

. AYOUB CHEQRI .

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PROFESSIONAL PROFILE

Research engineer with a master's degree in **electronics and applied physics** & professional experience in **data-driven control** and **machine learning** for **dynamical systems**.

CAREER SUMMARY

Research Engineer/Data Scientist,
Metz, France

CEA
12/2021 - Today

R&D for the **automation of agricultural machinery** with the industrial market leader **CLAAS**.

- Machine sensor data acquisition, cleaning and analysis in **Tableau** and **Python**.
- Development and evaluation of **machine learning ensemble models** for **weight inference**.
- Deployment of **ML models** on **Nvidia Xavier NX**, **integration** via **CAN bus** within the **embedded system** on the balers and **automatisation** of **real-time** inference and classification tasks.
- Contributing to upgrading **C++** machine software and **performance benchmarking** on multiple targets.
- **Filtering** and **de-noising** of strain gauges signals for **dynamic bale weight forecasting**.

R&D Engineer Intern,
Paris, France

Astek Group
03/2020 - 09/2020

- Analysis of the state-of-the-art methods for trajectory tracking and formation flight of **autonomous UAVs**.
- Modeling UAVs in a **3D** environment using **Blender**.
- Developing a **detection & tracking** software in **Octave/Matlab** in the simple case of **leader-follower** drones.
- Evaluation and measurement of the **performances** of both detection and tracking tasks.

Research Assistant Intern,
Lisbon, Portugal

Instituto Superior Técnico
03/2019 - 07/2019

- Developing software in **Matlab** to detect surfaces in a **3D point cloud**, captured by a **Microsoft Kinect** camera using **classical ML algorithms**, and track individual movements in an environment in **real time**.
- Collaborating with clients to deploy the product for an art exhibition at the MAAT museum using **ROS**.
- Working alongside the feeding robot team to design a GUI in **Python, ROS, and Qt** to **control** the robot's actions.

CORE SKILLS

Fields: Machine Learning | Embedded systems | Computer Vision | Signal Processing | Software engineering.

Programming Languages & Technologies : Python | Matlab | ROS | C/C++ | UNIX | Shell | Assembly | VHDL | Excel | Git.

Soft skills: Intellectual Curiosity | Problem-Solving | Critical Thinking | Adaptability | Team Work.

Languages: English | French | Arabic.

EDUCATION

Master of Science in Electronics & Applied Physics (MSc),

2017 - 2020

National Graduate School of Engineering & Research Center (Caen, France)

Major: **Embedded Systems: Signal Processing, Control & Telecommunications**

Preparatory Classes for the "Grandes Ecoles",

2014 - 2016

CPGE Reda Slaoui (Agadir, Morocco)

A two year undergraduate course preparing the highly competitive nationwide entrance examinations to the French engineering schools, specializing in **Mathematics** and **Physics**. (The equivalent of a **BSc in Mathematics**).

INTERESTS & DISTINCTIONS

Finalist of EM Normandy Business School Public Speaking Contest
Traveling, Literature, Music, Sports

2019