Fereshteh Moradi

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Education:

- ➢ 2013 –2016 (January): **M.Sc.**, **Mechatronics**, (**GPA**: **17.67** / **20**, 3nd rank**)**
  - Mechanical Engineering Department, Sharif University of Technology, Tehran, Iran
  - Thesis Title: Design and prototyping modules for rapid waste separation from fiber crops
  - Thesis Supervisor: Prof. Mohammad Durali

- ➢ 2009 – 2013: **B.Sc.**, **Mechanical Engineering**, (**GPA**: **18.08**/ **20**, 1st rank**)**
  - Mechanical Engineering Department, Razi University, Kermanshah, Iran
  - Thesis Title: RF MEMS
  - Thesis Supervisor: Dr. Akram Khodayari

- ➢ 2007-2008: **Pre-University**, **Mathematics and Physics**, (**GPA**: **16.50** / **20**)
  - Pre-University Center of Alzahra, Kermanshah, Kermanshah, Iran

- ➢ 2004-2007: **Diploma**, **Mathematics and Physics**, (**GPA**: **19.57** / **20**, 1st rank**)**
  - Khazra High School - Kermanshah, Kermanshah, Iran

Research Interests:

- ➢ Mechatronics
- ➢ Embedded Systems
  - Microcontroller-based systems with mechanical and electrical system
- ➢ Robotics
- ➢ Control Engineering

Languages:

		Reading	Listening	Writing	Speaking
➢ **Persian**	Native	★★★★★	★★★★★	★★★★★	★★★★★
➢ **English**	Professional working proficiency (I'm Preparing for TOEFL iBT)	★★★★	★★★	★★★	★★★
➢ **Arabic**	basic communication skills	★★	★★	★★	★★

Teaching Experience:

- ➢ Fall 2015 ❖ **Teaching Assistant (**Teacher: Mohammad Durali)
  - Subject: Teaching the design and testing of the pneumatic and hydraulic control circuit.
  - Hydraulic, Pneumatic and Automation Laboratory, **Sharif University of Technology**, Tehran, Iran
- ➢ Fall 2013 ❖ **Teaching Assistant (**Teacher: Akram Khodayari)
  - Subject: Helping students by reviewing materials and solving hard questions for the Fluid Mechanics course(I)
  - Razi University, Kermanshah, Iran

Awards:

- ➢ 2017: **3nd rank**, achieving the third **Khwarizmi International Award** as cooperating in Construction of Saffron Processing Machine.

- ➢ 2016: **3nd rank**, achieving the third overall GPA among all Sharif University of Technology M.Sc. Mechatronics Engineering graduate students.

- ➢ 2013: **1st rank**, achieving the highest overall GPA among all Razi University B.Sc. Mechanical Engineering graduate students since this department founded.

Related Technical Skills:

- MATLAB:
  - Programming and simulating
  - Simulink

- Programming language:
  - C, C++, C#

- Microcontrollers' tools & IDEs:
  - Keil, STM32 Cortex-M4

- User Interface Development:
  - Visual Studio .Net C#
  - LabVIEW

- Electronics:
  - PCB design: Altium Designer
  - Eplan

- Machin Vision
  - OpenCV

- Programmable Logic Controller (PLC):
  - Fatek and Logo PLCs
  - PLC Languages: LAD, STL & FBD
  - Festo Fluidsim

- Computer Aided Design (CAD):
  - CATIA
  - Solid Works

- General softwares:
  - Microsoft Office
    - Word, Excel, PowerPoint, FrontPage
  - EndNote
  - OneNote
  - Photoshop & CorelDRAW

- Operating Systems:
  - Windows

Professional Certifications:

- **ARM Microcontroller (STM32 Cortex-M4)**, August 2017 (40 Hours)
  - Nirasystem (http://www.nirasystem.com), Tehran, Iran

- **Industrial Automation System PLC BASIC (PLC Logo)**, April 2016 (36 Hours)
  - Sharif University, Tehran, Iran

- **Catia**, July 2012 (120 Hours)
  - Technical & Vocational Training Organization, Kermanshah, Iran

Selected Courses:

