GABRIEL GARCIA

CONTACT

+336519072
gabriel91230.garcia@gmail.com
2 Boulevard Robert Schuman, 57100, Thionville, France
FR & EN

EDUCATION

- PHD IN PLANETARY ROBOTICS
  2022 - 2026
  University of Luxembourg
- MASTER IN ENTREPRENEURSHIP
  2021 - 2022
  UTBM
- MASTER IN COMPUTER SCIENCE — AI SPECIALIZATION
  2019 - 2022
  UTBM
- COMPETITIVE CLASSROOM
  2016-2019
  CPGE

SKILLS

- **Robotics**: Mobile robotics, rover systems, terrain traversability, space robotics, underground robotics using python and C++
- **Hardware & Prototyping:** Rover experimentation, 3D-printed robot frames, LiDAR/IMU/camera integration, NVIDIA Jetson Orin-based robotic architectures
- **Mapping & Exploration**: Underground environments, tunnels, caves, mines, SLAM-related experimentation, RADAR-based mapping concepts
- **Communication**: Teaching support, public science outreach, interactive robotics demonstrations

PROFIL

PhD-level robotics engineer specializing in LiDAR-based terrain traversability, roughness estimation, and autonomous rover perception for challenging environments. Background includes a PhD in Robotics, a Master's in Computer Science with AI specialization, and a Master's in Entrepreneurship. Experienced with ROS2, point-cloud processing, IMU-based validation, and experimental robotic platforms.

EXPERIENCE

PHD IN ROBOTICS - UNDERGROUND ENVIRONMENT TRAVERSABILITY
2022 - today

- Developed and tested algorithms for LiDAR-based terrain traversability analysis using 3D point clouds and IMU measurements.
- Worked on roughness estimation methods for mobile robots operating in unstructured terrain.
- Developed a framework for generating procedural underground environments. Currently extending the framework to specialize in pyroducts.

TEACHING ASSISTANT — INTRODUCTION TO SPACE ROBOTICS
2022 - today

- Assisted a supervisor in teaching an Introduction to Space Robotics course.
- Supported students in understanding robotic systems for space exploration, rover autonomy, and mission-related robotics concepts.
- Helped communicate complex technical ideas in an accessible way.

SCIENCE OUTREACH FACILITATOR
2022 - today

- Facilitated a public interactive robotics activity simulating lunar exploration.
- Managed a demonstration area containing fake lunar regolith and two remotely controlled robots.
- Helped participants experience the effect of communication delay between Earth and the Moon.
- Presented space exploration and robotics concepts to a general audience through hands-on interaction.