

Loïc Lepinois

AI Engineer & Senior Tech Lead, Developer Coach

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AI Engineer and Senior Tech Lead based in Brussels. I build LLM-powered agents and RAG systems in production, currently across two SaaS products (5DAYS and Greentripper). My focus is the practical side of generative AI: multi-source RAG, agent orchestration with tool calling, embedding lifecycle, and the boring-but-essential infra around evaluation, prompt management, and provider abstraction. Before AI, 10+ years of full-stack development and tech leadership in TypeScript, Node.js, React, and Angular: shipping MVPs to scale-ups, leading legacy migrations, and building CI/CD that lets small teams move fast without breaking things. Open to AI Engineer roles and senior technical positions.

CORE EXPERTISE

AI & LLM

RAG (pgvector, multi-source) · agent orchestration · tool calling · embedding lifecycle · Vercel AI SDK · Mistral · OpenAI · LangChain · prompt management & evals

Backend

Node.js · TypeScript · AdonisJS · PostgreSQL · TimescaleDB · OpenAPI · queue systems

Frontend

React · Next.js · Angular (2 to 17+) · Vite · Tailwind · shadcn/ui · NgRx

Infrastructure

CI/CD · Playwright · Cypress · Vitest · Jest · Docker · Digital Ocean · Keycloak

Leadership

Tech leadership · developer coaching · hiring & mentorship · engineering culture & conventions

EXPERIENCE

Independent Engineering Practice - Lepinois.dev

Brussels · Jul 2021 to Present

Full-stack development, technical leadership, and developer coaching for Brussels-based startups. Primary engagements (5DAYS, Greentripper, NSX, Skipr) detailed below.

- **Airscan** (air-quality monitoring SaaS): designed a data platform on PostgreSQL + TimescaleDB and AdonisJS, building independence from third-party data infra.
- **CoopHub** (cooperative-management SaaS): migrated from Meteor to Node + Angular; set foundations with versioned OpenAPI specs, a queue system, automated testing, and CI/CD on Digital Ocean.
- **The Barn** (Brussels organic grocery chain): maintaining a Google Apps Script automation system for the operations team.

Tech Lead - 5DAYS

Liège · Jul 2024 to Present

AI-first SaaS that serves as a team's project memory: meetings, documents, tasks and notes are captured, structured, and made queryable through a contextual AI agent.

- Led the AI layer as the product pivoted from "SaaS with AI features" to an AI-first agent platform.
- Built the project-level AI agent on a multi-source RAG architecture (pgvector), unifying meeting transcripts, project docs and internal resources under a single project context.
- Shipped the in-call meeting assistant: live summaries from real-time transcripts (AssemblyAI).
- Implemented tool calling: the agent acts inside the app via in-chat shortcuts (creating tasks, updating notes, retrieving documents).
- Engineered the embedding lifecycle: ingestion, re-indexing and deletion tied to product events.
- Built a provider-agnostic LLM orchestration layer on Vercel AI SDK; running on Mistral as a deliberate data-sovereignty choice, swappable without rewriting the stack.

- Scoped the next phase: structured prompt management, golden-path datasets, chat monitoring, and prompt-regression evals to enable safe iteration on prompts and model swaps.

Stack TypeScript · Node.js · React · Vercel AI SDK · Mistral · pgvector · AssemblyAI · LangChain

Developer Coach · 5DAYS

Liège · Jul 2023 to Feb 2026

Embedded developer coach supporting the engineering team as 5DAYS scaled from MVP toward a full AI-first product.

- Coached the lead full-stack engineer and team members on architecture, code quality and long-term maintainability as the codebase grew.
- Drove code reviews, paired on high-stakes features, and shaped internal engineering conventions.
- Set up an end-to-end testing pipeline with Cypress and unit testing with Vitest, integrated into CI/CD.
- Modernized the front-end stack: migrated from CRA to Vite; unified the UI by replacing a fragmented custom styling system with shadcn/ui and Tailwind.
- Built internal guides and tooling around Claude Code to help the team adopt AI-assisted workflows.
- Contributed hands-on to core features, including a Google Docs-style collaborative notes editor (Yjs + rich text editor), the entry point into the AI layer and the Tech Lead transition.

Tech Lead · Greentripper

Brussels · Jul 2025 to Feb 2026

B2B/B2C climate-action SaaS for the travel industry: helping travel businesses and travellers measure, reduce and offset trip carbon footprints.

- Led the engineering side of Act4Travel, the new generation platform replacing a legacy ASP.NET / MS SQL Server stack.
- Designed and shipped the platform's AI feature: users upload a PDF/Word brochure, an LLM-powered pipeline extracts the trip's components (transport, accommodation, on-site, food), feeding the carbon calculator and replacing a long manual data-entry process. Now the flagship feature of Greentripper's B2B offer (Act4Travel Scanner).
- Built the LLM layer on Vercel AI SDK with OpenAI, decoupled from any single provider, with a roadmap to migrate to Mistral for European data sovereignty.
- Integrated Stripe for one-off carbon contribution payments; laid the foundation for the subscription billing system.
- Owned engineering infrastructure: CI/CD, deployment, and end-to-end testing with Playwright across front-end and back-end.
- Led the engineering team: hiring, mentorship, and guided the team through a performance-driven restructuring.

