

# Gwendal Crequer

November 6, 1998

Graduate - robotics  
- mechatronics

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## Languages

French Native  
 English Technical (10 month abroad)  
 Spanish Basics

## Hard Skills

driving & boating licence

### Software

MatLab Simscape, Stateflow, Control...  
 Comsol Multiphysics modelling...  
 TopSolid CAM - 5 axis machines...  
 SolidWorks Designing  
 Gazebo/Ignition school projects  
 CoppeliaSim school projects  
 StoneFish Learning

### Programming

Python IA, robotics, modelling...  
 MatLab Image, data, signal...  
 C/C++ ViSP, libPeR, embedded, IA...  
 Julia Vision, data, modelling  
 VHDL Simple projects  
 ROS 1 & 2 Various projects  
 Debian & git Everyday work

Accredited B1V at ENS Rennes

### Equipment

ESP, Atmega, PIC, field protocols, Raspberry, PLL, filters, electrical measurement, power converters, INS, IMU, Lidar, GNSS (RTK), brushless-synchronous-induction-DC machines, steppers, servomotors, machining, additive manufacturing...

## Soft Skills

International Teamwork  
 Scientific and technical versatility  
 Articulation thinking

## Activities

Amateur photography  
 Windsurf & Kin-ball  
 Personal research projects

## Professional Experience

Apr – Sept 2024 **Research Assistant** JRL-AIST - Japan  
Impact of masking on self-perception in the 360° Visual Servoing.  
*Python, C++, ROS, Mujoco, OpenCV, ViSP, libPeR, 360° cameras*

Oct – Nov 2024 **Project Advisor - Robotics (16h)** ENSTA Bretagne, France  
Supervision of a robotics project, for students in engineering school.  
*Mentorship, technical guidance, Adaptability to Unforeseen Challenges*

Oct – Nov 2024 **Sessional Lecturer - Programming (28h)** ENSTA Bretagne, France  
Lectures + Practicals - python programming for international students.  
*Organization, Autonomy, Adaptability, Patience, Cross-cultural skills*

## Other Valuable Projects

May – Sept 2023 **Intern - Laser scanner** CMMS - Colorado State University, USA  
real-time laser scanning during a fiber printing process.  
*Julia, OpenCV, Image Processing, 3D reconstruction, Data representation*

May – Aug 2021 **Intern - Vision for detection and localisation** ENSTA Bretagne, France  
Visual localisation of a robot by detecting a distribution of buoys.  
*Python, OpenCV, Interval Analysis, codac, robust state-estimation*

**Intern - Visual estimation of a cable shape**  
3D estimation of a cable for a ROV, 2 cameras without stereo matching.  
*Python, stereo-vision, basics in differential geometry*

May – July 2020 (remote) **Intern - Celtic chariot** CNAM, France  
Finite Elements and analytical study of Gaulish chariot.  
*Comsol (Finite Elements), Continuum mechanics, Mediation, Synthesis*

## Education

Sept 2022 – Sept 2024 **Engineering diploma + MSc** ENSTA Bretagne, France  
(spec. Mobile Robotics)  
Notable projects : • Design, prototype, navigation of a hydrofoil motorised kayak,  
• Guidance, planning for little autonomous ships (2 × 1 week).

Sept 2019 – Sept 2024 **Magister of Mechatronics** ENS Rennes, France  
**MSc - Engineering Sciences** (2020-2022)  
(spec. Computer Engineering)  
**BScs - Engineering Sciences** (2019-2020)  
- Electrical Engineering  
Notable projects : • Particle Swarm optimization for glass properties estimation,  
• Acoustic levitation for research on OAM and BSc practicals.

Sept 2016 – Jul 2019 **Classe Préparatoire aux Grandes Écoles (CPGE)** Livet High School  
**PTSI-PT\*-PT**

## Personal projects

Oct 2021 – Apr 2023 **Scopython project** Peritell, Rennes, France  
Mentoring students in Arts : design/programming a video-jukebox.  
*Teaching skills, Mentoring, cultural mediation, GUI, python*

Oct 2020 – Sept 2021 **Sciences 2024** ENS Rennes, France  
MoCap, musculoskeletal modeling for performance study of an athlete.  
*Matlab, Motion Capture, Dynamics, musculoskeletal models*