- **Prerequisite Courses (for Mechatronics in M.Sc.):**
  - Logic Design
  - Digital Electronics
  - Signals and Systems

- **Graduate Courses:**
  - Control System Design
  - System Dynamic
  - Advanced Mathematics
  - Advanced Control In Vehicle
  - Optimal Control Theory
  - Intel System Model And Control
  - Mechatronics
  - Mechatronics Laboratory
  - Computer Vision
  - Seminar
  - M.Sc. Project

Research Experiences:

- Fall 2014
  - Mechatronics course:
    - "Design & manufacture of the double pendulum & stabilizing the swinging links with momentum wheel (a DC-Motor with a gear-box attached to a disk)";
      - ⇨ The controller was experimentally implemented with STM32F407VG (an ARM microcontroller) on the designed double pendulum with momentum wheel
    - Under the supervision of Prof. G. Vossoughi.

Work Experiences:

➢ January 2016 to March 2017

- Employed as "Mechatronics Engineer" in a knowledge-based company, "DSDA Co" (http://dsda.sharif.ir/web/dsdaen)

  o **Work experiences:**
  ⇨ Electrical drawing with Eplan
  ⇨ writing industrial instructional documents of Projects
  ⇨ Project Management and control with Microsoft Project

  o **Sample of products:**
  ⇨ **Design and Manufacturing of Governors for Hydraulic Power Plants**: Following figure are governors considered as the heart of a power plant. The governors developed by DSDA can perform their controlling duties in different modes such as power control, opening control, island control, flow rate control and water level control. Their power is 210 MW.

➤ April 2017 to
April 2019
	• Employed as "Mechatronics Engineer" in a knowledge-based company, "SDRA Co., Ltd"
	(http://sdra.co.ir)
	 o Work experiences:
	  ⇨ Microcontroller Programming in MDK-Keil (STM32F407, STM32F405) & working with their
	   peripherals (RCC, GPIO, TIM, NVIC, EXTI, ADC, DAC, Flash, DMA, USART, SPI, I2C, SDIO, USB
	   VCP, Ethernet).
	  ⇨ PCB design with Altium Designer.
	  ⇨ The use of SolidWorks and Altium Designer for 3D positioning and assembly of electronic components
	   and boards in the box.
	  ⇨ User Interface (UI) design with C# .NET Framework Programming in Visual Studio.
	  ⇨ Application Programming Interface (API) Design with .NET Framework Programming in Visual Studio
	   to communicate with the hardware.
	  ⇨ Use of the API.dll (written with .NET Framework) to design LabVIEW blocks in order to communicate
	   with the hardware.
	  ⇨ Use of the API.dll (written with .NET Framework) in MATLAB and Simulink in order to communicate
	   with the hardware.
	
	 o Sample of products:
	  ⇨ **SDRA Data Acquisition Card (SDAQ)**: Following figure is a 16-bit resolution up to 500ksps SDAQ
	   designed to convert 16 analog waveforms into digital values. COM, USB, Ethernet ports are available.
	   Powerful GUI, LabVIEW, MATLAB and Simulink example and libraries are the power spot of this
	   product.
	
	  ⇨ **Axion Device Application**: Following figure is an Axion OEM-2100 which includes a set of gas
	   analyzers, an engine diagnostic, a GPS, a EFM, and embedded software. The gas analyzers measure
	   concentration of NOx (NO and NO2), HC, CO, CO2, and oxygen(O2) in the vehicle exhaust. User
	   Interface (UI) using Windows Form Application with XML and C# is created to display data on the
	   monitor of the Axion device.

References:

- ➢ Nirasystem
  - • Nirasystem educational company, Tehran, Iran
    Website: http://www.nirasystem.com

- ➢ Prof. Mohammad Durali
  - • Faculty member of Mechanical Engineering Department at Sharif University of Technology
    Home page: http://sharif.edu/~durali/

- ➢ Prof. Gholamreza Vossoughi
  - • Faculty member of Mechanical Engineering Department at Sharif University of Technology
    Home page: http://mech.sharif.edu/~vossough/

- ➢ Dr. Akram Khodayari
  - • Faculty member of Mechanical Engineering Department at Razi University
    Home page: https://eng.razi.ac.ir/~a.khodayari/