

FRANÇOIS LE RALL

Software, electronic engineer



+48 880 417 450

lerall.francois@gmail.com

Jagiellońska 4/74
03-721 Warsaw, POLAND

International driving licence

Certificate of Training in First Aid

Test of English as a Foreign
Language - Institutional (TOEFL)

SKILLS

COMPUTING

Programming: Python, JS, C, C++, Matlab, SQL, GCP, NodeJS, Docker, Git.

OS: Windows, Unix (macOS, Linux), ROS

Productivity: G Suite, MOffice, LATEX

Simulation: ANSYS, CATIA, GAZEBO

MANAGERIAL

Project and team management

LANGUAGES

FRENCH Native language

ENGLISH Superior (C1)

SPANISH Advanced (B1)

POLISH Elementary (A2)

PERSONAL ASPECTS

HOBBIES Basketball (competition, coaching, refereeing)
Piano/Guitar (Jazz, Rock, ...)
Traveling (hitchhiking)

QUALITIES Curious, dynamic, meticulous, autodidact

OBJECTIVE: Full time job



EDUCATION

Master of Science | [KTH Royal Institute of Technology](#), Stockholm

2018 – 2020

Engineering student in Systems, Control and Robotics majored in reinforcement learning, robust mechatronics, hybrid and embedded control systems, artificial intelligence and ethics of technology

Master of Science | [École centrale de Lyon](#)

2015 – 2020

Engineering student in computing, energy, digital mockup, fluid mechanics and involved member of social and sport associations



WORK EXPERIENCE

Robotic/Software engineer | [Nomagic](#), Warsaw

April – November
2020 – 2020

Building of advanced *pick and place* robot control system - from design, through implementation to support in production. Collect real-time signals from robots for better introspection and debugging capabilities and work on the real-world problems that customers have, debugging problems, supporting systems deployed at customer sites. Django internal website maintenance (app displaying the data (images, graphs, video stored on GCP) from the dev. and prod. robots of the company.

Robotic engineer trainee | [Nomagic](#), Warsaw

September – March
2019 – 2020

Estimation of the mass of a manipulator payload in motion by means of an FT sensor. Design of a mechanical model of the vacuum gripper cup is derived to approximate the inertial parameters with a Recursive Total Least Squares algorithm.

Technical Director | [Energy Generation](#), Lomé (TOGO)

September – February
2017 – 2018

Management of nine energy projects run by entrepreneurs from all over Africa (solar, wind, biogas, water electrolysis plant, pyrolysis). Development of the educational model of an academy dedicated to entrepreneurship; teaching—in English and French—of technical concepts. Setting up an Energy FabLab in the Togolese capital.

Mechanical Design Trainee Engineer | [Anaveo \(Sentryway\)](#), Champagne-Au-Mont-d'Or (FRANCE)

April – August
2017

Design—using CATIA—of the mechanical body of a railway camera intended to browse the shelves of warehouses and malls.

Treasurer of the [Sport Association](#) | ECL

2016 – 2017

Management of a 120k€ budget, organisation of a sport tournament (Challenge Centrale Lyon) welcoming 3000 students (sport, logistic), ...

AESH | [The Ministry of National Education](#), Lycée du Parc, Lyon (69)

2015 – 2016

Assistant disabled persons

Writing assistance during the tests of a student with a disability in scientific preparatory class.

Django/React Apps | [Personal Project](#)

My love for programming started as a hobby. Since then, I have developed different web apps or modules using Django, React and external APIs.

Automated UAV | [KTH Royal Institute of Technology](#), Stockholm

2019

In a city environment (road signs, walls), implementation and integration of navigation functions in a Crazyflie drone by Bitcraze using Robot Operating System (ROS):

- **Perception:** detect, identify and position objects (road signs) with a CNN classification,
- **Localization:** estimate the position of the drone (based on information from camera—ArUco markers—and other sensors and the information from a map) with a KALMAN filter,
- **Motion control:** control the motion of the drone (based on the position from localization and the information from a map) in order to pass through 40x40cm gates with path planning, path execution and state machine algorithm.

Reward: First prize of the 2019 KTH contest Robotics and Autonomous Systems

Photovoltaic balloon | [Zephyr Solar/EONEF](#)

2016 - 2017

Design of helium balloons covered with photovoltaic panels supplying refugee camps or makeshift hospitals.

- Comparative of different shapes
- Proposal of different orientation systems for the solar balloon

Cooling device | [LMFA](#), École centrale de Lyon

2015 - 2016

Development of a system controlling the temperature of a pressure sensor of the Laboratory of Fluid Mechanics and Acoustics with Peltier effect module.

- Choice of a heat transfer mode and sizing (numerical simulation on ANSYS),
- Serving and regulation with voltage, current and temperature sensors and ARDUINO