Ir. Adriaan De Bolle, MSc.

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DETAILED CV

Summary

Entrepreneurial engineer with 8+ years of hands-on experience building full-stack products end-to-end — from architecture to production. I combine a background in both software and process engineering, which means I can design a cloud system, run a DMAIC improvement cycle, lead a product team, and ship a React feature. AWS-certified, Lean Six Sigma Black Belt (exam passed), and founder of UNBLND, a social discovery platform with 200,000+ registered accounts and €130,000 in secured investment.

Currently seeking cross-functional roles where engineering intellect and digital product thinking intersect: Solutions Architect, Technical Project Manager, Product Engineer, or similar.

Experience

Self-Employed — Freelance Software Consultancy

Manengo bv, Belgium — 06/2019–Present

Full-Stack Product Engineer — CarManager

B2B vehicle auction platform for Belgian car dealers — 2026–Present

CarManager is a B2B vehicle auction platform built for Belgian car dealers, enabling real-time bidding, auction lifecycle management, and dealer-facing dashboards. I conceived, architected, and built the entire platform — from initial product design through to cloud deployment — using React with Tailwind CSS on the front-end, AWS SAM with Lambda for the serverless backend, and Supabase as the real-time database layer. The containerised services within SAM handle two core background jobs: car importing pipelines and automated pricing logic, including an AI-powered vehicle pricing function using Claude on AWS Bedrock. All services are Dockerised with multi-stage Node.js 22 builds for consistent and reproducible deployments.

A deliberate choice on this project was to adopt an AI-assisted development stack: combining Lovable for rapid UI prototyping (allowing the client to interact with and iterate on the product directly), Claude Code for AI-assisted engineering, and Jules by Google for additional development support. This approach gave the client creative ownership of the front-end experience while preserving full architectural freedom on the backend. Troubleshooting Lambda layers and optimising Docker build pipelines were part of the day-to-day engineering reality. This project is a direct example of full-stack product engineering with AI tools as a genuine force multiplier.

Full-Stack Developer – Apotheekhulp

Interim pharmacy staffing platform, full rebuild – Jun 2026–Nov 2026 (apotheekhulp.be)

Apotheekhulp places interim pharmacy assistants in Belgian pharmacies. As sole developer I rebuilt the entire platform that runs their scheduling, worked-hours tracking and invoicing, replacing the legacy system and migrating its data. The new platform is built on Next.js 16 (App Router, React 19, TypeScript) with Tailwind 4, Supabase (PostgreSQL, Auth, Edge Functions, pg_cron) and AWS Amplify, with transactional email through AWS SES or Lettermint behind a switchable adapter. I also migrated the client's DNS from Combell to AWS Route 53.

The product has three role-based portals for administrators, assistants and pharmacies. Core features include a FullCalendar shift planner with overnight shifts, availability grids and date overrides; a worked-hours confirmation workflow with bulk editing; VAT-aware monthly PDF invoices generated with react-pdf; and messaging, a knowledge base and an iCal feed. On the engineering side, I secured all data with Row Level Security policies based on user roles, integrated EU VIES VAT validation and address autocomplete, scheduled a daily email digest, and optimised database performance.

Full-Stack Developer – Poggenpohl De Vis

Kitchen showroom website and admin CMS – Aug 2026–Oct 2026 (poggenpohl-devis.be)

For Poggenpohl De Vis, a Belgian kitchen showroom, I replaced the existing website with a fast, statically exported Next.js 16 site (React 19, TypeScript) backed by Supabase for content, authentication, storage and Edge Functions. It is served from a

Scaleway Serverless Container with nginx and deployed through GitHub Actions. A lightweight admin panel lets the client manage collections, categories, tags, reviews and inquiries with a draft/publish workflow, without the weight of a traditional CMS.

I built an import pipeline from Poggenpohl's Bynder media library with WebP image optimisation, and a Mistral-powered chatbot that suggests collections and only forwards an inquiry after the visitor confirms. The appointment form sends confirmation emails via Lettermint and is protected with a honeypot and rate limiting, and a monthly report shows conversion signals per channel. The site passes automated accessibility checks in both light and dark mode, so it is easy to use for every visitor. It also includes structured data and a sitemap for search engines, and redirects 39 old URLs so existing links kept working after the switch to the new site.

