Charles Villard

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LINKS

Github:// **Silvanosky**
LinkedIn:// **charlesvillard**
ResearchGate:// **Charles-Villard**
ORCID:// **0000-0003-3636-3850**

EDUCATION

UNIVERSITÉ GUSTAVE EIFFEL

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 langages:
C • C++ • Java • Assembly • Python • VHDL

Used langages:
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 • MicMac

SPOKEN LANGUAGES

French • English

HOBBIES

Flying
- FPV Freestyle Drone pilot
- DIY RC Drones/Planes
- Light aircraft pilot

Water
- Scuba diving

(3 Star Diver - Autonomous 60m)

Underground
- Cave exploration

Ph.D student in Exploration Robotics and Photogrammetry

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/LRE - IGN/LaSTIG/ACTE | Ph.D in Robotics and Photogrammetry
Nov 2020 - Now | Paris, FR
- Working on lighweight acquisition platform for underwater visual 360 degree 3D dense reconstruction of the shallow seabed.

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.

PUBLICATIONS

[1] 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.

[2] 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.

[3] L. Beaudoin, L. Avanthey, C. Bunel, and C. Villard, "Automatically guided selection of a set of underwater calibration images," *Journal of Marine Science and Engineering*, vol. 9, no. 5, 2022.

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.