BASSEM DAHROUG

PhD, Mechatronics Engineer

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EXPERIENCE

PhD, Mechatronics engineer

AMAROB Technologies

6/2021 – present 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.

Researcher, Post-doctoral

Institute FEMTO-ST, Dept. AS2M (Automatique et Systèmes Micro-Mécatroniques)

9/2018 – 9/2020 Besançon, France

Participation in the INSERM project "*ROBOT*" (Robotics and Optical coherence tomography for optical BiOpsy in the digestive Tract)

- design and development of a prototype in order to validate and integrate the distinct technological and methodological proposed by the different project's teams,
- implement a visual servoing scheme based on the 3D imaging (C-scan) obtained from the OCT for guiding a robot during the intra-operative phase in order to perform a repeatable optical biopsy.

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 · G-code

C/C++ · ViSP, OpenCV · PCL, VTK · Python, Java · JS, HTML, CSS · micro-controller · Ladder

Matlab/Simulink · Octave

KiCAD · Egale · Proteus

CMSOL Multiphysics · Blender

Linux · Windows

LANGUAGES

English · French · Arabic · Spanish