Founder & Developer – Leerkader

AI learning assistant for secondary schools (prototype) – Oct 2026–Present (leerkader.be)

Leerkader is an AI learning assistant that guides students towards answers instead of handing them out, while teachers stay in control of how it behaves. It brings together my engineering background and my classroom experience. Teacher settings are layered by scope with schema-defined merge rules and locks, hints are graded so the answer is held back, practice question sets run in rounds, dedicated agents support different school subjects, and a teacher dashboard gives teachers an overview.

Privacy and safety are designed in from the start: model providers (Mistral and Scaleway Generative APIs) sit behind swappable adapters, a default-deny gateway controls tool and internet access, retrieval is filtered, each school's data is kept separate, and no student identifiers are sent to model providers. The backend is written in Python 3.11 using only the standard library plus jsonschema, with a vanilla JS frontend, Postgres on Scaleway Serverless SQL, Docker on Scaleway Serverless Containers and Flemish text-to-speech with Piper. GO! curriculum goals are imported at build time. Quality is backed by an extensive automated test suite, behaviour evaluations of the assistant and a log of every design decision.

Websites & Integrations – Other Client Work

Selected smaller projects

Art of Investigations (AOI): Multilingual Next.js website deployed on Scaleway Serverless Containers with Lettermint transactional email, plus an SEO audit and FAQPage structured data.

The Whisky House: I built the original website for this whisky retailer about 15 years ago and am now rebuilding it as a static, multilingual Next.js site with Supabase behind in-house tasting tickets, contact management and a Bottle of the Month bidding feature, keeping the existing Mollie payments.

Atelier Textuur: Modernised homepage prototype for a Shopify store selling personalised textile and gifts, refreshing the brand while keeping it recognisable.

WavePlus × Tickoweb: Helped the WavePlus development team integrate Tickoweb ticketing, so a WavePlus digital experience can verify that a visitor holds a valid event ticket.

Software Lead — Contour Lab

Webshop integrations for personalised fashion recommendations — Dec 2024–Dec 2025

At Contour Lab I was responsible for integrating a personalised product recommendation engine into existing fashion webshops — everything except the engine itself. The recommendation logic was developed by the Contour Lab team; my role was to make it work seamlessly inside each retailer's existing e-commerce infrastructure. This meant building and maintaining integrations with Salesforce Commerce Cloud and Shopify, two of the most widely used enterprise e-commerce platforms, each with their own architectural patterns, API constraints, and deployment requirements.

I managed the full client onboarding pipeline: scoping the integration requirements for each retailer, implementing the technical connection between their storefront and the recommendation layer, and ensuring reliable production operation. I successfully onboarded 2 enterprise clients. The role required deep familiarity with both platforms' extension models as well as the ability to communicate clearly with non-technical client stakeholders about timelines and technical decisions.

Software Architect — Technical Founder — Synt

Co-owner association management software — 2022–Present

Synt is a management platform for co-owner associations (VMEs), covering everything from meeting minutes and document sharing to financial reporting and maintenance requests. I joined the project as both technical co-founder and sole engineer, designing and building the full product from a blank page. This meant making every architectural decision: choosing the technology stack, designing the data model, setting up the cloud infrastructure, and writing all of the application code across front-end, back-end, and mobile.

I delivered two distinct products: a web dashboard for building administrators and a mobile application for residents. Both were integrated with the same backend API, which I built and maintained. Working without any other engineers, I had to be ruthlessly pragmatic about scope and delivery order, shipping working software incrementally while keeping the overall architecture extensible. This project sharpened my instincts for what 'done' really means when you own the entire stack.

Solutions Architect & Backend Engineer — Roxi

Sint-Niklaas, Belgium — Aug 2020–Oct 2020 (freelance)

My responsibility at Roxi was to take the lead in database management and Android development. I created an Entity Relationship Diagram (ERD) to fully understand the system's needs and then built a GraphQL API with a PostgreSQL database within an AWS cloud environment. The algorithm needed to handle large volumes of geographical data, which made PostgreSQL the right choice given its native GIS capabilities and support for irregular data structures. I also advised the team to adopt React Native as the cross-platform mobile technology going forward. The project was placed on hold five months before its deadline, making it impossible to fully complete, but the foundational architecture was delivered.

