



CONTACT

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 Book a meeting

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C++

PHP

PYTHON

RUST

SHELL

DART

PERL

JAVASCRIPT

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WAF

AI

LLM

MCP

RAG

SPOKEN LANGUAGES

FRENCH, NATIVE

ENGLISH, PROFESSIONAL

HAGARD Florent

FULLSTACK ENGINEER & DEVOPS ARCHITECT

A FREENEER at heart, I still spend part of my free time following what moves in the industry, testing what intrigues me and understanding what holds up in the real world. After **16 YEARS** of experience that curiosity is intact. It feeds my judgement and helps me make technical choices I can explain simply, to a team as well as to a decision maker, with their limits and their cost.

EARLY ADOPTER of generative AI since 2022, I use LLMs in my engineering workflows where the gain is verifiable. Freelance through **MAKINGCODES** since 2023, my full-stack profile covers software architecture, infrastructure, observability, FinOps and development. This end-to-end view lets me anticipate the effect of a decision on quality, operations and costs. I favour collaborations where autonomy comes with responsibility and where **WOPENSOURCE** practices make sharing easier.

PROFESSIONAL EXPERIENCE

Languages & frameworks

Ops & infrastructure

Data & protocols

HALYS

Go Lead Developer

FREELANCE

Since December 2025

10 months

Halys is a vendor of 4G/5G mobile core networks for which I worked as lead developer, with three developers reporting directly to the CTO. There I designed IWFS, a **MAKINGCODES** product whose first user is Halys, then my scope grew to the core network, lawful interception and the delivery pipeline.

IWFS

MAKINGCODES

Distributed SMS router for mobile operators

- Product published by **MAKINGCODES**, designed and built during the assignment at Halys, its first user.
- System spread over several servers that keeps working when one of them fails.
- Custom Raft consensus. Only one server at a time is allowed to write.
- A restarted server fetches the messages it missed from the others.
- An accepted message completes its processing or ends in a traceable state. Under saturation the system refuses before accepting.

GO

GRPC

PROTOBUF

RAFT

VALKEY

SMPP

TLV

SS7/MAP

SCTP

LAWFUL INTERCEPT

Lawful interception for authorities, inside the core network

- Interception module written in Go inside the mobile core network.
- Transmission channel encrypted and authenticated on both sides, certificates renewed without downtime.
- At the slightest doubt about a certificate the service shuts down rather than leaking data.
- Exchange format compliant with the European ETSI and 3GPP standards, checked by ISI test sets.
- As many test files as source files.
- Packaged with Helm, deployable in one command behind Envoy Gateway.

GO

ASN1/BER

MTLS

ETSI

3GPP

MCP 3GPP

MAKINGCODES

Assistant answering questions about telecom standards

- Tool indexing the entire 3GPP standards, several thousand documents.
- Developers and AI agents query it in natural language.
- Keyword search and semantic search combined for reliable answers.
- Every answer cites its source. Standard, version, clause and original link.
- Time saved on protocol implementation.

GO

LLM

MCP

RAG

3GPP

DOCAPOSTE (LA POSTE GROUP)

DevOps Architect

FREELANCE

March – November 2025

9 months

DocaPoste is the digital subsidiary of the La Poste group, for which I worked as a DevOps architect on the construction of an ISO 27001 and 27017 sovereign cloud within a fifteen-person team. Hired for the provisioning layer, I took over the industrialisation and the shared conventions of the platform.

CLOUD MANAGEMENT PLATFORM

Self-service portal to order cloud resources

- More than 500 virtual machines driven across three data centres.
- OpenStack and VMware driven from a single interface, Morpheus.
- Teams order machines, Kubernetes clusters and networks themselves, without a ticket.
- Standardised machine builds from templates, no more manual configuration.
- Applications placed automatically according to their sensitivity level.
- Internal billing computed on the actual availability of resources.

GO

MORPHEUS

OPENSTACK

VSPHERE

KUBERNETES

TERRAFORM PROVIDER

One tool to provision OpenStack and VMware

- Terraform extension developed to drive the Morpheus platform.
- Teams describe their infrastructure in a file and get it identically every time.
- Methodical analysis of poorly documented APIs and format harmonisation.
- Each provider isolated behind a common layer, replaceable without impact.
- Long operations resumed automatically and tracked to completion.
- Machines, Kubernetes clusters and networks delivered without exposing the underlying technology.

