

# Charles Villard

silvanosky.me  
charles@villard.pro | +33 650818590

## LINKS

Github:// [Silvanosky](#)  
LinkedIn:// [charlesvillard](#)

## EDUCATION

### UNIVERSITÉ PARIS-EST-SUP ED MATHEMATICS AND SCIENCE OF INFORMATION TECHNOLOGIE.

Ph.D in underwater exploration  
robotics and remote sensing.  
2020 - 2023 | Paris

### EPITA

MASTER IN COMPUTER SCIENCE.  
Specialized in Real Time embedded  
systems. 2015 - 2020 | Paris

**STELLENBOSCH UNIVERSITY**  
ABROAD SEMESTER IN COMPUTER  
SCIENCE AND ELECTRONICS 2017  
| South-Africa

## SKILLS

### PROGRAMMING

Preferred languages:

C • C++ • Java • Assembly •  
Python • VHDL

Used languages:

Ada • Shell •  $\LaTeX$  • Matlab • Go  
• OCaml • Javascript • PHP •  
SQL • C#

Used technology:

Docker • Redis • MariaDB • Git  
• CMake • Android / AOSP •  
Yocto / Buildroot • ARM •  
ESP32 • FreeRTOS • OpenCV

### SPOKEN LANGUAGES

French • English

## HOBBIES

FPV Freestyle Drone pilot •  
Light aircraft pilot • American  
football • Rugby

## Ph.D student in Exploration Robotics

Graduate student EPITA 2020 - Real Time Embedded Systems

## INTERESTS

Flying things, embedded systems, low level programming, real-time system, vision based sensing and exploring robotics.

## EXPERIENCE

### EPITA Seal Research Lab | PH.D IN ROBOTICS

Nov 2020 - Now | Paris, FR

- Working on lightweight acquisition platform for underwater visual 360 degree 3D dense reconstruction of the environment.

### Safran Electronics & Defense | END OF STUDY INTERNSHIP

Feb - Sept 2020 | Massy, FR

- Working on a Localisation layer for a drive-by-wire semi autonomous off-road vehicle.

### Epita Research Lab Exploring Robotics | RESEARCH STUDENT

Jan 2018 - Sept 2020 | Paris, FR

- Working on multi-domain robots (Submarine, ground, air). Software and hardware architecture. Integrating sensors like stereo vision systems and algorithms.

### LIRMM | SOFTWARE ENGINEERING INTERN

Sept - Dec 2018 | Montpellier, FR

- Building a software architecture with real-time constraint for a modular submarine robot used for under water cave mapping.

## PROJECTS

### Ardupilot ESP32 | C++ 2019 - Now

Develop features for submarine applications and work on new hardware boards.

Sources: <https://github.com/Silvanosky/ardupilot>

### Samagames Minecraft | JAVA 2014 - 2017

High availability games infrastructure with manual docker orchestration.

Chief of a group of 40 people (Moderation, Game design, Development teams).

Sources: <https://github.com/samagames>

## COMPETITION

### ERL Emergency 2019 | LA SPEZIA NATO NAVAL BASE July 2019

Cooperation between ground and submarine robot on a rescue mission.

## PUBLICATIONS

- L. Beaudoin, L. Avanthey, and C. Villard, "PORTING ARDUPILOT TO ESP32: TOWARDS a UNIVERSAL OPEN-SOURCE ARCHITECTURE FOR AGILE AND EASILY REPLICABLE MULTI-DOMAINS MAPPING ROBOTS," vol. XLIII-B2-2020, pp. 933-939.
- L. Avanthey, L. Beaudoin, C. Villard, S. Mellouk, and R. Treglia, "SYNCHRONIZATION OF PICAM CAMERAS FOR THREE-DIMENSIONAL STUDY OF DYNAMIC MULTI-DOMAINS NATURAL SCENES," in *ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, vol. V-1-2020, pp. 277-284, Copernicus GmbH, ISSN: 2194-9042.