Mahdi **Abdollah Chalaki**

MECHANICAL ENGINEERING STUDENT · UNDER GRADUATE RESEARCH ASSISTANT

☐ (+98) 935-997-8372 | ✉ mahdichalaki@ut.ac.ir | ⌂ mahdichalaki.github.io | in mahdi-chalaki

Education

University of Tehran   *Tehran, Iran*
B.Sc. IN MECHANICAL ENGINEERING   *Oct. 2017 - Sep. 2021*

- Cumulative GPA: **18.64/20 (3.96/4)**
- Ranked 4th among 128 students
- Thesis Topic: Centrifugal Pump Health Monitoring Using Neural Networks - Under Supervision of Dr. Ali Sadighi

University of Tehran   *Tehran, Iran*
MINOR IN MANAGEMENT   *Oct. 2018 - Sep. 2021*

- Cumulative GPA: **19.14/20 (4/4)**

Research Interests

- Robotics
- Autonomous Systems
- Humanoid / Bipedal Robots
- Wearable / Assistive Robots
- Mechatronics

Research Experience

SEECS Lab   *University of Tehran*
UNDER GRADUATE RESEARCH ASSISTANT   *Jan 2021 - Present*

- Worked on Condition Monitoring of Centrifugal Pumps Using Neural Networks
- Designed a CNN for centrifugal pumps fault detection
- Deployed my code on a Raspberry Pi Pico
- Designed a compact enclosure and made a device

AIME Lab   *University of Tehran*
UNDER GRADUATE RESEARCH ASSISTANT   *Jul 2020 - Dec 2020*

- Studied basics of computer-vision
- Literature reviewed bone land marking

Publications

- **M.A. Chalaki**, A. Sadighi, and D. Marofi, "Detecting Unseen Faults in Centrifugal Pumps Health Monitoring   *Submit: Oct. 2021*
  Using Deep Convolutional Neural Networks and Clustering methods", ICSPIS 2021

Teaching Experiences

Fall 2021	**Design of Machine Elements I**, Dr. Shariat Panahi	*Mechanical Engineering Department*
Fall 2021	**Finite Element Method**, Dr. Mahnama	*Mechanical Engineering Department*
Spring 2020	**Design of Machine Elements II**, Dr. Abrinia	*Mechanical Engineering Department*
Fall 2019	**Design of Machine Elements I**, Dr. Ataee	*Mechanical Engineering Department*
Fall 2018	**General Physics I**, Dr. Zoghi	*College of Engineering*

Selected Courses

- Automatic Control of Linear Systems: **20/20**
- Mechatronics: **18.5 / 20**
- Measurement Systems & Instrumentation: **20/20**
- Optimization of Mechanical Systems: **18.28/20**
- Mechanical Vibrations: **18/20**

Skills

Programming

- Python
- MATLAB - Simulink

Softwares

- Catia
- SolidWorks
- Abaqus

Honors & Awards

- Excellent Student M.Sc. Admission Offer to the University of Tehran
- Gold Medal winner - PAYA International League (Physics contest for high school students)
- Ranked among top 0.5% of participants (148000 candidate) in Nationwide University Entrance Exam

Online Courses & Certificates

- Deep Learning Specialization (5 courses - Deeplearning.ai - Coursera)
- AI Programming with Python Nanodegree (Udacity)
- Machine Learning (Stanford University - Coursera)
- Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning (Deeplearning.ai)
- Convolutional Neural Networks in TensorFlow (Deeplearning.ai, Coursera)
- Traffic Sign Classification Using Deep Learning in Python/Keras (Coursera Projects Network)

University & Community Service

SAM (Scientific Association of Mechatronics)   *University of Tehran*
MEMBER   *Oct. 2020 - PRESENT*

SAME (Scientific Association of Mechanical Engineering)   *University of Tehran*
FORMER MEMBER   *Jun. 2019 - Oct. 2020*

Language Proficiency

- **Persian**: Native
- **English**: Fluent
  IELTS Test Scores: Overall 7.5
  (Listening 8.5/ Reading 8/ Writing 6.5/ Speaking 7)

References

- **Dr. Ali Sadighi**, Assistant Professor (✉ email)
- **Dr. Masoud Shariat Panahi**, Associate Professor (✉ email)