Solutions Architect & CTO ad interim — Relotrust

Brussels, Belgium — Oct 2019–Mar 2020

My role at Relotrust was to take full technical leadership of the corporate relocation management system that would form the backbone of the business. As the de facto CTO within a startup environment, I was responsible for all technical decisions, from choosing the architecture to managing junior interns. I began by building a static prototype using AngularJS hosted on AWS Elastic Beanstalk to validate the product direction with the CEO and early prospects. I then built a complete Node.js backend service from scratch, deployed on an AWS EC2 instance with an AWS MySQL RDS database and a load balancer routing traffic from the API subdomain.

Once the backend was stable, I integrated the Angular frontend prototype with the API to transition from a fake-backend prototype to a fully functional, dynamic platform. To complete the user experience for expats, I also developed a React Native mobile application integrated with the same API service. Throughout the project, I mentored junior interns on frontend tasks, providing guidance and reviewing their work. The CEO and I also visited prospects and suppliers together to capture product insights that fed directly back into the development roadmap.

Freelance Contractor

Mercor, remote – 10/2026–Present

Contractor – Odin project

AI training data through expert screen recordings – Oct 2026–Present

Contract work through Mercor, a platform that connects domain experts with AI labs, on the Odin project. I make screen recordings of myself carrying out expert tasks on the computer, showing step by step how a professional works, so AI systems can learn to use a computer the way experts do.

Founder

Ubigreat bv, Affligem, Belgium — 12/2021–Present (Independent)

Founder — Matchmaking by Ubigreat

AI-powered event matchmaking platform — 2023–Present (ubigreat.eu)

Matchmaking by Ubigreat is an AI matchmaking platform for conferences, trade fairs, networking events, and corporate gatherings. Where UNBLND focuses on consumer social discovery, this product serves event organisers who want to maximise the value of their attendee community. The platform uses novel AI models to create automated match rounds — intelligently pairing attendees based on professional profiles, interests, and goals — without requiring manual curation by the event team.

As founder, I own both the technical and commercial sides of the product. On the technical side, I designed the matching architecture and implemented the automated round generation pipeline. On the commercial side, I conducted competitive benchmarking across the European event-tech market, developed a tiered pricing model calibrated to event size and integration depth, and built the go-to-market strategy. The product is positioned around match quality over match volume — fewer, more meaningful introductions rather than a flood of suggestions that attendees ignore.

In December 2025 I rebuilt the platform from scratch as sole developer. Attendees register by QR code and log in via WhatsApp or SMS, including token-based login inside WhatsApp's in-app browser. Rounds are driven by timestamps with live countdowns and organiser monitoring, and an LLM (Claude Opus on AWS Bedrock) forms equal-sized groups and sponsor-branded tables from survey answers. The stack is Next.js 14 and Tailwind on AWS Amplify, a Node.js/Express API on AWS

Lambda (SAM, API Gateway), Aurora Serverless v2 PostgreSQL, Redis/Bull, SQS and EventBridge, with AWS SES, WhatsApp via AWS Social Messaging and Mollie for paid ticketing.

Through an integration partnership with WavePlus, the matchmaking also runs embedded inside WavePlus digital experiences via their SDK (identity handshake, CSP). The platform has powered about 12 client and demo events, the largest with 200 to 250 attendees. Along the way I resolved concurrency issues under load, reduced the Lambda bundle size and shipped 31 database migrations; pitch decks and flyers are exported to PDF straight from the app.

Founder — UNBLND

Social discovery platform connecting people worldwide based on shared interests — 2019–Present

UNBLND is a social discovery platform built on the belief that meaningful connections start from shared interests, not superficial profile pictures. Users are automatically matched into interest-based groups using a recommender system, bypassing the competitive visibility dynamics of conventional social and dating apps. The platform has grown to 200,000+ registered accounts, has secured €130,000 in investment, and has been accepted into the imec.istart accelerator portfolio.

I started from a blank page: ideating the product concept, wire-framing the user flows, and designing the first prototype in Figma. The web platform was originally built on PHP Laravel with Vue.js, deployed on an AWS EC2 instance with a LAMP server configuration. For marketing automation I set up AWS SES and AWS Lambda for mass-mail flows. I implemented a full CI/CD pipeline using AWS CodePipeline with versioning, security policies, and .yml-defined build scripts. I have since continuously evolved the platform's technology stack in line with growth.

At various stages I recruited and managed Erasmus interns working on design, video, mobile development and marketing. I also presented UNBLND on stage at Web Summit in Lisbon in 2019. The platform is currently being rebuilt as v2 — a dual-community architecture with refined navigation, a new moderation and governance model, and a more scalable infrastructure foundation.

