



Nicolas Erbeti

- Engineer position -

📅 Born on September 25th, 1998
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♂ Male | French | Driving licence (B)
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📁 Computer science

Python



C/C++



C#



Java



Javascript



Mastered tools:

ROS/Gazebo, Docker, Matlab, Solidworks, QT, ChatGPT, Raspberry Pi, Arduino, Linux, Yocto, Windows, Github/Gitlab, Visual Studio, Gimp.

A Languages

French



Native language

English



Professional

TOEFL score : 109/120

TOEIC score : 985/990

Japanese



Intermediate level

German



Certified level : European B1

👥 Interests

Japanese language

I've been learning during my spare time.

My current goal is to pass the JLPT N3 exam.

Sports

I love hiking and cycling in natural landscapes.

I also go to the climbing wall with my friends.

Mystery novels

I particularly enjoy solving the puzzles of

Agatha Christie's works.

Education

From 2022 to 2023

Linguistic and traineeship program "Vulcanus in Japan"

[EU-Japan Centre for Industrial Cooperation](#) | [Tokyo, Japan](#)

- 4 months of intensive Japanese courses at the Naganuma School with fellow European participants followed by an 8-month internship in a Japanese company.

From 2021 to 2022

Master's degree "Astronomical and Space-based Systems Engineering"

[Paris Observatory, Sorbonne University](#) | [Paris, France](#)

- Space-based embedded systems engineering, sensors, machine learning (pattern recognition, optimization...), finite elements modelization, astrophysics.

From 2018 to 2021

Robotics Engineering Degree

[Polytech Sorbonne Engineering School](#) | [Paris, France](#)

- *3rd year:* mobile robotics (ROS, SLAM, Kalman filter, pathfinding...), real-time and object-oriented programming, test-driven development, control of high-inertia robotic arms, AI, machine learning (deep neural network, SVM...).

- *2nd year:* ethics, analogical and numerical automatics, robotics modelization (Denavit-Hartenberg, forward and reverse kinematics, state-space representation, trajectory planification...), image and signal processing and computer vision.

- *1st year:* control and power electronics, mechanical conception, mathematics.

Professional experiences

January 2023 to
August 2023

Reinforcement learning framework for the control of a robotic arm

[Omron Sinic X](#) | [Tokyo, Japan](#)

- Contributed to a dual simulator framework and used it to teach a 6-dof Universal Robot 5 to autonomously cut through soft food with RL methods over a ROS network.
- Calibrated this system with optimization tools (ADAM, Optuna...) to reproduce realistic force/torque data profile obtained with real-world sensor.

April 2022 to
August 2022

Data fusion for the control of an underwater autonomous robot

[Notilo Plus](#) | [Marseille, France](#)

- Developed automatic yaw, altitude, and position controllers in Python/C++ on ROS for the missions of underwater robots; using GPS, pressure, and bathymetric sensors.
- Conducted the unit and integration tests first in the Gazebo simulation and workbench before validating them in real conditions at Marseille's harbor.

March 2021 to
August 2021

Integration of an ultrasonic sensors belt to a mobile robot

[Enova Robotics](#) | [Ivry-sur-Seine, France](#)

- Conceived a sensor system as well as a safer mobility solution within ROS for the PGUARD robot. I also designed the mechanical/electrical parts of the prototype.
- Integrated the Ouster OS0 Lidar both in the Gazebo simulation and in reality.

Projects

November 2020
to January 2021

Unicycle robot SLAM and path-finding algorithm

[Polytech Sorbonne](#) | [Paris, France](#)

I designed the motion control software of a mobile robot which I tested in Gazebo. With the help of SLAM ROS libraries and RRT path-finding algorithms, I managed to control the platform navigating in a room in fully autonomous mode.

October 2020 to
January 2021

Implementation of a mobile robot with embedded sensors

[Polytech Sorbonne](#) | [Paris, France](#)

I programmed the drivers and navigation algorithm of a mobile robot using a Raspberry pi, hall effect sensors and odometric principles. I mounted a serial arm on it with a camera, using a Haar-Cascade-powered AI to track human faces.

January 2019
to May 2019

Prototyping of a robotic arm

[Polytech Sorbonne](#) | [Paris, France](#)

Within a team of Polytech students, I built a 2DOF parallel robotic arm from the CAD on Solidworks to the control algorithm on an Arduino. I used an IR sensor to plan the motion of its effector along the curves of an irregular wall.