Curriculum Vitae

Mansour Torabi

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Education:

- **2012-2015: M.Sc., Mechatronics Engineering**, Sharif University of Technology (SUT),
  - **Dissertation Title:** "*Impedance control of a knee rehabilitation exoskeleton using robust adaptive control*", Supervisor: Dr. Gholamreza Vossoughi**,**
  - **Thesis Grade:** 19 / 20, **GPA:** 17.71 / 20
- **2008-2012: B.Sc.,** Automotive Engineering, Iran University of Science and Technology (IUST),
  - **Dissertation Title:** "*Multi-objective optimization of multi-layer acoustic panels using a genetic algorithm*", Supervisor: Dr. Roohollahi Talebitooti**,**
  - **Thesis Grade:** 20 / 20, **GPA:** 18.38 / 20
- **2004-2008:** High School Diploma, Major in Mathematics and Physics,
  - **GPA:** 19.87 / 20

Work Experience:

- **Head of Product Engineering Departments**
  - **Company: MAPNA Group** (PARS), Detail Design Engineering Dept. [Apr **2022** to **present**]
  - **Experiences:**
    - Managing Prototype process for new products (Traction Motors, Alternators, Motor for EVs, Induction Motors)
    - Design and conducting Test process for new products
    - Engineering and Technical supporting for Procurements and Production in field of I&C and Electric part of Projects
- **Instrumentation Engineer**
  - **Company: MAPNA Group** (PARS), Engineering and R&D Dept. [Apr **2017** to **2022**]
  - **Experiences:**
    - Instrumentation, Wiring, control/protection logic design for turbo-generators and auxiliary systems, electric motors and test stands.
    - Design and Preparation of technical documents: 3D Modeling and Drawings (CATIA), P&ID's, Layout drawings (AutoCAD), Wiring and JB Termination diagrams (AutoCAD), IO List, Electrical Load List, Logic Charts, MTOs, Commissioning Manual, …
    - Field experiences including power plant commissioning as an Electrical and I&C engineer, Site surveys, Trip Tests
- **Mechatronic Engineer**
  - **Company:** SDRA Co. (Knowledge-based Company) [Dec **2012** to Apr **2017**]
  - **Experiences:**
    - Electronic/Hardware design, PCB design (Altium Designer), MCU programming (C/C++), Windows software developing (C#)
    - Hands-on experience with different Digital Communication Protocols (Ethernet/RS-232/RS-485/Hart/I2C/SPI/CAN/USB), MCU-side and PC-side Programming
    - Great experience in Object Oriented Programming (C#), Multi-threading, IOs, Windows Forms, WPF, SQL,..
    - Data Acquisition system design, (Hardware, MCU-side and PC-side Programming)
    - Vibration Monitoring System, (USB and Ethernet protocol, PC-side Software)
    - Online Air pollution monitoring for Tehran Air Quality (Hardware/Software)

Teaching Experience:

- **2023: Torbat-e-Heydarieh** Power Plant, **Course Title:** "*Setting, Monitoring and Instrumentation of Turbo-generator*"
- **2023: SABALAN** Combined Cycle Power Plant**, Course Title:** "*Setting, Monitoring and Instrumentation of Turbo-generator*"
- **2022: MAPNA Group** (PARS), **Course title**: "*Programming with Python-scripting for ANSYS*"
- **2022: MAPNA Group** (PARS), **Course title**: "*Programming with MATLAB*"
- **2015:** Exoskeleton Lab, SUT, **Course Title:** "*Model-based design, Simulink Real Time, Embedded Systems*"
- **2012:** IUST, **Course Title:** "*MATLAB and Simulink in engineering*"
- **2011:** IUST, **Course Title:** "*Introduction to MATLAB and Simulink*"
- **2008:** Private tutor**, Course Title:** "*Calculus*", "*Discrete Mathematics*"

Honors and Awards:

