

DEBACHE RAPHAËL

ENGINEERING STUDENT 2nd Year
GRADUATE SCHOOL ENSEIRB-MATMECA
BORDEAUX INP

EDUCATION

Engineering Degree in Telecommunications

2023 - 2026

- Specialized in signal and image processing, multimedia compression algorithms, statistics, machine learning and Deep Learning
- Gained hands-on experience in system and network programming with C

French Preparatory Classes – Mathematics & Physics (MP) :

2020 - 2023

- Math : Algebra, Analysis, Probabilities and Statistics
- Mechanics, Electromagnetism, Optics, Thermodynamics, Modern Physics (Quantum and Relativity)

French Baccalaureate

2017 - 2020

- Engineering Sciences Option – Graduated with High Honors

TECHNICAL PROJECTS

- Tele-operated Robot – VR Digital Twin Project December 2024
 - Adaptation of a human body segmentation algorithm using RGBD video processing
 - Inverse kinematics of the human body
- Development of a Shared Distributed Memory System November 2024
 - Sockets, multithreading, synchronization barriers in C
- Implementation of a Relay Chat October 2024
 - TCP/IP network programming in C
 - Client/Server and Peer-to-Peer communication
- Autonomous Indoor Drone from scratch : November 2023
 - Adapted algorithms for line recognition and following
 - Worked with 10 other students
 - > Participated to the DRONELOAD in 2023
- Automatic trading strategy : November 2023
 - Implemented RSI, MACD, B Bands technical indicators and others to test the strategy

PROFESSIONAL EXPERIENCE

- Internship at IMS Laboratory (Integration from Material to System) : May to august 2025
 - Worked on immersive media compression and transport
 - Designed a pipeline to stream RGBD video into VR headset in C++ and C# with Unity
- Frequency Technician Intern for ANFR and Paris 2024 Olympics : July to august 2024
 - Conducted on-site frequency measurements with specialized equipment to ensure regulatory compliance.



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TECHNICAL SKILLS

Programming : Matlab, Python (Numpy, Scikit-Learn, Tensorflow), C, Java, HTML/CSS
Networking : Protocoles TCP/IP, router configuration.

Tools : Git, Linux, Gdb, Valgrind, Arduino, Wireshark, Latex

LANGUAGES

Franch Native

English B2 (IELTS 6.5)

Chinese beginner

EXTRACURRICULAR ACTIVITIES

Vice President, ZIK Music Club : Organized events and managed club activities.

Communications Coordinator, Arts Office: Promoted cultural events.

Project Manager, Eirspace

INTERESTS

DIY projects (made a drift kart), mountain biking, rock climbing, running.