ABDELHAK BOUGOUFFA

Ph.D. Candidate / Researcher
R&D Robotics Engineer

Orsay, France

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in/abougouffa
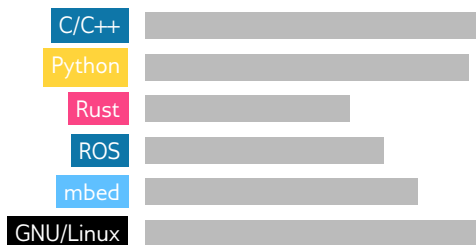
github.com/abougouffa
abdelhakbougouffa.pro

LANGUAGES

Arabic – native
English & French – fluent

OTHER SKILLS

Git, Lisp, Emacs, VHDL, Yocto, C#, OpenMP, OpenCV, LaTeX, Matlab/Octave, IPython/Jupyter, Coding standards (CERT-C, CERT-C++ & Barr-C), FreeCAD, LibreOffice, Inkskape, GIMP...

TOP TECH SKILLS

- C/C++
- Python
- Rust
- ROS
- mbed
- GNU/Linux

EXPERIENCE

Since Sep-2019
Full-time
R&D Robotics Engineer — ez-Wheel, La Couronne, France
As a Cifre funded Ph.D student, my mission is to bring my research works on multiphysic data fusion, SLAM, embedded & distributed systems to the industrial world, developing reliable and robust localization system for the electric wheeling system, to be used in the context of *Industry 4.0* environment.

Since Sep-2019
Full-time
Ph.D. Researcher — Systems & Applications of Information & Energy Technologies - SATIE, Gif-sur-Yvette, France
As a Ph.D. Candidate, I'm registered in Paris-Saclay University, within the Laboratory of Systems & Applications of Information & Energy Technologies (SATIE).

Jun-2018 – Aug-2019
Full-time
Research Engineer — Gustave-Eiffel University (ex-IFSTTAR), Champs-sur-Marne, France
Worked within *TS2/Simu&Moto* team on the SimuSafe European project (H2020), mainly on artificial intelligence, multi-agent and distributed systems applied to the development of a behavioral traffic simulator.

Apr-2018 – May-2018
Visiting
Research Engineer — Systems & Applications of Information & Energy Technologies - SATIE, Gif-sur-Yvette, France
Worked on refining a data acquisition, decoding and visualization software.

Aug-2017 – Jul-2018
Full-time
Research Engineer — Center for Development of Advanced Technologies - CDTA, Algiers, Algeria
Worked in the "*Robotics and Industrial Production division*"; within NCRM team *(Navigation et Contrôl des Robots Mobiles autonomes)*, mainly worked on designing and implementing an embedded and distributed control system for a car-like mobile robot, implementing ROS packages *(Robot Operating System)*, SLAM *(Simultaneous Localization and Mapping)*, worked on car-like/differential mobile robots, CAN bus communication...

Oct-2017 – Feb-2018
Part-time
Lecturer — Saad Dahleb University of Blida, Blida, Algeria
Taught the applied courses of "*Robotics Intelligence*" module (Master 2), and supervised the students on their mini-project, which consists of designing and programming an autonomous mobile robot using an Arduino board and infrared/ultrasonic low-cost sensors.

Feb-2017– Jul-2017
Internship
Trainee Engineer — Center for Development of Advanced Technologies - CDTA, Algiers, Algeria
Final year internship withing the "*Robotics and Industrial Production*" division, NCRM team, worked on a new SLAM method and implemented it using Python under ROS.

Apr-2012 – Jan-2017
Freelance
Python developer, GNU/Linux sysadmin and FOSS solutions integrator — Remotely on UpWork Inc.
Worked as freelancer on many projects including data processing and scraping, Linux system administration, integrating open source CMS's, designing relational databases...

EDUCATION

Since Sep-2019
Ph.D. Candidate — Paris-Saclay University / ED STIC / SATIE Laboratory, Orsay, France
Currently seeking for a Ph.D. degree in Robotics, at the Paris-Saclay University, within the Laboratory of Systems & Applications of Information & Energy Technologies (SATIE).

Jul-2017
Master's degree — Mhamed Bougara University of Boumerdes, Boumerdes, Algeria
Studied *Distributed Computing Systems,* graduation project entitled: "A Contribution to Simultaneous Localization and Mapping (SLAM) in an Unknown Urbain Environnement"

| Jul-2015 | **Bachelor's degree (Licence)** | Mhamed Bougara University of Boumerdes, Boumerdes, Algeria |

Jul-2015   **Bachelor's degree (Licence)**   Mhamed Bougara University of Boumerdes, Boumerdes, Algeria
Studied *InfoTronics (Computer sciences and electronics)*, graduation project entitled: "Design and implementation of a Restful API using node.js"

May – Jun-2012   **Volunteer Rescuer Certification**   Algerian Civil Protection, Boumerdes unit, Algeria
Got certified as a volunteer rescuer (first-aid man).

Jul-2011   **Highschool Diploma (Baccalauréat)**   Hammadi Highschool, Boumerdes, Algeria
Got the Baccalauréat in the field of "*Mathematics and Technology / Mechanical Engineering*", with Honors.

% BONO & VOLUNTEERING

Active member of the open source community and a contributor to many open source projects.

Sep-2002 – Apr-2018   **Scout Leader / Previous Boyscout**   Algerian Muslim Scouts
Scout leader/educator *[Wood Badge certified]*, participated in the organization of many national and regional scale events and activities.

Apr-2013 – Jun-2016   **Teacher & Speaker**   Computer Science Club of the University of Boumerdes - CIUB
Teacher of Programming (using C and Python), GNU/Linux and free and open source culture.

Dec-2013 – Apr-2015   **Club President**   Computer Science Club of the University of Boumerdes - CIUB
Managed the Computer sciences club *(Club Informatique de l'Université de Boumerdes - CIUB)* during two years.

📰 PUBLICATIONS

- Sara Bouraine, **Abdelhak Bougouffa** & Ouahiba Azouaoui; "Particle swarm optimization for solving a scan-matching problem based on the normal distributions transform"; `10.1007/s12065-020-00545-y`; January 2021; *Journal of Evolutionary Intelligence.*

- Sara Bouraine, **Abdelhak Bougouffa** & Ouahiba Azouaoui; "NDT-PSO, a New NDT based SLAM Approach using Particle Swarm Optimization"; `10.1109/ICARCV50220.2020.9305519`; December 2020; *16th International Conference on Control, Automation, Robotics and Vision (ICARCV 2020).*

- **Abdelhak Bougouffa**, Emmanuel Seignez, Samir Bouaziz & Florian Gardes; "SmartTrolley: An Experimental Mobile Platform for Indoor Localization in Warehouses"; `10.1109/RCAE51546.2020.9294484`; November 2020; *The 3rd International Conference on Robotics, Control and Automation Engineering (RCAE 2020).*

- **Abdelhak Bougouffa** & Anis Hocine; "Contribution à la localisation et la cartographie simultanées (SLAM) dans un environnement urbain inconnu"; UMBB/123456789/4140; *Master thesis (french); CDTA/UMBB Jul-2017*.