Alireza Beigi

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EDUCATION

2015 - 2019   University of Tehran, Tehran, Iran
B. Sc. in Mechanical Engineering, CGPA: 17.58/20 (3.8/4) via 144 credits

2022 – 2024   Simon Fraser University, Vancouver, Canada
M. Sc. in Mechatronic Systems Engineering

FIELDS OF INTEREST

- Machine Learning, Neural Network
- Mechatronics, Robotics, control
- Reinforcement learning
- Robotic Operating System

JOURNAL AND ARTICLES

- Chen, S. B., Beigi, A., Yousefpour, A., Rajaee, F., Jahanshahi, H., Bekiros, S., ... & Chu, Y. (2020). **Recurrent Neural Network-Based Robust Nonsingular Sliding Mode Control with Input Saturation for a Non-Holonomic Spherical Robot**. *IEEE Access*, *8*, 188441-188453 *(Published)*

  https://ieeexplore.ieee.org/abstract/document/9222023/

- B., Beigi, A., Yousefpour. (2021). **Application of reinforcement learning for effective vaccination strategies of coronavirus disease 2019 (COVID-19).** *European physical journal plus (Published)*

  https://link.springer.com/article/10.1140/epjp/s13360-021-01620-8

- Stelios Bekiros; Alireza Beigi; Amin Yousefpour; Raúl Alcaraz; Jesus M. Munoz-Pacheco; Yu-Ming Chu;. (2020). **Multi-objective optimal strategies to prevent the spread of coronavirus by implementing evolutionary algorithms in a fractional framework**. *Physica A (Under review)*

WORK & RESEARCH EXPERIENCE

Jan. 2018 – present   **Research Assistant** at Advanced Instrumentation Laboratory (AIL)

Optimal Terminal Sliding Mode Controller **(paper -In prep)**

H infinity Disturbance Observer **(paper -In prep)**

Design Graphical user interface for inverted pendulum
Control of a robotic ROV motors and sensor by serial communication
Gained experience in working with CNC machine
and Laser machine
Supervisor: **Dr. Moosa Ayati**

Nov. 2018 – Sep. 2019   **Research Intern at Human & Robot Interaction Laboratory, TaarLab** Design and manufacture of a Torque transmitter which can be implemented in Jaw coupling
Supervisor: **Dr. Mehdi Tale Masouleh**

May. 2019 – Sep. 2019 **Internship: Conceptual design of CubeSat**

Supervisor: **Dr. Moosa Ayati**

Jan. 2019 – Sep. 2019   **Thesis: Design and manufacture of a Cubli with reaction wheel**

HONORS AND AWARDS

- Awarded 4nd place of qualifying competitions for Remotely operated underwater vehicle (ROV), Iran, winter 2018
- Offered fellowship to study at the University of Tehran for graduate program without entrance exam
- Dean's Honor List (4 straight years, 2016-2019)
- Tehran University Scholarship (2016-2019)

SELECTED PROJECTS

• **Controlling a Maze Navigating Robot with IR sensor and omni-wheel:** Instructor: Dr. Ali Sadighi

• **Design and fabrication of a portable Can Crusher**; Instructor: Dr. A. Rastgoo

• **Design and manufacturing Shear Building Model with Three Modes of Vibration of a Three DOF Shear**, Instructor: Dr. M. Haeri

SELECTED COURSES

- Senior Design Project: 20/20
- Principles of Electronic 19.05/20
- Numerical Analysis Methods: 19.16/20
- Turbomachinery: 18.75/20
- Neural Networks: 18.15/20
- Automatic Control: 18.5/20
- Machine Learning: 16.5/20

LANGUAGE SKILLS & PROFICIENCY

Persian	Native
English	TOEFL IBT: 93 (reading: 21, listening: 26, writing: 26, speaking: 20)

COMPUTER SKILLS

Programming	Python
	C++, C, Matlab, Simulink, Arduino, Linux
Software	SolidWorks
	Adobe Premier, Microsoft Office PowerPoint/word/excel

VOLUNTEER EXPERIENCE

Sep. 2019 – Apr 2020	**iLiber** (Co-Founder)
	One of the co-founders of the block chain business
	We were working on Hyperledger-fabric as a main platform

References

Dr. Masoud Shariat Panahi	Associate Prof., University of Tehran, Mechanical Eng., (mshariatp@ut.ac.ir) **+989122185521**
Dr. Mohammad Reza Hairi Yazdi	Prof., University of Tehran, Mechanical Eng., Advanced Instrumentation Lab (myazdi@ut.ac.ir) **+989121111541**
Dr. José Francisco Gómez Aguilar	Research Professor in the Cátedras CONACyT, Electronic Engineering Department, Tecnológico Nacional de México campus CENIDET (dir_cenidet@tecnm.mx) **01 (777) 362 – 7770**