



Mohamed El Amine BOUDJOGHRA

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Google Scholar: scholar.google.com/citations?user=xwDqHG8AAAAJ

Home: Masdar MBZUAI, Geothermal building, ABUDHABI (United Arab Emirates)

ABOUT ME

Control systems engineering graduate. Currently pursuing a Master of Science in computer vision at Mohamed Bin Zayed University of Artificial Intelligence. Interested in the applications of deep learning in 3D vision.

EDUCATION AND TRAINING

Control Systems and Automation Engineering

National Polytechnic School [08/09/2017 – 29/07/2022]

Address: Algiers (Algeria)

Master of Science in Computer Vision

Mohamed Bin Zayed University of Artificial Intelligence [15/08/2022 – Current]

Address: Abudhabi, Masdar, (United Arab Emirates)

PROJECTS

3D point cloud instance segmentation

[01/10/2022 – Current]

This is a project under Dr. Fahad Khan's and DR. Jean Lahoud's supervision, to improve state-of-the-art 3D point cloud instance segmentation models.

3D point cloud semantic segmentation

[01/10/2022 – Current]

Working on improving state-of-the-art models for outdoor scene semantic segmentation.

V-SLAM on Lie groups

[02/2022 – 07/2022]

Worked on a 2-member team, where we re-designed a Lie group-based globally stable pose and map observer. For simulation, we used NumPy, matplotlib, SciPy Python libraries, and MATLAB.

Link: <http://repository.enp.edu.dz/jspui/handle/123456789/10583>

Fine grained object classification using transformers

[15/01/2023 – 07/02/2023]

Our assignment from the course "advanced object detection" was about choosing and improving a baseline on fine-grained object classification.

Link: <https://arxiv.org/abs/2302.04800>

Indoor localization and navigation for an autonomous drone

[06/2021 – 07/2022]

Worked on indoor navigation for the X500 drone using a PX4FLOW sensor and a Pixhawk4.

Arduino-based autonomous robot

[09/2020 – 02/2021]

Implemented odometry, obstacle avoidance, and control algorithms in C++ to build an Arduino-based autonomous robot.

ESP32-based teleguided robot

[12/2019 – 02/2020]

Worked on a 4-member team, where I designed a 3D model for a teleguided robot using SolidWorks. I also wrote a c++ code to remotely control the motors using a smartphone application connected to an ESP32 through WIFI.

HONOURS AND AWARDS

National competition for engineering schools

Ministry of higher education and scientific research [09/2019]

Ranked 3rd nationally out of 1037 students.

ACTINSPACE hackathon 2020

CNES, ESA and Aerospace valley [13/11/2020]

Ranked 2nd with the theme "Assessing water volume in dams using satellite imagery and monitoring dam structural health using InSAR technology and artificial intelligence".

MBZUAI fully funded scholarship

Mohamed Bin Zayed University of Artificial Intelligence [15/08/2022]

DIGITAL SKILLS

Programming languages

C++ / C / Python

Software

MATLAB / Simulink / Zelio soft / SolidWorks / Blender, 3D modeling / Multisim / Siemens Step7, WinCC / Proteus

Hardware

Arduino / ESP32 / Raspberry Pi / Pixhawk 4 / px4flow

Python libraries

Pytorch / Scikit-learn / Pytorch Lightning / Numpy, Pandas, Matplotlib, Seaborn / OpenCV

VOLUNTEERING

President of the robotics club

[Mohamed Bin Zayed University of Artificial Intelligence, 11/12/2022 – Current]

1. We work on optimizing AI models for implementation on edge devices.

Member of the communication department

[Vision and Innovation Club, 31/12/2020 – 28/02/2021]

- Organized the first Algerian robotics competition "SPARK VIC POLYMAZE", with over 10 participating teams and 70 spectators.

Co-founder and Head of department

[Vision and Innovation Club, 31/12/2019 – 31/12/2020]

1. Co-founder and head of the scientific department "SPARK VIC" with over 40 members within the vision and innovation club.

Member of the training department

[Vision and Innovation Club, 08/09/2018 – 31/12/2019]

- A volunteer in the Algerian Engineering Competition, which took place in 6 provinces.

LANGUAGE SKILLS

Mother tongue(s): **Arabic**

Other language(s): **French (Intermediate) | Japanese (Intermediate) | English (IELTS 7)**

CERTIFICATIONS

Coursera

[13/11/2021 – 28/12/2021]

- Introduction to the Internet of Things and Embedded Systems
- The Raspberry Pi Platform and Python Programming for the Raspberry Pi
- The Arduino Platform and C Programming
- Interfacing with the Raspberry Pi
- Interfacing with the Arduino

WORK EXPERIENCE

Intern

GICA group [28/01/2021 – 11/02/2021]

City: Constantine

Country: Algeria

Polished my knowledge of the exploitation of SIEMENS PLCs in industry and the types of communication protocols used between them, like PROFIBUS and ETHERNET.

Intern

SONATRACH [23/12/2019 – 02/01/2020]

City: Ouargla

Country: Algeria

Learned about the principles and applications of sensors used in the oil and gas industries.