Amin TAHOUNI



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WORK AND RESEARCH EXPERIENCE

- Girisim Electric -EuroPower Energy, R&D Department (Oct 2020 -).
  - Distribution transformer design
  - Gas insulated switchgear circuit breaker mechanism design.
  - High voltage circuit breaker design.
  - Seismic analyses of high voltage switchgears using ANSYS
- Hydro Farayand AB Co, R&D De partment (Apr2015 -Sep 2020).
- Road vehicle performance analysis application (Coding in MATLAB - GUI)
  - Internal combustion engine (ICE) passenger, truck and bus vehicles performance analysis.
  - Electric passenger, truck and bus vehicles performance analysis.
- Lecturer of Tabriz Technical Institute.
- Modeling and analyzing of various configurations of ICE, electric and hybrid vehicles.
- Member of research group of Mechanical Engineering Faculty Sahand University of Technology.

EDUCATION

- PhD degree in Mechanical Engineering — Sep 2019 – Jul 2026
  University: Hacettepe university
  Thesis: Scenario generation for autonomous vehicles.
  Adviser: Prof. Dr. S. Çağlar BAŞLAMİŞLİ
- Master's degree in Mechanical Engineering (dynamic, control and vibration) — Sep 2015 Jul2017
  University: Sahand University of Technology, Tabriz, Iran
  Thesis: Stability control of vehicle using integrated active torque vectoring and electronic stability control.
  Adviser: Prof. Mehdi MIRZAEI
- Bachelor degree in Mechanical Engineering (design of solids, dynamic) — Jan 2011 Aug 2013
  University: Islamic Azad University of Tabriz, Tabriz, Iran
  Thesis: Studying various types of vehicle stability control systems with a case study of steering and suspension control systems.
  Adviser: Dr. Amir SORKHABI
- Associate degree in Mechanical Engineering (manufacturing engineering) — Sep 2008 Aug 2010
  University: Tabriz Technical College, Tabriz, Iran
  Thesis: Making automatic tap machine
  Adviser: Dr. Mousa VAEZI POUR

RESEARCH INTERESTS

- Mechanism design
- Optimization and ANSYS analysis.
- Innovative Control Strategies and Programming.
- Machine learning, Control Theories; Linear and Nonlinear, Predictive, Optimal, Adaptive.

PROFESSIONAL TRAINING AND CERTIFICATES

- Introduction to Programming with MATLAB — 2022
  Online course authorized by Vanderbilt University
- Python Functions, Files, and Dictionaries — 2022
  Online course authorized by University of Michigan
- Python Basics — 2022
  Online course authorized by University of Michigan
- Machine Learning — 2022
  Online course authorized by Stanford University
- Passed 260 hours Internship in Charkheshgar Company (Gearbox and transmission product) — 2013
- Passed 240 hours Internship in Iran Tractor Manufacturing Company — 2010
- Passed 200 hours repairing of light vehicle power transmission system course — 2018
  Iran Technical & Vocational Training Organization
- Passed 160 hours service and maintenance of vehicles course — 2018
  Iran Technical & Vocational Training Organization
- Passed 100 hours Solid Work software training course — 2016
  Iran Technical & Vocational Training Organization
- Passed 170 hours MATLAB software training course — 2016
  Iran Technical & Vocational Training Organization

TEACHING EXPERIENCE

- Fundamentals of vehicle chassis and body technology I, II.
- Fundamentals of gearbox and differential I, II.
- Fundamentals of vehicle suspension, steering and braking systems.
- Technical English language for automotive engineers.

PUBLICATIONS

JOURNALS

- A. Tahouni, M. Mirzaei, and B. Najjari, Novel constrained nonlinear control of vehicle dynamics using integrated active torque vectoring and electronic stability control, *IEEE Transactions on Vehicular Technology* (DOI: 10.1109/TVT.2019.2933229).
- A. Tahouni, M. Mirzaei, and B. Najjari, Applied nonlinear control of vehicle stability with control and state constraints, *Proceedings of the IMechE, Part D: Journal of Automobile Engineering*, (DOI: 0954407019848858).
- B. Najjari, M. Mirzaei, and A. Tahouni, Constrained stability control with optimal power management strategy for in-wheel electric vehicles, *Proceeding of the Institution of Mechanical Engineers, Part K: Journal of Dynamics* (DOI: 1464419319856953).
- B. Najjari, M. Mirzaei, and A. Tahouni, Decentralized integration of constrained active steering and torque vectoring systems to energy-efficient stability control of electric vehicles, *Journal of the Franklin Institute under minor revision,* 2022.
- B. Najjari, M. Mirzaei, and A. Tahouni, Design of optimal torque vectoring control system with predictive approach for improvement of stability and energy consumption in electric vehicle, *Journal of Mechanical Engineering, 2019*

AWARDS & HONORS

- Ranked 1st in high quality Master thesis among students of Mechanical Engineering.
- Ranked 2nd in Master degrees among students of Mechanical Engineering (Dynamic, control and vibration)
  Sahand University of Technology, Tabriz, Iran (2017)
- Ranked 1st in Bachelor Entrance Examination at the elective university.
  Islamic Azad University of Tabriz, Iran (2011)

STUDIED COURSES

- Robotic
- Advanced Control
- Advanced Dynamics
- Advanced Mathematics
- Nonlinear Control
- Advanced Vibration
- Robust Control

LANGUAGES

- Persian: Native Language
- Azeri: Native Language
- English: TOEFL IBT (March 2019): **85** (Reading: 25 Listening: 19 Speaking: 20 Writing: 21)
- Turkish: Intermediate (speaking, basic (writing).
- GRE: Quantitative:**158**, (May 2019)

COMPUTER SKILLS

ADVANCED USER IN:

- MATLAB / Simulink
- Python
- ANSYS
- CAD design (Solid Works, Catia, Auto Cad, Inventor)
- CarSim
- Microsoft Office (Word, Excel, Power Point, Visio)

INTERESTS / LEISURE ACTIVITIES / TRAVEL

- **Sports:** Kick boxing (1th grade in youngest country championship), Football, Swimming
- **Interests:** Reading (New sciences and Countries cultures)
- **Travel:** Turkey, Iraq, Most cities of Iran