TERRAFORM

GO

MORPHEUS

REST

INDUSTRIALISATION & DEVSECOPS

Reproducible environments from sandbox to production

- Server configuration automated with Ansible and tested with Molecule before any deployment.
- Continuous delivery with GitLab CI, without any interruption of service.
- Server security hardened. Access, firewall, minimal rights, directory.
- Services and storage set up by script so that no server is ever configured by hand.
- Centralised monitoring of metrics and logs with Grafana Alloy.
- Passwords and certificates kept in a vault, Vault and Gopass.

ANSIBLE

MOLECULE

GITLAB CI

VAULT

GOPASS

ARCHITECTURE & GOVERNANCE

Design shared with the infrastructure and security teams

- Platform split into management and workload domains.
- Role of each environment defined. Sandbox, pre-production and production.
- Shared conventions established after two failed attempts.
- Reporting to the platform lead with a high degree of autonomy.
- AI agents to automate infrastructure and write documentation.
- Technical documentation and DevSecOps training for the teams.

OPENSTACK

VSPHERE

ISO 27001

ISO 27017

GITLAB

LEBONCOIN (ADEVINTA GROUP)

Backend Go Developer

FREELANCE

April 2024 – March 2025

1 year

Leboncoin is the classified ads marketplace of the Adevinta group, for which I worked as a backend Go developer in the Care feature team, dedicated to after-sales. Event-driven services above 100 M Kafka messages a day, several production releases a day and four months in English with a team based in Germany.

TRANSACTIONAL NOTIFICATIONS

Making the service that alerts buyers and sellers reliable

- Kafka streams above 100 M messages a day.
- Emails and push notifications sent in real time at every order step.
- A message processed twice never produces two sends.
- Failed messages are set aside and replayed automatically later.
- Recovery after incidents without loss or duplicates.

GO

KAFKA

DATADOG

BAZEL

DELIVERY DELAYS

Warning the customer before they complain

- Delivery delays detected before the buyer has any reason to complain.
- Detection built only on the events the platform already produces.
- Risks analysed and alternatives documented before going live.
- Initiative proposed to the team then delivered end to end.

GO

KAFKA

POSTGRESQL

DATA PERFORMANCE

Databases of hundreds of millions of rows

- Queries kept fast despite tables of hundreds of millions of rows.
- Every query analysed before optimisation, indexes and partitioning adjusted.
- Target met. 99% of queries answer in under 100 ms.
- SLO dashboards and alerts with Datalog and Grafana.
- A/B tests to measure the effect of a feature before rolling it out.

POSTGRESQL

DATADOG

GRAFANA

KIBANA

QUALITY & METHOD

Shipping several times a day without breaking production

- Business logic isolated from transport and storage, easier to test and evolve.
- Tests written before the code, 90% coverage required on every change.
- Kafka integration tests with failure scenarios.
- Code reviewed by peers in a single Bazel repository on Gerrit.
- Production releases several times a day without downtime.
- Scrum Master by rotation, running the team rituals.

GO

BAZEL

GERRIT

TD

HOVE (KEOLIS GROUP)

Go Developer & DevOps Architect

FREELANCE

May 2023 – April 2024

1 year

Hove is the vendor of the Navitia journey planner, a Keolis subsidiary, for which I worked as a Go developer and DevOps architect during the preparation of the Paris 2024 Games. Hired to rewrite the API front door, I then took over the scaling on AWS and the cost control.

NAVITIA API FRONT DOOR

The API entry point, rewritten for the Paris 2024 Games

- About 3 M requests a day, sized for 10 M at the peak of the Games.
- Rewritten from Python to Go to hold the load expected during the Games.
- A single entry point for every client application.
- A quota per client, and a failing service never blocks the others.
- Responses served as close as possible to users.
- Response time held around 70 ms for 99% of calls.
- In production before the end of the assignment and used during the Games.

GO

PYTHON

GRPC

PROTOBUF

REDIS

JOURNEY PLANNING

Computation core and accessibility

- Journeys computed on several criteria. Fastest, shortest, greenest or accessible to reduced-mobility travellers.
- Stops around a place found instantly thanks to a PostGIS geographic index.
- Crowding estimated in near real time to suggest alternative journeys.
- Geographic Redis cache for urban obstacle data.
- Partners connected. Anydromo for reduced-mobility journeys, StreetCo for urban obstacles.

