Sacha **BELLIER**

Master 2 - Embedded Software Engineer

Personal Information

 👤 Sacha BELLIER

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🚗 Driving License

Languages

I French
I English

Skils

I Modern C++ | C++20
I Embedded C
I git
I bash | python | lua
I STM32 | stlink | gdb-multiarch
I gdb | sanitizer | clang-format/tidy
I Latex | Markdown
I Linux | Windows | WSL

Build / Remote / CI

I Bazel
I Buildkite | BuildBuddy
I Github Workflows | Gitlab CI
I Docker
I Premake | CMake

Tools

I VSCode | Visual Studio
I Github
I Jira | Bitbucket
I STM32CubeMX | PlatformIO
I PCB: KiCad
I CAD: Fusion360

Hobbies/Associative

I Aeromodelling | FPV Drone
I FabLab | DIY for Escape-game
I Electronics | DIY
I 3D Printing | CNC

PROFIL

I am a creative person, passionate about flight systems, looking to work within a dynamic team. Always ready to learn new things and take initiative, I am keen to participate in a project that brings together many fields of engineering.
Currently finishing my end-of-studies internship, I will be available from the **beginning of September 2024**.

PROFESSIONAL EXPERIENCES

2024 — **Thales**
Simulation of Guidance and Control
End-of-Studies Internship · Élancourt 📍

A **C++14** project used as test bench. Generation of realistic trajectories, using the **Eigen** library, in the **WGS84** coordinate system.

Initiative: Setup and presentation of **Bazel** with **Remote Build/Cache** on **Bazel-BuildFarm**.

2023 — **KRONO-SAFE**
Real-time Control of a Robot Arm
End-of-Studies Project · Paris 📍

Project based on a **Zynq UltraScale+** development board. Developed in PsyC, a real-time language. Creation of **Timing windows** validated through simulation to guarantee **real-time** and **determinism**.
Development of a custom **I2C driver** to interface a PWM extension card. Receiving Gcode commands via **UART**.

2022 — **CNRS, Digital Holography Foundation**
Real-time eye Holography, CUDA
Intern - 6 months · Paris 📍

A **C++17** and **CUDA** program to process an hologram in real-time.
Use of parallel computing and asynchronous execution.
The UI was made using **Qt4**.

PERSONNAL PROJECTS (🔗 O-SACHA)

Entity Component System	(link)	| **C++20 templates/concepts**, **Bazel**, **CI**
Templated String Serializer & Logger	(link)	|
Simple Game Engine		C++20, glm, OpenGL, GLFW, ImGui
CPU-based RayTracer		C++20, glm, Vulkan, ImGui
Redaction: IMU and Kalman Filter	(link)	| Embedded C/C++20, STM32, **Eigen**
Self-balancing device		|

DEGREE

2019 - 2024 — **Master's Degree - Computer Engineering**
Epita, Paris, France 📍

2021 — **Erasmus semester abroad**
Vilnius Gediminas Technical University, Vilnius, Lithuania 📍

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