

FARID TAJI HERAVI

I have a strong interest in robotic engineering, which led me to join the BIROMED Lab, focused on developing medical robotics. I began my career at Tecnalía France as a control software engineer, where I worked on designing a controller for the KUKA med arm. Throughout my career, I have gained extensive expertise in the field and am eager to expand my knowledge further and continue contributing to advancements in robotics.



CONTACT

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🌐 Farid Taji Heravi
🏢 Department of Biomedical Engineering

AUTOMATION SOFTWARE

ROS
TwinCat

PROGRAMMING SKILLS

Programming Skills

Python
C++
MATLAB

Software & Tools

Deep Learning Frameworks
(e.g., TensorFlow, PyTorch, ...)
Computer Vision
(e.g., OpenCV, ...)
git
Docker

Operating Systems

Linux
Windows

LANGUAGES

English
French
(Start to learn)
German
Persian

EXPERIENCES

📅 Oct 2023 - now
📍 Tecnalía France **Junior Control Software Engineer**

Task Objectives: Developing a control interface for the robotic arm to guide the Kuka arm along the desired trajectory. **Verify system as an integration member.**

📅 Dec 2021 - May 2022
📍 BIROMED Lab **Voluntary Research Assistance**
University of Basel, Switzerland

Task Objectives: Designing an environment in **Blender** to generate synthetic datasets automatically to enhance **pose estimation ML** network accuracy while reducing the time and effort required for data collection and annotation.

📅 Feb 2020 - July 2020
📍 **Apply AI to Analyze Medical Images** **Master's Project**
Project 1: Training Convolution Neural Network (CNN) machine learning method for Image Segmentation. **Project 2:** Training Variational Auto Encoder (VAE) and Generative Adversarial Networks (GANs) to address pattern recognition. **Project 3:** Training Recurrent Neural Network (RNN) to address time series problems.

📅 Feb 2020 - July 2020
📍 **Computer Assist Surgery** **Master's Project**
Project: In this exercise, the student learns more about matching interest points: **1.** Write a small Python program to read the two .h5 files into arrays. **2.** Match all the feature description vectors of the floating image to the reference image and retain only the best 0.9 putative matches.

📅 Sep 2017- Jan 2018
📍 **AlumGlass Facade Engineering Specialists** **Junior Mechanical Engineer**
Mashhad, Iran

Summary: Designing a mechanism to hold a fence wall around the helipad (the tennis field was built on the helipad inspired by Burj Al Arab in Dubai). We designed a dynamic mechanism to move up and down the fence wall to protect tennis players when they are playing tennis.

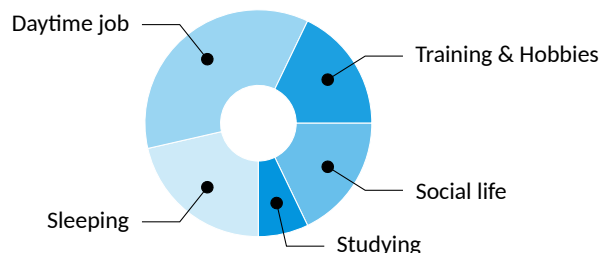
EDUCATION

📅 Sep 2019 - Feb 2022
📍 University of Basel, Switzerland **Master of Biomedical Engineering**
Thesis Title: Development and Evaluation of a Visual Feature Recognition Framework for a Robotic Assembly System.

Thesis Description: We build a computer vision framework to estimate object pose for a robotic micro-assembly system.

📅 Sep 2008 - April 2013
📍 Azad University-Mashhad Branch, Iran **Bachelor of Mechanical Engineering**
Thesis Title: Analyzing and Modeling of Nonlinear Displacement Dependent (NDD) Dampers via Partial Differential Equation.

A DAY OF MY LIFE



SOFT SKILLS

Creativity Hardworking Persuasion Adaptability
Time Management Team work Collaboration Problem Solving

HARD SKILLS

Biomedical Engineering and Quality Assurance:

KUKA arm ROS1 Control Design Inverse Kinematics
Computer Vision AI Machine/Deep Learning
Simulating Kinematics of System

Mechanical Engineering:

Data-Driven Controller Model-Based Design Mechanical Design CAD
FEM

REFERENCES

Anthony Remazeilles

Head of medical robotic lab at Tecnia
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MECHANICAL DESIGN

CATIA v5 ●●●●●
SOLIDWORKDS ●●●●●

CONTROL DESIGN

SIMULINK ●●●●●
(e.g. Modeling Systems, ...)
Control Design ●●●●●
(e.g. PID, H_{∞} Controller, ...)

VISUALIZATION (AR) TOOLS

Blender ●●●●●
Unity ●●●●●