GO

RUST

POSTGIS

REDIS

PYTHON

AWS PLATFORM

Absorbing the traffic peaks of the Games

- Capacity that adapts automatically to traffic on AWS, with low-cost instances.
- Progressive deployment with automatic rollback on errors.
- Full monitoring of metrics, traces and logs with OpenTelemetry and Grafana.
- Load tests replayed on the traffic profiles expected during the Games.
- Sizing arbitrated between cost, response time and availability.

EKS

ARGOCD

GITLAB ACTIONS

OPENTELEMETRY

SECURITY & FINOPS

Protecting the public APIs and controlling the bill

- Web application firewall and anti-DDoS protection with adaptive rate limiting.
- Worldwide delivery through the CloudFront CDN with targeted cache invalidation.
- Three-year total cost of ownership arbitration presented to management.
- AWS bill cut by 40% thanks to reserved and spot instances.
- Cost optimisation taken on in addition to the initial scope.

WAF

SHIELD

CLOUDFRONT

FINOPS

GRAFANA

INSTITUT EUROPÉEN F2I

Architect and technical lead of the IS

October 2015 – March 2023

7 years 6 months

Institut Européen F2I is an IT school that grew from 500 to more than 3,000 students a year, which I joined as a trainer before becoming architect and technical lead of the information system, reporting directly to general management. I designed, built and ran the MYIEF2I platform there for nearly eight years with a team of three including two apprentices.

MYIEF2I

Student platform for the five campuses of the group

- Legacy Symfony platform migrated to Go service by service, without ever stopping the existing one.
- Modular architecture. About twenty modules grouped into four business domains.
- Web interface generated automatically from the API contracts.
- Student attendance by QR code renewed every ten seconds, impossible to share.
- Timetables computed automatically then validated by the registrar like a change proposal.
- A single directory for staff and students.

GO

SYMFONY

GRPC-WEB

PROTOBUF

LDAP

DATA MODEL

Sole designer of the data layer

- Thirty normalised tables linked by fifty-nine foreign keys.
- From the conceptual model in class diagrams to the physical model.
- History of every exam question kept version by version.
- Database migrated from MySQL to PostgreSQL and run for nearly eight years.
- Scheduled archiving and erasure to comply with GDPR.
- Low-cost cold archives on S3 Glacier.
- Schema that carried the Go rewrite without redesign.

POSTGRESQL

MYSQL

REDIS

UML

S3 GLACIER

COMPETENCY-BASED EXAMS

A different exam paper for every student

- Competency framework and question banks modelled side by side, joined at assessment time.
- Paper composed and frozen for each student at opening, random draw and question versions frozen.
- Each answer recorded once even if the student clicks twice. Real-time marking.
- Complaints replayable years later with the exact paper the student saw.
- Every class of a school can sit the exam at the same time on the platform.
- About a thousand distinct questions in the bank with two to three thousand options.
- About a hundred questions per subject and nearly three times as many options.

GO

GRPC-WEB

REDIS

POSTGRESQL

MULTI-SITE INFRASTRUCTURE

Design and operation of a multi-site platform

- Architecture spread over several sites, designed end to end and run for nearly eight years.
- Management and application networks kept separate, linked by three WireGuard private networks.
- Applications orchestrated by Nomad, service discovery by Consul and secrets in Vault.
- Automatic reinforcement on AWS during peaks, with ephemeral instances joining the network.
- Replicated PostgreSQL database with automatic failover by Patroni election.
- Cloudflare in front with health checks and T raefik as entry router.
- Prometheus, Grafana and Loki monitoring with one agent per server.
- Observed availability of about 99.9%.

NOMAD

CONSUL

WIREGUARD

PATRONI

OVH

DELIVERY PIPELINE

Validated code to deployment without touching servers

- Declarative Jenkins pipeline in stages. Quality, build, end-to-end tests and review.
- Parallel quality gate.
- Strict static analysis, secret hunting and coverage measurement.
- An ephemeral test environment created for every merge request.
- Minimal images built from a single binary, private registry.
- Servers fully described as code with Terraform and Ansible, never prepared by hand.
- Staged deployment validated by health checks, switch by feature toggle.
- Deliberate failure tests and load rehearsal before every exam session.

