for PhD in the NTU-MAE, working experiences in different fields were gained; among which the working in the MEMS fabrication was a great experience to have. During MEMS fabrication attempts, good skills on working with photo lithography (including spin coating, soft baking, developing and rinsing of both positive and negative photo resists); wet etching of the silicon wafers and working with wet etch simulation softwares were obtained. Furthermore sputtering of thin film of metals, E-Beam evaporation of thin film and other devices and processes available in the clean room of MAE School of NTU provided almost a complete understanding of MEMS fabrication procedures.

c- **Management Experience**

Management experiences belong to the period of working with Tabriz Art University as lecturer before and after joining NTU. In this period he has served at different responsibilities as the Manager of Educational Affairs, Manager of Office and Manager of Budget Affairs in the university. This management experience gives him a lot of insight in dealing and treating with students and staff and governmental organizations.

d- **3D Printing and 3D printers Field**

He has been one of few pioneers in Iran in design and fabrication of FDM 3d printers. And he has done a good contribution in this field. Currently is working

on Clay 3D Printers and their application in the industry. The aim is mainly towards the application of these printers in Mold Design and Mold Fabrication to be used in casting.

e- **Machine Design and its Construction**

Design and fabrication of machines skill was acquired during working as a part time engineer in Sahand Industrial Machinery (Tehran-Iran). The product of this cooperation was as:

- Design and Fabrication of a pneumatic clutch.
- Design and Fabrication of a corner cutting die for sheet metals.
- Inverse engineering of a Nibbling Machine.
- Design and Fabrication of a Hydraulic lift in order to lift car bodies from one level to another in the production line of Iran Automotive Co.

Based on these works, a strong hand and mind in designing different mechanical machines from scratch up to the final product was resulted. This experience can be oriented even toward design and construction of plastic injection molds and metal cutting and forming dies.

f- **Automotive Parts Manufacturing**

In result of working in AIDAMIR (manufacturer of different parts for automotive industry) for 6 month before commencing the Master Study, enough familiarity with different manufacturing processes was gained. Hence substantial information for the machining of forged and cast parts in order to convert them to the final industrial parts and even their Quality Control was acquired.

Working Skills

Based on the working experiences and education ground, the acquired skills can be listed as following:

- Design and fabrication of 3D printers; with different robotics systems and extruding systems.

- Design and Fabrication of MEMS devices.
- Design and Fabrication of flexural macro tactile sensors (equipped with strain gauges)
- Design and Construction of Machines (capability to orient toward die and mold design)
- Working at production lines.
- Sufficient familiarity in pneumatics, Hydraulics circuits and electrical control which could be oriented toward Industrial Automation.
- Production of fiber glass parts (lecturing and supervising the students in construction of their models from fiber glass)

Computer Skills

- Mechanical oriented softwares (AutoCad, SolidWorks, Ansys, SimMechanics of Matlab)
- Analytical softwares (Matlab, Maple, Labview)
- Office (word, excel, access, PowerPoint)
- Programming (Matlab, C++, VC++, Maple, Fortran)

Language Skills

English: Fluent at reading, writing and speaking

Farsi (Persian): Native

Turkish (Azeri): Native

Turkish (İstanbulian): Very good at reading, writing and speaking

Best Regards

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