Teacher *Atheneum Caroline Pauwels, Brussels — 01/2024– 08/2025 (18 months, 45%)*

Advanced Physics & Engineering — Technologische Wetenschappen & Engineering, 3rd grade

I taught advanced physics and engineering to secondary school students in the 'Technologische Wetenschappen & Engineering' specialisation track. This required translating complex technical concepts — mechanics, thermodynamics, electromagnetism, and engineering principles — into engaging, accessible lessons for students at the beginning of their scientific careers. The role also involved pastoral responsibility: preparing students to enrol in Engineering or Informatics at VUB. Teaching sharpened my ability to communicate complex ideas simply and to adapt explanations in real time to different learning styles.

Business Analyst & Software Engineer *BakerOnline (scale-up), Utrecht, NL — 08/2018– 02/2019*

Erasmus for Young Entrepreneurs — Reduction of onboarding time by automating workflow

At BakerOnline I was tasked with optimising their business flow from the inside. I began by immersing myself in the business: joining the sales team on client visits, talking with marketers, observing how customer support handled onboarding, and auditing the digital platform. This gave me a clear current-state picture of the onboarding process, which I mapped end-to-end. I then created a detailed plan to reduce onboarding time and automate internal workflow, presented as an ERD-backed proposal designed to be legible to non-technical stakeholders. The plan was adopted unanimously.

I then implemented the required backend changes to the existing PHP Laravel platform and the corresponding frontend changes using Vue.js and Blade templating. After the technical implementation, I also gained broader commercial exposure: discussions with CEO Maxime Sergeant on business strategy, time-to-market decisions, and digital commercialisation. This role was part of the Erasmus for Young Entrepreneurs programme; I subsequently discussed the experience on Kanaal Z, a Flemish economic television broadcaster.

Value Stream Engineer & Change Manager *Cytiva (formerly Pall / Danaher), Hoegaarden, Belgium — 02/2017– 02/2018*

Combination of process engineering, project management and business analysis

As a value stream leader at Pall (now Cytiva, part of Danaher), I was the leading expert on two specific products — single-use bioreactors — and their end-to-end process journey from raw resources to sellable product. The role required me to operate simultaneously as an analyst, a communicator, and a change agent across Production, Quality, Sales, and Logistics.

To drive decision-making among diverse stakeholders, I managed an Obeya room — a visual management space where all projects related to my products were tracked on the wall. I built relationships with suppliers to understand input quality and

visited clients with the sales team to ensure the output met market expectations. I extracted and analysed data from SAP covering Bill of Materials, production planning, supplier performance, and client requirements.

Within the assembly process for bio-containers, I introduced Kanban to smooth the flow between warehouse and production, improving efficiency measurably. When a production breakdown occurred, I redesigned the entire assembly procedure to restore production output. I also automated the internal logistics control process, migrating from physical paper forms to a shared Excel tool with integrated controls, interfaces, and VBA customisation. Following a demand increase, I led a series of improvement workshops with operators and technical experts to identify and implement production flow optimisations that successfully met the new output targets.

General Process Optimisation Intern

BASF SE, Ludwigshafen, Germany — Jun–Aug 2015

My internship at BASF was a formative experience that made clear how powerful the combination of engineering and software can be. My assignment was to map energy efficiency across the Ethylene Oxide (EO) production chain as a function of key internal and external parameters, and to make this information visible to operators in real time. I developed a complex mathematical model incorporating external variables such as river water and ambient temperature, derived from historical process data. The model calculated a real-time energy efficiency percentage: for example, an 80% score indicating that current energy usage was 20% above the theoretical minimum for comparable operating conditions.

I implemented this model and built new operator-facing dashboards directly within the existing Siemens Manufacturing Execution System (MES), which required learning the proprietary environment quickly and adapting to its constraints. The result was a live dashboard visible to shift operators, giving them immediate feedback on energy performance relative to what was physically achievable under current conditions.