JENKINS

DOCKER

TERRAFORM

ANSIBLE

NOMAD

INCIDENTS AND CONTINUITY

What the platform withstood

- Fire at the OVH Strasbourg data centre in March 2021 absorbed by automatic failover.
- Backup AWS instances prepared in advance to absorb overflows at peak times.
- Cloudflare global outage on 2 July 2019. Classrooms kept sitting exams thanks to a local instance. Disk saturation turned into a recovery plan. Data partitioned by year, volume brought from 450 to 100 GB.
- Incremental backups consolidated on a NAS and database rebuilt offline regularly.
- Alerts sent by email until 2020, then to a team messaging channel.
- Business recovery plan formalised and validated by management.

POSTGRESQL

PROMETHEUS

GRAFANA

LOKI

AWS

DEFENCE IN DEPTH

Network, identity, secrets and least privilege

- Every service must be explicitly allowed to talk to every, everything else is denied.
- API gateway on every server.
- Directory authentication, rate limiting, service resolution.
- Two successive trust levels. The private network first, then the identity of each service.
- Mutual encryption between services and secrets stored in Vault.
- No password in the code or the deliverables, checked automatically before every commit.
- Cloudflare in front with encryption, web application firewall and anti-DDoS protection.
- Three encrypted private networks separating applications, management and interconnection.

VAULT

CONSUL

MTLS

WIREGUARD

CLOUDFLARE

COACHING

Six apprentices and more than 5,000 students

- Six apprentices recruited and trained, two of them hired permanently.
- Requirements gathered from management, registrar staff and teachers.
- Priorities arbitrated and documented for management. Reliability during exams against team productivity.
- Flutter mobile application delivered by the apprentices under code review.
- Electronic component for remote class monitoring, used occasionally.
- Development and DevOps courses taught alongside.
- More than 5,000 students met in teaching over nearly eight years.

FLUTTER

DART

ELECTRON

JAVASCRIPT

ITELIOS / CAPGEMINI

Cloud Commerce Engineer

September 2013 – March 2015

2 years 2 months

Itélios, now part of Capgemini, is the historic Commerce integrator that became Salesforce Commerce Cloud, for which I worked as a Cloud Commerce engineer on luxury and retail brand stores, in English every day with the vendor and international teams.

LANCÔME

Salesforce Commerce Cloud implementation

- Online stores deployed in several countries and languages. A single customer account across several brands. Up to fifteen countries and eight languages. Sites accessible to people with disabilities.

DEMANDWARE

ISML

JAVASCRIPT

PICARD

Remote application maintenance

- Picard had entrusted the implementation directly to Salesforce and managed the site in-house. Maintenance and evolutions delivered remotely, notably the cart and in-store pickup.

DEMANDWARE

ISML

JAVASCRIPT

YVES SAINT LAURENT

Salesforce Commerce Cloud implementation

- Rollout in several countries with takeover of existing data, up to go-live.

DEMANDWARE

ISML

JAVASCRIPT

VILEBREQUIN

Salesforce Commerce Cloud implementation

- International catalogue and normalised shipping addresses to avoid delivery errors.

DEMANDWARE

ISML

REST

KENZO

Salesforce Commerce Cloud implementation

- Secure online payment, tokenised cards and 3D Secure.

DEMANDWARE

ISML

SOAP

REST

SANDRO

Salesforce Commerce Cloud implementation

- Single-page checkout and A/B tests to measure conversion.

DEMANDWARE

ISML

JAVASCRIPT

ETAM

Salesforce Commerce Cloud implementation

- Pricing and promotions engine.

DEMANDWARE

ISML

TRUFFAUT

Salesforce Commerce Cloud implementation

- Stock shared between stores and in-store pickup.

DEMANDWARE

ISML

REST

ANDAFTER

Web Application Developer

April 2012 – August 2013

1 year 5 months

Andafter is a web agency publishing its own PHP e-commerce framework, for which I worked as a web application developer in charge of the shared rendering engine and of one store per client, down to site installation and the configuration of production and staging environments.

RENDERING ENGINE

Critical component shared by every client site

- Redesigned in PHP and C++ to lift the performance limits. Load capacity validated up to 10,000 simulated users. Caching to speed up pages, centralised logs and a versioned API.