Stack Angular · PrimeNG · Tailwind · AdonisJS · PostgreSQL · Vercel AI SDK · OpenAI · Stripe · Playwright

Developer Coach · Greentripper

Brussels · Oct 2024 to Feb 2026

Joined as embedded coach to bootstrap the technical foundation of the new Act4Travel platform alongside a junior developer.

- Defined the technical stack from scratch: Angular + PrimeNG + Tailwind on the front-end, AdonisJS + PostgreSQL on the back-end.
- Coordinated the migration from the legacy ASP.NET / MS SQL Server platform, working with the original maintainer to keep both stacks coherent during the transition.
- Designed the data migration strategy from MS SQL Server to PostgreSQL.
- Coached junior developers across the full stack: Angular best practices on the front-end and AdonisJS patterns on the back-end, including queue management and architectural decisions.
- Took on increasing technical and team leadership, which led to the Tech Lead transition in Jul 2025.

Front-end Developer · NSX, Normalized Systems

Niel · Jul 2023 to Oct 2024

University of Antwerp spin-off building "Expanders": code-generation tools that produce highly evolvable software skeletons from application models.

- Built core front-end components of NSX's Angular Expander, extending the existing Java backend generator so that full applications could be generated from the same application model.
- Contributed to architectural planning across the front-end stack: conventions, design systems and tooling.

- Delivered hands-on work on two customer projects: Shipbid (responsive design, complex UI) and Fidimco (front-end of an internal Normalized Systems toolset).
- Worked in a Dutch-speaking environment as a French native speaker, building operational Dutch over the role.

Stack Angular 17+ · TypeScript · design systems · Figma · Karma · Jest · Java · OpenAPI · Keycloak · Docker · Portainer

Front-end Developer - Skipr

Brussels · Jul 2021 to Jul 2022

Belgian mobility-management company offering an all-in-one solution for businesses to manage employee transportation.

- Shipped new features with a team of several developers on React and Next.js.
- Ensured reliability with Cypress and Jest test coverage.
- Owned front-end code quality, both internally and with external partner agencies.
- Worked closely with Product to deliver features on schedule.

Front-end Development Teacher - Onja

Mahanoro, Madagascar · Jan 2020 to Apr 2021

Onja upskills talented underprivileged youth in Madagascar to work in tech and open doors for others.

- Built a project-based curriculum from scratch, taking students from basic JavaScript through React, TypeScript and Redux.
- Taught 20 Malagasy students in English, 6 days a week: lectures, code reviews, peer programming, live coding.
- Adapted the program through the onset of COVID-19, keeping the cohort progressing through lockdown.
- Continuously updated the toolchain taught to maximize student employability after graduation.

Full-stack Development Coach - Passerelles Numériques

Da Nang, Vietnam · Feb 2019 to Jun 2019

NGO providing education and IT training to young underprivileged people to build employability.

- Mentored 30 Vietnamese students through their final entrepreneurial group projects using Scrum/Agile.
- Delivered hands-on workshops on Angular 2+, React, React Native, Node.js and Figma.
- Coached each student individually on technical debugging, career direction and professional skills.

Front-end Developer - Skwarel

Brussels · Mar 2016 to Feb 2019

B2B SaaS connecting accounting firms with their clients: harmonizing internal processes and automating everyday tasks.

- Joined as the 4th team member; owned the front-end architecture of Skwarel's client platform from day one.
- Led a full migration of the client app from Flash to Angular.js + TypeScript, then designed and planned the development of the accountant portal in Angular 2+.
- Designed, developed and shipped a companion mobile app in NativeScript (App Store and Google Play).
- Mentored junior developers and onboarded a steady flow of interns over 3 years.

Full-stack Developer - Dour Festival

Liège · Feb 2013 to Jul 2013

European alternative music festival gathering 228,000 attendees yearly.

- Built a platform for booking agents to update info on every band currently programmed.
- Created a web platform and hardware solution to scan wristbands for access control of private areas.

EDUCATION

Université libre de Bruxelles (ULB)

Jan 2025 to Jun 2025

Certificat inter-universités en User Experience Design & Research (UX)

Université catholique de Louvain

2013 to 2015

Preparatory year, Master Computer Science

EPHEC, École Pratique des Hautes Études Commerciales

2010 to 2013

Bachelor Computer Science & Systems, Mobile-web frameworks

LANGUAGES

French (native) · **English** (professional working) · **Dutch** (limited working)