Matteo Avigni

Contact:

Professional email:

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Academical email:

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Languages:

- French (Native)
- Italian (Native)
- English (C1)
- Spanish (B2)
- Russian (A1)

Studies:

Electrical Engineering program (BUT GEII), IUT de Bordeaux
Minor in Biotechnology (DU TSS)

08/2025 - present

- **Circuit design (KiCad tool suite)**
- **Analog and digital signal processing**
- **Software design (C, C++)**

External study programs, Global

09/2022 - 08/2025

- **Electronics Lab classes, La Teste de Buch (11/2024 - 08/2025)**
- **Electrical Engineering classes, Padova (10/2023 - 08/2025)**
- **Advanced mathematics classes, Global (09/2023 - 08/2025)**

Collège-Lycée Saint Elme, Arcachon

09/2015 - 06/2022

- **Baccalauréat Général with honors, European class option (06/2022)**

Experience:

AVINI Labs, Global — Junior R&D Engineer

(09/2025-present)

My role has been to develop streamlined turnkey hardware and software solutions for client facing or internal initiatives. I have provided technical support by interfacing with our motorsport clients for product integration in advanced automotive simulation platforms. I have also been involved in the software development of distribution platforms for a B2C market expansion with AVINI Studios, involving UI/UX path optimization, complex server architecture design involving automated cryptographic authorization and distribution services.

AVINI Systems, Global — Technical Operations coordinator

(09/2022-09/2025)

Participated and later coordinated ground operations for Avini systems since I finished high school. I have worked with leading corporations like GM, Dallara, Audi, Lamborghini, and Leonardo to provide cutting-edge sound technology for motorsport and aerospace simulation training. I worked across the board with the company's engineering, legal, marketing, business, and product design teams which allowed me to develop a wide and complete skill set.

L'Etche Ona, La Teste de Buch — *Busboy*

(06/2023 - 09/2023)

Worked as a busboy in a local restaurant during the summer.

Projects:

The *Avini Sound Hologram* — *Engineering*

The *Avini Sound Hologram* is a cutting edge sound technology that is able to map the energy field of an environment. Hence, applied to a car or an aircraft, it is able to replicate the exact energy field of the vehicle in a simulation setting, without synthesising anything. I have been working with AVINI sound engineers to provide upgrades to their workflow, create custom sound analysis and digital / analog signal processing tools to guarantee the highest level of quality on our products.

Team director for an ARISS contact (Mission Sophie) — *Engineering*

Joined the F5KBW team to work on a ARISS contact scheduled with French astronaut Sophie Adenot aboard the ISS. For seven months the team worked tirelessly on setting up, testing, validating and upgrading the various systems. We had to set up three ground stations, with their own communication channels, antennas and control software.

I was in charge of the software development because we needed a reliable, operator friendly platform. I decided to use Gpredict, an open source satellite tracking software, as a baseline. I laced it with some custom made trajectory optimization logic, automatic rotor and radio linking capability and tested everything to guarantee Windows and MacOS support. For this I was appointed contact director, my job was to guarantee optimal contact conditions and to coordinate the different stations in case of issues. We managed to hold the contact for about 11 minutes and asked 18 questions to our favorite astronaut, no technical fault whatsoever, flawless execution.

Skynet and the Ecartometer — *Engineering*

I have been building antennas and telecommunication software for satellite imagery reception, Air traffic monitoring and long range telecommunication. I have been able to forecast European weather with NOAA's satellite imagery, built an antenna capable of monitoring air traffic control above my house with a maximum range of 300 Km and intercepted long range HF communications from different continents.

Following Mission Sophie, I started developing my own satellite tracking platform I called Skynet. I didn't want to create just another satellite tracking software, I am working on integrating closed loop tracking of S-band targets with the Ecartometer I am building. The goal is to be able to autonomously track any target emitting a signal on the 2-3Ghz band and monitor separately other data streams from the same RF head assembly. This setup was first intended to reduce signal degradation of the ISS DATV module due to mechanical oscillations induced by the positional tracking nature of every satellite tracking application. We hope to be able to extend the use of this tool to planes, rockets, lunar mission crafts or any aircraft communicating over the S-band.

Nettoyeurs Subaquatiques du bassin d'Arcachon (NSA) — *Scuba-diving & Community service*

I have been involved with the NSA since its creation. Our goal is to participate in the preservation of the marine ecosystem. Our first mission is to clean the seafloor of harbors, public beaches, diving spots, and lakes. We engage in other missions like the Hippo Project. We built and installed a sea horse hotel to foster and monitor the local population. This project was granted substantial subsidies and major recognition by both the French and European parliaments. We engage in a collaborative effort with professional biologists and federal entities to better define and protect the underwater ecosystems by mapping out the bottom of seagrass patches they are unable to detect with their aircraft mounted RADAR technology due to depth.