



# Matthieu Marchal

Looking for an opportunity in **Robotics** from **Fall 2024**.

in **Control Engineering**,  
**Embedded Systems**,  
**AI & Computer Vision**.

## INFORMATIONS



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Driving license

## LANGUAGES

- French (Native language)
- **English (C1 Cambridge)**
- Chinese (B2)
- Malagasy (Native language)

## SKILLS

### Engineering

- **Control systems**
- **Computer Vision**
- **Robotics**
- **Artificial Intelligence**

### Programming

- **Python/C/C++**
- **MATLAB/Simulink**
- **PyTorch/TensorFlow**

### Software & OS

- Blender
- Amazon Web Services
- Git
- Linux
- ROS

## PROJECTS

- Design of the **onboard system architecture** of a space balloon with the **National Center of Space Studies (CNES)**. Provided and FMECA to ensures the robustness of the system against hardware and software failures.
- Design and **advanced control** of **critical automotive and aeronautic industrial systems**.

## PROJECTS

- **Photography/Cinema**
- **Artificial Intelligence**
- Computer Vision
- Boxing

## INTERNSHIP HISTORY

### COMPUTER VISION ENGINEER @ SII GROUP

March 2024 - **Now**

*Satellite guidance by an onboard monocular camera for Rendezvous missions :*

- 3D model reconstruction using computer vision strategies (**MVG, MVS, NeRF**),
- Implementation and training of **AI networks** to perform satellite pose estimation such as **U-net, Hourglass-net or YOLOv8** on **Amazon Web Services (SageMaker and S3)**.
- Studying **position based visual servoing (PBVS)** strategies for space embedded systems.

Python, Pytorch, Cuda, Blender, ROS

### RESEARCHER IN ROBOTICS & VISION @ LAAS-CNRS

February 2024 - March 2024 ~ 2 months

*Visual servo-control of a manipulator robot on tree-like structures:*

- Developed **graph matching algorithms** and **position based visual servoing (PBVS)** strategies from a 3D depth camera real-time acquisition for vine pruning robot.
- Configured a **Robot Operating System (ROS)** and **Gazebo simulation environnement** to validate the prototype in a controlled environnement.

C, C++, Python, ROS, Gazebo

### CONCEPT STORE MANAGER @ POLKA GALLERY

January 2023 - April 2023 - 4 months (gap year)

Assistant in charge of the physical and digital space of the POLKA photography gallery:

- Development and restructuration of **UX/UI specifications** and **logistics processes**,
- Management, organization and **production of exhibitions in the Polka Factory**,
- **Marketing** of prints, art books and photographic objects.

### CUSTOMER SUCCESS ENGINEER @ VERTEEGO

July 2022 - December 2022 - 6 months (gap year)

Assistant engineer for Verteego's decision intelligence SaaS platform (DIP) :

- Project management over customers from a wide range of industries. Follow-up of **solution selling and deployment**,
- Design of new SaaS functionalities and **ergonomic improvements**.

Query, Data Studio

## EDUCATION

### ENSEEIH, ENGINEERING SCHOOL- TOULOUSE, FR

2020 - 2024 - *Ranked 17th out of 170 Engineering Schools in France by letudiant.fr in 2024*

Electrical and Mechanical Engineering student at ENSEEIH

- M2 - **Control systems** and **Embedded Systems Computing**,
- Gap year (1 year) - 6 and 4-month internships,
- M1 - Real-time control systems engineering,
- L3 - **Electronics**, Electrical Energy & **Automation**,
- Entry after a 2 years of preparatory school.

More!

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Leveraging strong technical