

Sebastian STRAUT

MSc Computer Vision Student, looking for an internship opportunity in Summer 2026

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Passionate about computer vision, machine learning, and visual computing, I am seeking to further develop my skills in AI research and applied computer graphics. I am curious, analytical and resourceful, and I have always loved exploring complex problems at the intersection of mathematics, algorithms, and visual data processing.

Education

Master's Degree in mathematics, computer vision

From 2025 to 2027 **Université Paris Descartes**, France
Specialization in **computer vision** and **pattern recognition**, with advanced **mathematics** courses.

Bachelor's Degree in mathematics, computing and cognitive sciences

From 2022 to 2025 **Université de Bordeaux**, France
This training includes courses in **mathematical optimization**, statistics, machine learning, **human-computer interactions** and neuroscience.

Work Experience

Research Scientist Intern - Centre Inria Bordeaux

From May 2025 to July 2025 **Manao Team**
Subject: Latent space alignment in encoders/decoders for compression of acquired 3D data

- Explored SOTA **neural network** architectures
- Implemented VAEs for new [data generation](#)
- Leveraged GPU Cluster usage for model training
- Working on a technical paper on **neural compression**

IT Support Agent - Université de Bordeaux (CREMI)

From September 2024 to April 2025
Implemented a **RAG LLM Agent** to automate queries on university documentation (Retrieval Augmented Generation system)

- Python, LangChain, OpenAI/Mistral, Vector DB

Personal Projects

Computer Vision (Python, OpenCV, PyTorch)

- **Currently** developing an **augmented vision** pipeline to visualize occluded geometry ("seeing through walls") by implementing RTG-SLAM algorithms for instantaneous **environmental mapping**.
- Volume Control system using MediaPipe and OpenCV to control audio volume via **hand tracking**.
<https://sebastian.cafe/assets/vid.mp4>
- Stochastic **Image Reconstruction** with Markov Chain based algorithm to generate and reconstruct images based on pixel probability distributions.
- Engineered a **visual servoing** system to track a person using **PID controllers** to adjust the **drone's** yaw and velocity in **real-time** based on the subject's position.
- Deployed a personal Linux server to host **local LLMs** (deepseek-r1, 7b), accessible remotely via a custom domain and **reverse proxy** (Nginx).

Languages

English

Fluent in reading, writing, and speaking.
Writing a technical paper in English

Spanish

Fluent in reading, writing, and speaking.

French

Native.

Technical skills

AI & Computer Vision

- **PyTorch**, **TensorFlow**, **Keras**, **OpenCV**, **MediaPipe**, **LangChain** (LLM/RAG) 5-year experience (self-taught and as part of the curriculum)

HPC & Cloud Computing

- High Performance Computing (HPC), **GPU Cluster** usage (Plafrim), **Slurm workload** manager, SSH tunneling, Linux/Bash scripting.

Mathematics

- **Linear Algebra**, Multivariate Calculus, Probability & Statistics, **Mathematical Optimization**, Signal Processing.

Development Tools

- **Docker containerization**, for my self hosted projects.
- **Git** and **Github**, for all my personal and academic projects.
- **VS Code**, for code edition and projects management.

Programming Languages

- **C++**, **Java**, **Web**: on academic and personal projects.
- **Python**: self-taught, to create projects and automations.

Associative experience

Astronomy Association: Bivouac excursions for star observation, logistics and telescope equipment setup.

University Music Band (Espace -120): Bassist for the university music club, developed teamwork and discipline through weekly jam sessions.