

# Cédric Chanfreau

## Software Engineer

+(33) 679 791 782

France, Toulouse

cedric.chanfreau@gmail.com

<https://www.linkedin.com/in/cedricchanfreau>

### SUMMARY

Highly motivated student soon to graduate with a master's degree in Automatic and Electrical Computer Engineering at INSA Toulouse. Specialized in IoT, embedded systems, and software development, with hands-on experience in international environments. Actively seeking opportunities to leverage my technical expertise and teamwork skills in innovative projects.

### TECHNICAL SKILLS

- **Programming Languages:** C, C++, Python, Java, VHDL, Bash, PLC.
- **Microcontrollers:** Microchip, Infineon TC3/4, Renesas RH850, Expressif ESP8266/32, RISC-V arch.
- **Software & Tools:** Eclipse, Keil, Docker, Mininet, VirtualBox, OpenStack, SolidWorks, Altium, Git, Matlab.
- **Communication & APIs:** REST, MQTT, OM2M, CAN, SPI, I2C, UART, GPIO, ADC.
- **Frontend & Visualization:** HTML, CSS, JavaScript, Node-RED, React Native.
- **Languages:** French (native), English (advanced - TOEIC : 890), Spanish (intermediate).

### EDUCATION

#### 2024 - 2025: Master 2 (M2) in Embedded Networks and Connected Objects (REOC)

National Polytechnic Institute of Toulouse (ENSEEIH), Toulouse

- Specialized in real-time IoT systems: AFDX, IEEE 802, time/event-driven architectures, network virtualization, P4-based switch emulation, and WCTT performance analysis.
- Developed a software-defined communication infrastructure (SDCI) for managing and controlling network traffic using Docker and REST APIs.

#### 2022 - 2025: Master's degree in Automatic and Electrical Engineering

National Institute of Applied Sciences (INSA), Toulouse

- Key areas: Embedded Systems, Machine Learning, Computer Security, and Electronic Circuit Design.
- Designed and developed a gas sensor: component creation, electronic board design and programming, mobile app and website development, MQTT integration, Node-RED dashboard, and datasheet creation.

### PROFESSIONAL EXPERIENCE

#### International Engineering Mobility - Vitesco Technologies Romania

Jul 2024 - Sep 2024

- Studied and implemented Flash memory management solutions on new microcontrollers.
- Created the environment to automate and optimize tests, using Python and CMM scripts.

#### Embedded Software Engineer apprenticeship - Vitesco Technologies France

Sep 2022 - Sep 2025

- Developed embedded solutions for ECU reprogramming and ensured code quality (MISRA, CERT).
- Tested and debugged code to ensure proper operation and problem resolution.
- Presented regular project reviews to team members in English.

#### Electronic Methods Technician - Siemens Mobility

Apr 2022 - Jul 2022

- Studied the VAL208NG brake rack system and developed a test bench for its input-output card.

### EXTRACURRICULUM ACTIVITIES

- **Rugby Player:** Scrum-half since 2007 at Federal 1 level. Achieved 3rd place in French championships.
- **Volunteering:** Assessor of a polling station for the regional and departmental elections.
- **Independent Travel:** Explored destinations across Europe (Italy, England, Spain, etc.) and beyond, gaining diverse cultural insights.