JULIEN HERVÉ
SOFTWARE ENGINEER

CONTACT

- Paris
- julien.jev.herve@gmail.com
- linkedin.com/in/julien-herve/
- jherve.github.io
- github.com/jherve
- +33 6 66 64 12 59

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. I currently use them on a daily basis working for the French leader of offensive security.

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

Backend Software Engineer
Synacktiv

Oct 2024 - now
Paris, France

In the French reference company for offensive security, I am part of the product team in charge of developing a forensic solution targeting mobile devices.

- Mentored members of the reverse engineering team into good coding and development practices
- Built SDK tools ultimately used by the reverse engineering team to develop / integrate the exploits that were part of the added value of the product
- Contributed to the setup of a reliable build process for the IP-sensitive code in an infrastructure with strong security constraints
- Re-architectured and re-wrote the legacy test framework with the QA team to improve stability and long-term maintenability

Entrepreneur / Founder of an ethical social network platform
Own company

May 2020 - May 2023
Paris, France

In the aim of developing a new kind of collaborative and ethical 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 scratched and deployed the PoC for a social network used by alpha-testers for several months.
- Learnt and upskilled by myself on key technical domains that are all related to Data Engineering : web, databases, CI/CD, distributed computing, cloud, streaming / pubsub architectures, ...
- Studied, chose, and experimented with lots of technical solutions : languages, libraries, frameworks
- As the project initiator, developed my skills in strategy or communication : business model design, pitching, ...

Embedded software engineer
Parrot

Jan 2016 - Feb 2020
Paris, France

In the highly concurrent environment of consumer drones, I contributed to improve and evolve 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-architectured 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
CEA (French Alternative Energies and Atomic Energy Commission)

Nov 2009 - Dec 2015
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++ │ Rust │ Shell Script │ Javascript
Technologies / Frameworks	Pandas │ Spark │ Phoenix LiveView │ Ansible │ Docker │ Hadoop
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 maintenability : 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 first contact with topics related to Data Engineering : 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 + client Web), PostgreSQL (backend), Ansible (déploiement), Javascript natif (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 et 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 start 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