

BASSEM DAHROUG

PhD, Mechatronics Engineer

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EXPERIENCE

PhD, Mechatronics engineer

AMAROB Technologies

06/2021 – 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)

09/2018 – 12/2020 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 Bourgogne 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 Gijón)

09/2012 – 09/2014 Besançon, France and Gijón, 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
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