- **2022:** Selected as a Top Tutor in the MAPNA Pars
- **2021**: Selected Work Group (as a Head of Work Group) for the Project: Design and Manufacture of InWheel Motor
- **2018**: Published a text book in fields of "Programming in engineering" entitled "How to Leverage MATLAB in Mechanical Engineering"/ In Persian / Dibagaran Tehran Publications
- **2014**: Exempted from Military Service - Selected as Exceptional Talent
- **2012-SUT**: Merit-based Admission Offer to **MSc Program**, Major in **Mechatronics**, (Selected as Exceptional Talent)
- **2012-IUST: Ranked First** among all undergraduate students, School of Automotive Engineering, GPA: 18.38 / 20
- **2011,2010,2009-IUST**: Outstanding Student Award
- **2009-IUST**: Ranked 3rd in Inter-University Mathematical Competition among all undergraduate students (Attended as freshman student)

Publications:

- **2018:** [Book] Mansour Torabi, Ebrahim Nikghalb Rudsari, "How to Leverage MATLAB in Mechanical Engineering", Publisher: Dibagaran Tehran Pulicaions
- **2017:** [Paper] Mansour Torabi, Mojtaba Sharifi, Gholamreza Vossoughi, "*Robust Adaptive Sliding Mode Admittance Control of Exoskeletal Rehabilitation Robots*", Scientia Iranica.
- **2015:** [Paper] Rooholla Talebi, Mansour Torabi**,** "*Identification of tire force characteristics using a Hybrid method*", *Applied Soft Computing Journal* (Q1),
- **2014:** [Conference] Mansour Torabi**,** Mojtaba Sharifi, Gholamreza Vossoughi, "*Impedance control of a knee therapeutic robot to investigate the effect of patellar reflex*", *Proceeding of Iranian Conference of Medical Physics*, Tehran, Iran / In Persian.
- **2014:** [Paper] Rooholla Talebitooti, Mansour Torabi, Reza Ahmadi, "*Optimization of power transmission interaction of multilayered panel using genetic algorithm*", *Journal of Modares Mechanical Engineering*, / In Persian
- **2013:** [Paper] M.H. Shojaeefard , Rooholla Talebitooti, S. YarmohammadiSatri , Mansour Torabi, "*Enhancing Rollover Threshold of an Elliptical Container Based on Binary-coded Genetic Algorithm*", *International Journal of Automotive Engineering*
- **2012:** [Conference] Abolfazl Khalkhali, Sina Samare Mousavi, Mansour Torabi,"*Multi-objective optimization of foam-filled thin-walled tubes for crashworthiness performance*", *Proceeding of ISME-2012*, / In Persian.

Software Skills:

Skill Levels: **[E]**: **E**xpert, **[A]** **A**dvanced, **[I]** **I**ntermediate

- **Technical Languages**
  MATLAB-Simulink **[E]**, LabVIEW **[A]**
- **Programming Languages**
  - C/C++ **[E]**, C# **[E]**, Python **[E]**, VBA **[A]**
  - *Database, Web:* SQL **[I],** HTML/CSS **[I]**
- **Electronics and Digital**
  - *PCB Design:* Altium Designer **[E]**
  - *Micro-Controller:*
    - ARM - M3 & M4: Keil uVision **[E]**
    - AVR: Atmel Studio **[A]**, CodeVision **[A]**
  - *Electronic:* Proteus **[I]**, Multisim **[I]**
- **Mechanics:**
  - *CAD:* CATIA **[E]**, AutoCAD **[E]**, SolidWorks **[A]**
  - *FEM :* ANSYS **[A],** ABAQUS **[I]**

  - Multi-Body Dynamics: ADAMS **[I]**
- **General software:**
  MS-Office **[E]**, Windows **[E],** EndNote **[E]**, Photoshop **[A]** CorelDRAW **[A]**

Courses / Certificates

1) Train The Trainer / 2022 / QM ACADEMY / IR-TC/093058
2) Basic Operation Training – Electrical and I&C Part / 2022 / SIEMENS
3) Explosive Atmospheres: Equipment – General requirements / EN 60079-0:2018 / 2021 / Nobel Academy / Ex-GN-1030
4) Explosive Atmospheres: Equipment Protection by flameproof enclosures “d”/ EN 60079-1:2014 / 2021 / Nobel Academy / Ex-Exd-1011
5) Explosive Atmospheres: Equipment Protection by increased safety “e”/ EN 60079-7:2015 / 2021 / Nobel Academy/Ex-e-1001

Language Skills:

- **English:** Fluent
- **Persian** & **Kurdish :** Native