Sajid Barakat | Mechanical Engineer with Specialty in Mechatronics

Beirut, Lebanon
Email: sajid99baraket@gmail.com
Phone: (961) 76089376
Lebanese | Sep 03,1999

EDUCATION

Bachelor of Mechanical Engineering, Mechatronics, Isfahan University of Technology, Iran   **2023**

- **Graduation Project:** A multi-agent navigation system for warehouse automation using conflict-based search algorithm in python with simulation in CoppeliaSim.

WORK EXPERIENCE

Robotics Engineer and Research Assistant   **Feb 2022 – May 2022**

IUT University, Advanced Mechatronics and Robotics Lab/Submarine Research, Isfahan

- Worked in both the Advanced Mechatronics and Robotics Lab and the Submarine Research Lab.
- Got involved in the testing and development of an autonomous robot with a navigation system using the SLAM algorithm.
- Developed and tested the navigation software, as well as collaborating with other team members to integrate various sensors and actuators.
- Conducted theoretical analysis for fault control diagnosis for submarines.
- Performed research to identify new technologies and applications for robotics.
- Collaborated with cross-functional teams to ensure project success.

Intern, Biomedical Image Processing, Behyar Company, Isfahan   **Jul 2022 – Sept 2022**

- Pre-processed medical images using advanced algorithms such as 3D morphological processing to enhance the visualization of CT scan images.
- Utilized real-time cameras with C++ language, along with Python using the DCMTK library and scientific reference papers from sources like ScienceDirect to achieve accurate results.
- Gained hands on experience in the field of biomedical imaging and advanced programming techniques.

Embedded Systems Engineer, Toranj Company, Isfahan   **Oct 2020 – Jan 2022**

- Built a clock wall chain using the Arduino platform which involved developing the mechanical design, programming the microcontroller, and testing and troubleshooting the final product.
- Designed an industrial robot arm for furniture painting. Process included developing the mechanical design, selecting appropriate sensors and actuators, programming the control system, and conducting extensive testing and optimization.
- Gained experience in programming languages such as C++ and Python and mechanical design and control systems skills.
- Collaborated with hardware and software engineers to integrate subsystems and components into a final product.
- Wrote and maintained technical documentation, including specifications, design documents, and user manuals.

LANGUAGES AND SKILLS

Languages: Arabic and English

Technologies: SOLIDWORKS, Proteus Design Suite, MSC Adams, Raspberry PI, CoppeliaSim, C++, Multi-Agent System, Entity Framework Core, Altium Designer, CodeVisionAVR, Matlab-Simulink, Arduino, Python, C#, Deep Learning Algorithms, Machine & Image Processing Algorithm, Search Algorithms, SQL, ROS Robot Operating System, Linux Operating Systems, C

CERITIFICATES & COURSES

Certificate in Foundations of Computer Science, SE Factory	**2022**
Certificate in Introduction of Computer Science, Harvard University	**2022**
Advanced Programming, Isfahan University of Technology	**2023**
Smart Control Systems, Isfahan University of Technology	**2023**
CS50's Introduction to AI with Python, EDX Harvard University	**2022**
Machine Learning Specialization, COURSEA Stanford University	**2022**
CS50 Introduction to Computer Science, EDX Harvard University	**2022**
Modern Robotics, North Western University	**2021**
Self-Driving Cars Specialization, COURSEA University of Toronto	**2021**
Robotics Specialization, COURSEA University of Pennsylvania	**2020**
Computer Vision with Embedded Machine Learning, COURSEA Edge Impulse	**2020**
Python 3 Programming Specialization, COURSEA University of Michigan	**2020**
3D Printing and Additive Manufacturing Specialization	**2020**
COURSEA University of Illinois at Urbana- Champaign	

PROJECTS

Chain Clock Wall
Robot Arm for Forting Objects by Color
3D Printer from scratch
Object Detection using OPENCV
Face recognition using Convolution Neural Network using Keras and tensorflow
Elevator Simulation in Proteus for Master Slave AVR – ATMEGA32
Simulation in Proteus for Mobile Autonomous System for Shopping
Design of PID Controller for Mobile Robot
Online Voting System using Python
University Management System with database
3D Morphology using DCMTK in C++ and Python
Search Algorithm Visualization
Multi Robot Navigation System using Robot Operating System
Genetic and Particle Swarm Optimization Implemented in MATLAB

WORKSHOPS

Building a 3D Printer from Scratch
MATLAB
ALTIUM Designer
SOLIDWORKS
Image Processing Using Python
ARDUINO Programming
Microcontrollers AVR
ARDUINO Flight Controller