

Maxime Charrière

SOFTWARE ENGINEER &
SUSTAINABILITY SPECIALIST

-  Immediately available
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Passionate about technology and concerned about the environment, I completed **3 years of experience as a Software Engineer** with a **Master's in Circular Innovation and Sustainability**. Today, I decided to go all in on sustainability — using my tech skills to create solutions that actually make a difference.

KNOWLEDGES

LANGUAGES

French | Native
English | C1
German | B2

SUSTAINABILITY

Photovoltaic (PVsyst, PVLib)
LCA / MFA (OpenLCA, Vensim)
Reporting (ESG, CSRD, EPD, CDP, GRI, TCFD)
Circular Economy (Supply Chain, Re-design,
Recycling, Waste management)

SOFTWARE DEVELOPMENT

C, C++, C#, WPF
Python, R, Matlab, LabView
Linux, Windows
CI/CD (Git, Docker, CMake, GitHub Actions)
AI (TensorFlow, SK-Learn, Hugging Face)
Web (HTML, CSS, JavaScript, React)
Database (MySQL, MongoDB)
API (REST, GraphQL, FastAPI)
UML (Enterprise Architect)
Cryptography (libSodium)

AUTOMATION

2D/3D Computer Vision (Cognex, Keyence,
Basler, OpenCV, CGAL)
Industrial Robots (Stäubli, ABB, Fanuc)
Fieldbus (TCP/IP, CANOpen, Profibus, EtherCAT)
PLC (Wago, Beckhoff, ABB)
CAD (SolidWorks, ePLAN, OrCAD, LTspice)

DRIVING LICENCE – YES

INTERESTS

Photography
Associative (co-founder of the Master CIS
alumni association)
Open source software development
Blockchain Technologies
Self-hosted server
Basket (Player, Referee, Webmaster)

EXPERIENCE

Swiss Climate AG – **R&D Software Engineer for CO₂ Calculations** – Freelance – Sept - Dec 2024
- First freelance experience on a 10K CHF contract. Developed an automatic CO₂ Emissions Calculator for buildings in R, helping sustainability reporting of companies in the real estate sector.

HEIG-VD – **R&D Software Engineer in 2D/3D Computer Vision** – Fulltime – Nov 2020 - Sep 2022
- Teaching to bachelor students C, C++, Industrial Vision, and Git.
- Supervised bachelor's theses.
- Managed a 300K CHF InnoSuisse Project and customer relations. I developed a 3D algorithm in C++ to find the best oxygen mask fitting to a 3D scan of the user's face, to reduce pain and leaks.
- Developed an eye reaction analysis application in C# / WPF, assisting the medical practitioner with live image analysis of eyes reacting to different light frequencies and intensities.
- Developed an image analysis algorithm in Python, detecting foreign body in medical vials for quality controls.

Precitrame SA – **Automation Technician** – Fulltime – Jul - Sept 2019

Posalux SA – **Automation Technician** – Fulltime – Jul - Oct 2016

Schmid Machines SA – **Automation Technician** – Internship – 2014 - 2016 (500h)
- Upgrading of screen printing machines to current automation standards on PLC, installation throughout Europe for international customers, and training customers in machine operation.

PROJETS

Master Thesis – **AI based Anomaly Detection and Classification for Photovoltaic Systems**
See [Project Website](#) – A collaboration with **PRIOT IoT Solutions** and **BFH's PV Lab**

- Developed a data analysis algorithm in Python, to detect and classify anomalies in PV systems, using an innovative strategy leveraging Machine Learning and data from neighboring PV systems.

Bachelor Thesis – **AI driven Autonomous Car**

See [Project Website](#)

- Developed the electronics, and embedded software in Python / C++ of an autonomous car with route tracking, obstacle avoidance, and sign detection, using Computer Vision and Deep Learning.

EDUCATION

BFH – **MSc in Circular Innovation and Sustainability** – 2022 - 2024
120 ECTS – Grade : 5.22 – See [Curriculum](#)

HEIG-VD – **BSc in Electrical Engineering**, in Industrial Automation and Electronics – 2017 - 2020
180 ECTS – Grade : 5.23 – See [Curriculum](#)

Parul University (India) – **Young Entrepreneur Exchange Project** – Jul 2023
- Helped launch the Neobrim start-up in India, specializing in home automation.

EPFL – **InnoSuisse Startup Training - Business Concept** – Sept - Dec 2021
- Team leader of the winning project, proposing a sustainable insect-based food production.

EUREL – **International Management Cup** – Jun - Jul 2021
- Participation in a business management cup with lectures.

CEFF – **CFC/EFZ in Automation & Technical Maturity** – 2012 - 2016

References available upon request.