PHP

C++

MYSQL

MONGODB

MEMCACHED

YVES ROCHER

High-traffic online store

- Integration on the agency framework. Rendering and cache optimisation to absorb campaign peaks. Production and staging configured on dedicated servers.

PHP

MYSQL

MEMCACHED

APACHE

LINUX

DANIEL JOUVANCE

Rocher group brand

- Store on the same platform. Catalogue and checkout integration. Put into production with Easy Web Installer.

PHP

MYSQL

LINUX

HACHETTE COLLECTIONS

Collections sold by subscription

- Series management and staggered shipments in the checkout. Staging environment for editorial sign-off.

PHP

MYSQL

APACHE

SHELL

DR. PIERRE RICAUD

Rocher group brand

- Store sharing the group platform. Catalogue and promotions.

PHP

MYSQL

APACHE

LE BOURGET

Tights and lingerie

- Catalogue rebuilt around size and colour variants. Server installation and go-live.

PHP

MYSQL

LINUX

APACHE

ARMOIRE

Online store

- Integration on the agency framework. Staging and production configured by hand.

PHP

MYSQL

APACHE

LINUX

LINVOSGES

Home linen

- Catalogue with variants and product personalisation.

PHP

MYSQL

APACHE

LINGUA INSTITUT

Language school

- Online enrolment and payment for courses.

PHP

MYSQL

CLÉMENT INA FROG

Online store

- Store taken over onto the agency framework.

PHP

MYSQL

LINUX

SOFT4ONE

Full-stack developer (work-study)

March 2011 – April 2012

1 year 2 months

Soft4one is a custom development company for which I worked as a full-stack developer on a work-study programme, first on the rewrite of the e-commerce framework from PHP 4 to PHP 5, then on the client stores, their production releases and hosting, down to writing a server installer in C++.

E-COMMERCE FRAMEWORK

Rewrite from PHP 4 to object-oriented PHP 5

- Framework modernised to object-oriented PHP 5. Load spread over several web servers without losing customer sessions.
- Automated database with automatic failover.
- Replicated backups and production releases.
- Servers protected against intrusions and brute-force attacks.
- Common base of the client stores delivered afterwards.

PHP

PERL

HAPROXY

MYSQL

IPTABLES

EASY WEB INSTALLER

C++ tool for automated web server installation

- Personal tool written in C++ in 2012 to replace Perl and Bash scripts. Installs and configures a complete web server in text mode. Used to set up the production and pre-production environments of the stores.
- A personal tool gone since then but a real productivity gain at the time.

C++

LINUX

APACHE

MYSQL

SHELL

MÉCADENTAL

Dental supplies

- Migrated to the rewritten framework. Professional catalogue with per-account sign-off. Staging environment configured for client sign-off.

PHP

MYSQL

LINUX

SHELL

DÉCOPIUS PARQUET

Online flooring sales

- Store migrated to the rewritten framework. Catalogue and checkout rebuilt. Installed on a server with production and pre-production.

PHP

MYSQL

APACHE

LINUX

BUDO FIGHT

Martial arts equipment

- Migrated to the rewritten framework. Put into production behind HAProxy.

PHP

MYSQL

HAPROXY

APACHE

CHRONO CHEF

Online store

- Migrated to the rewritten framework and client code refactored.

PHP

MYSQL

APACHE

IPTABLES

BOXING SHOP

Boxing equipment

- Migrated to the rewritten framework. Catalogue with size variants and stock management.

PHP

MYSQL

APACHE

WEBREFLEXE

Full-stack developer (work-study)

January 2010 – March 2011

1 year 3 months

Webreflexe is a Paris web marketing agency specialised in the online acquisition, for which I worked in my first work-study year as a full-stack developer, on the sports betting site carried by the agency and then on its campaign platform.

BET REFLEXE

Online sports betting site carried by the agency

- Odds updated in real time in the browser, even after a network drop.
- In-house odds system and an API protected against abuse. Monitoring robot over fifty competitor sites.
- The project was stopped before its commercial launch.

PHP

JAVASCRIPT

MYSQL

REST

WEBREFLEXE

The agency's acquisition campaign platform

- Interactive Flash display banners delivered to the advertisers of the network.
- Campaign tracking library that loses no data on errors.
- Secured API for advertisers with validation of incoming data.

PHP

JAVASCRIPT

FLASH/AS3

REST

OAuth