Personal Projects

MOP Pretotype Launcher (mop-opportunities.com)

Idea validation platform – Jul 2025–Sep 2026

A single platform I built to test whether people will pay for a product idea, using real ads, signups and payments. Each new landing page is added through a config file alone, with bilingual EN/NL routes, pricing tiers, a waitlist, Mollie checkout and a go/kill date. It also hosts a paid video course and QR-linked personal support cards, the pretotype for personalised NFC safety tags. Built with React 18, Vite, Tailwind/shadcn, Supabase (13 Edge Functions), AWS Amplify, Lettermint, Mistral and Bunny Stream, with prerendering for SEO, consent-mode tracking and Vitest tests.

SpineWise — Lean Six Sigma DMAIC Project

Process improvement

Running a full DMAIC (Define, Measure, Analyse, Improve, Control) improvement project for SpineWise, focused on reducing ergonomic assessment cycle time. This project directly bridges my software and process engineering backgrounds: applying structured analytical methods (fishbone diagrams, Pareto analysis, data collection plans) within a real operational context, in partnership with a consulting firm. The project is ongoing and constitutes the applied component of the Lean Six Sigma Black Belt certification.

adriaandebolle.com

Personal website created using serverless AWS S3 bucket hosting, CloudFront CDN, and CodePipeline CI/CD, resulting in a hosting cost of approximately €12/year (domain only).

Best2Nest — Killed

Algorithmic neighbourhood search engine — 2015

A fully self-managed project conceived during my exchange year in Montréal. I built an algorithmic neighbourhood search engine that scored areas based on a user's personal interests, visualised as a colour-coded overlay on Google Maps. I gathered millions of Points of Interest (POIs) from the Google Places API into a self-managed VPS using automated scripts, then built a scoring system on top of this data using pure PHP, PostgreSQL with GIS extensions, and custom map visualisation overlays. The project was an early proof of concept for interest-based spatial intelligence and a significant self-teaching exercise in data engineering.

Education

- **KU Leuven** — M.Sc. Engineering: (Bio)Chemical Technology
- **Polytechnique de Montréal** — Génie, exchange programme (2014)
- **Internship:** Energy Optimisation at BASF SE, Ludwigshafen, Germany (2015): Combined process engineering and software expertise to optimize energy usage and build a monitoring tool at the EO-plant.

Relevant coursework: Algorithms & Data Structures, Networks, Computer Science, Numerical Mathematics, Decision Making, CFD Simulations, Innovation. Languages of instruction: English (1 year), French (1 year), Dutch (3 years).

Technical Skills

Frontend: React, Next.js, TypeScript, React Native, Vue.js, Angular, Vite, HTML, CSS, Tailwind, shadcn/ui, Blade templating

Backend: Node.js, Express, PHP / Laravel, Python, FastAPI, MySQL, PostgreSQL, SQLite, Redis, GraphQL, REST APIs, Mollie, AWS SES, Lettermint

Cloud & DevOps: AWS SAM, Lambda, EC2, RDS, S3, SES, Bedrock, CodePipeline, Amplify, API Gateway, Aurora Serverless, SQS, EventBridge, Route 53, Scaleway (Serverless Containers, Serverless SQL), GitHub Actions, Supabase, Docker, Git

Vibe Coding: Claude Code, Google Jules, GitHub Copilot

AI / ML: Recommender Systems, Clustering, LLMs (Claude on AWS Bedrock, Mistral), LLM guardrails and behaviour evaluation, AWS SageMaker

Process & PM: Lean Six Sigma Black Belt, DMAIC, Agile, Product Management, Value Stream Mapping, Kanban, Obeya, SAP, VBA

Familiar: Swift, C++, Java, BoxCox, MES (Siemens), Liquid (Shopify), Figma

Certifications & Awards

- **AWS Certified Solutions Architect – Associate**
- **Lean Six Sigma Black Belt** — exam completed, applied project in progress (SpineWise)
- **imec.istart** portfolio company — funded startup accelerator (Ubigreat bv)
- **Green Sharks** finalist — social impact entrepreneurship award
- **YTILI** — Transatlantic Innovation Leader finalist
- **Erasmus for Young Entrepreneurs** graduate — featured on Kanaal Z television
- **Unizo Liedart** — OndernemersBoost

Volunteering

- **Flemish workgroup for people with dementia** (ongoing)
- **Guardian of unaccompanied refugee minors**, FOD Justice Belgium (2016–2019)
- **Student Buddy Programme**, KU Leuven (2011–2013)

Languages

Dutch (native) • **French** (C1) • **English** (C1) • **German** (B1) • **Spanish** (B1) • **Chinese** (A1)