Sajad Dokoohaki

School Address
Department of Aerospace Engineering
Sharif University of Technology
Tehran, Tehran, Iran
(021) 6616-8101

Permanent Address
Moaelem Sqr. Shahid Sheikhi St. 11th
Shiraz, Fars, Iran
Tel: +98 917 813 9398
Email: sajjaddokouhaki@gmail.com

OBJECTIVE

A Mechatronics/Mechanical Engineer with a bachelor's degree in Aerospace Engineering from Sharif University of Technology. My experience spans robotics, mechanical design, CNC machining, and advanced manufacturing, with a strong foundation in fluid dynamics, materials science, and control systems. I have worked on diverse industrial and research projects—from precision robotic actuators and automated production lines to advanced simulations in CFD and structural analysis. Proficient in CAD modeling, CFD analysis, and process optimization, I bring both technical expertise and a passion for innovation to heavy industries such as steel casting and oil & gas. I thrive on improving efficiency, safety, and productivity, leveraging tools like MATLAB, Python, Siemens NX, SolidWorks, and Ansys to deliver high-quality engineering solutions.

EDUCATION

Bachelor of Science, Aerospace Engineering
Sharif University of Technology, Tehran, Tehran — September 2016
Project - Control and Analysis of 1-DOF Cubli

High School, Mathematics
National Organization for Development of Exceptional Talents (Sampad), Shiraz, Fars — September 2012
Grade: 18.75/20

PROFESSIONAL EXPERIENCE

Medis, Fars, Shiraz(Website) — December 2022 – December 2024
Robotics Engineer | Design & Manufacturing Engineer | CNC Specialist

- Contributed to the implementation of a TCP socket-based data transfer system and real-time execution of transmitted commands on robotic actuators (Painverse Project).
- Programmed and operated 2-, 3-, and 5-axis CNC machines, executing operations including Deburring, Planar Milling, Multi-Axis Milling, and hybrid 2-/3-axis machining processes.
- Designed and developed industrial and medical mechanical components with a focus on advancement, leveraging state-of-the-art design and manufacturing technologies.
- Performed low-level programming and worked with controller boards and single-board computers (Arduino, Raspberry Pi, Tinker Board) to implement and optimize control codes for robotic processes.
- Conducted structural resistance simulations of robotic and aerospace structures under various loading conditions.
- Created graphic designs for promotional posters and logos.
- Developed mathematical models and implemented tailored controllers to achieve smooth motion in robotic actuators.

Avid Mechanic Hafez Sanat Co., Fars, Shiraz
Fluid Mechanics Specialist | Robotics and Manufacturing Engineer

- Performed fluid modeling of reactor control rods, including simulation of flow and applied pressure.
- Modeled, designed, and programmed projects focused on mechanizing and automating production lines, providing process optimization solutions for hospitals, as well as constructing and assembling mechanical projects.

Control Systems Laboratory, Sharif University of Technology, Tehran
Teaching Assistant — Control Systems

- Modeled and controlled a quadrotor, implementing various control methods to perform aerial maneuvers.

SKILLS

ICDL
SolidWorks
Ansys
AutoCAD
Unity Engine
MATLAB
Git
Python
C++
C#
Adobe Illustrator
Autodesk Maya
Siemens NX
Blender
Simulink

SELECTED PROJECTS

- Implementing Segmentation and Classification on a breast tumor dataset (breakhis) to clarify malignant from benign tumors (Link)
- Analysis and Control of a Reaction-Wheel based 1D inverted pendulum (Cubli) (Code)
- Analysis and Control of a Quad-Rotor robot on a stand (Control Systems Laboratory)
- Design a robot manipulator for assembly using the ARTE toolbox in MATLAB (Code)
- Preliminary design of an Intelligent Light Small Aircraft (LSA)
- Preliminary design of a Regional Jet
- Analysis and Control of a missile in its launch phase (before booster separation)
- Simulating the flow over a cylinder using Ansys Fluent Gambit
- Designing, scheduling, and optimization of establishing an airline
- Calculating and Modeling the overall loads on the wings of a Cantilever airplane using Abaqus

SELECTED COURSES

- Contributed in the Painverse Project by Medis (Link)
- Deep Learning - Computer Vision (Certificate) — Neuromatch Academy
- Machine Learning (Link)
- MIT 6.S191: Introduction to Deep Learning (Link)
- Fundamentals of Programming (C Language) — by Dr. Agh - 19.7/20.0
- Automatic Control — by Dr. MohammadZaman - 17.0/20.0
- Fundamentals of Electrical Engineering — by Dr. Nasiri - 17.0/20.0
- Industrial Drawing — by Dr. Sabahi Kaviani - 20.00/20.0
- Control Systems Lab — by Dr. Nobahari - 18.0/20.0
- Computer Aided Design 1 — by Dr. Malaek - 17.0/20.0
- Orbital Mechanics — by Dr. Assadian - 15.0/20.0
- Aerodynamics 1 — by Dr. Farshchi - 18.5/20.0
- Thermodynamics 1 — by Dr. Salehi - 17.6/20.0

HONORS

Ranked 555th National University Entrance Exam among 300,000 competitors
Ranked 2nd Basketball matches between faculties of Sharif University of Technology

INTERESTS

Soccer, Bodybuilding, Writing, Game Design, Hitchhiking