BASSEM DAHROUG

PhD, Mechatronics Engineer

https://bdahroug.github.io/ | bdahroug@gmx.com | Toulouse, France

EXPERIENCE

Robotics Engineer - Control & Mechatronics

ROVIAL Space

03/2023 – present | Toulouse, France

Participate in the research and development of innovative robotic solutions for space applications;

- design and develop mechatronic systems by using different robotic structures (e.g., manipulator arm, legged robot) for performing assembly and repair tasks;
- develop a low-level and high-level controllers for guiding the robotic system by computing forward and inverse kinematics, as well as dynamics ones;
- create experimental proof-of-concept to validate the developed robotic system;
- collaborates with other departments, such as Structure and Space, to gather requirements and specifications.

Mechatronics Engineer

AMAROB Technologies

06/2021 – 11/2022 | Besançon, France

Participation in different innovative projects

- design, simulation, manufacturing, and programming of mechatronic devices, in particular, the micro-robotic systems dedicated to intracorporeal laser surgery that AMAROB proposes;
- validation of the devices developed with AMAROB's collaborators, including partner hospitals and AMAROB's customers.

EDUCATION

Ph.D. in Engineering Sciences

UBFC (Université Bourgange Franche-Comté)

11/2014 – 02/2018 | Besançon, France

Dissertation: *Minimally Invasive Surgery in the Middle Ear: a guided micro-robotic system to efficiently remove cholesteatoma*.

Joint M.Sc. in Mechatronics and Micro-Mechatronics Systems

ENSMM (Ecole National Supérieur de Mécanique et des Microtechnique) and EPI (Escuela Politécnica de Ingeniería de Gíjon)

09/2012 – 09/2014 | Besançon, France and Gíjon, Spain

Master thesis: *Design, modelling and control of a contactless modular conveyor*.

B.Sc. in Mechanical Engineering

AAST, College of Engineering Studies and Technology, Mechantronics Depart.

09/2011 – 09/2006 | Alexandria, Egypt

Graduation project: *Mobile robot control for parking manoeuvre*.

SKILLS & KNOW-HOW

Mechatronic design	●●●●●
Robotics	●●●●○
Automatic control	●●●●○
Scientific programming	●●●●○
Mechanics	●●●◐○
Electronics	●●●◐○
Robotic experimentation	●●●●●
Analysis, synthesis and solving problems	●●●●○
Oral and writing communication	●●●●○
Organization, rigor and autonomy	●●●●○
Project Collaboration	●●●◐○

COMPUTER SKILLS

FreeCAD | Solidworks | CATIA V5 | 3DExperience | G-code

KiCAD | Egale | Proteus

Matlab/Simulink | Octave | COMSOL Multiphysics

C/C++ | ViSP, OpenCV | PCL, VTK | Python, Java | micro-controller | TCP/IP | I2C | GIT

RBDyn | DART | Bullet | Webots | Blender

Linux | Windows

LANGUAGES

English | French

Arabic | Spanish