

JULIEN HERVÉ

SENIOR SOFTWARE ENGINEER

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SUMMARY

Senior Software Engineer with a background of development in various technical, business and human environments.

After a career in embedded software, I started a business creation project that involved the development of a complete web application. I learnt by doing in technical domains unknown to me until then : web (both backend and frontend), databases, containerization, REST APIs, distributed / streaming / pubsub architectures, cloud, ... A professional certification in Data Engineering validated some of those new skills and some side-projects exhibiting them can be seen on my portfolio website.

Curious, proactive, attentive, passionate about computer science, software engineering and data engineering, I am also a strong team player who values sharing and cooperation over competition.

EXPERIENCE

- **Entrepreneur / Full-stack developer** May 2020 - May 2023
Own company Paris, France

In the aim of developing a new kind of collaborative social network, I led a business creation project by myself at first and then teamed up with a partner specialized in strategy / capital research.
 - As the technical lead, developed from scratch and deployed the MVP for a social network used by alpha-testers for several months.
 - Learnt and upskilled by myself in key technical domains : web, databases, CI/CD, distributed computing, cloud, streaming / pubsub architectures, ...
 - Studied, chose, and experimented lots of technical solutions : languages, libraries, frameworks
 - As the project initiator, developed my skills in strategy and communication : business model design, pitching, ...
- **Embedded software engineer** Jan 2016 - Feb 2020
Parrot Paris, France

In the highly concurrent environment of consumer drones, I contributed to improving and evolving of the code used on all the company's drones.
 - To allow the team in charge of algorithms to focus on improving flight control on new products, I reviewed, re-architected and rewrote parts of the then-in-production software (~100k SLOCs in C++)
 - With the same objective, created a tool in Python / C++ that allowed replaying test flights offline
 - Acted as the point of contact for this team for best practices in software development
 - Designed, coded and maintained a C library for high frequency data transfer between components of the drones
- **Research engineer** Nov 2009 - Dec 2015
CEA (French Alternative Energies and Atomic Energy Commission) Saclay, France

In a technically challenging environment, I conducted R&D works towards the industrialization of a safe embedded real-time OS for automotive (now marketed as Asterios by Asterios Technologies)
 - Helped port the very low-level micro-kernel onto an embedded PowerPC target
 - Familiarized with synchronization and scheduling problems through the development of a dual-core version
 - Conceived a SW architecture that eased porting on new, potentially multi-core, hardware targets
 - Lead research works on a compile chain tool to improve memory isolation of applicative tasks

SKILLS

Programming languages	Python SQL Elixir Scala C C++ Shell Script Javascript
Technologies / Frameworks	Pandas Spark Phoenix LiveView Ansible Docker
Methodologies	code review agile CI/CD Scrum TDD integration
Tools	git Linux Ansible
Languages	French (native) English (fluent) Portuguese (basic, in progress) German (basic)

PROJECTS

- **A dashboard for stock market data** Jul 2023 - Sep 2023

A full Data Engineering project, made within the professional certification and validated with jury congratulations.

Written in Python, it comes in the form of a micro-services architecture with a data pipeline from a stock market data API, a data warehouse in a NoSQL MongoDB database, a data visualization dashboard, and a REST API with access control.

Good practices were followed all along to ensure maintainability : containerization via Docker, automated testing, documentation, writing of a report covering the choices made.
- **MVP for a social network with WhatsApp-like features** May 2020 - May 2023

Design, coding and deployment of a social network with the following features : chat / instant messaging, social contacts management (friendships, groups), management of a personal library of annotable and shareable links, users administration, notifications, ...

Used by alpha-testers over a few months, this project was a deep-dive into topics such as : data schema design, SQL requests optimisation, synchronization issues, distributed computing, pub/sub architecture, deployment, containerization, CI/CD, ...

The technical stack was made of Elixir / Phoenix LiveView (backend + web client), PostgreSQL (backend), Ansible (deployment), native Javascript (notifications).
- **An automated monitor of political shows in French medias** Jan 2021 - Jan 2022

This side-project leverages machine learning to follow some radio/TV shows and automatically find out which persons were invited.

It featured data pipelines from various sources (podcasts, web sites) which were gathered via webscraping, cleaned up, stored into a Data Warehouse and analyzed in OLAP with machine learning models for Natural Language Processing and Named-Entity Recognition. The extracted information was then displayed in a web interface.

It was written in Elixir with a SQLite database and the Python library SpaCy.
- **Shared memory library with high performance constraints** Jan 2016 - Jan 2020

This low-level library allowed high-frequency (1kHz) retrieval of data produced by the cameras / sensors of most Parrot drones, with a minimal memory print.

Designed with the software architect around lock-free mechanisms, written in C, tested, documented, maintained and open-sourced.

EDUCATION

- **Professional certification RNCP36129 : "IA Project Manager"** Jun 2023 - Sep 2023

DataScientest / Mines Paris-Tech

Full certified course in data engineering, delivered by MINES ParisTech / DataScientest, a validation of the skills acquired by myself over the course of my business creation project.

All the skills required for data architecture and deployment of the models designed by data scientists were addressed : programming, data science, databases, big data frameworks (Spark, Hadoop, ...), streaming architecture (Kafka, Spark Streaming), CI/CD, cloud or on-premise deployment (Docker, Kubernetes).
- **Programme PLATO Créateurs** Nov 2020 - Mar 2021

Chambre de Commerce et d'Industrie

Collective workshops on themes related to starting a business : business model design, accounting, marketing, legal issues, ...
- **Master's Degree in mechatronics & embedded electronics engineering** Jan 2006 - Jan 2009

École Nationale Supérieure de l'Électronique et de ses Applications

Master in Electronic / Electrical Engineering, with a specialization in mechatronics