

Alan Geirnaert

Software Engineer

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Summary

Software Engineer with production experience shipping web platforms, AI search systems, and internal tools used by real users. Based near Geneva, open to Swiss-based roles. Interested in scientifically demanding software, instrumentation, data pipelines, and research infrastructure.

Projects

Papermind, *papermind.ch*

AI-powered scientific paper search engine

- Built a **RAG-based search system** using **MongoDB Vector Search, FastAPI, and Next.js**.
- Implemented ingestion and embedding pipelines, query re-ranking, caching, authentication, and source-linked answers.
- Designed a clean UX focused on filtering, trust, and reproducibility for research workflows.

GitPortal, *gitportal.vercel.app*

Open-source project discovery platform

- Built a platform that extracts AI-generated keywords from GitHub repositories to improve discoverability.
- Implemented upvotes, bookmarks, tagging, and a shareable project card generator.
- Currently building a **Chrome extension** to streamline project sharing.

Experience

Dec 2024 – **Full-Stack Software Developer**, *App'Ines*, Remote, France

Present ○ Implemented a messaging functionality for a few thousand users, using web sockets.

- Built and shipped a production **internal Dashboard** using **Angular, Ionic (Capacitor)** with JWT authentication, role-based guards, secure token refresh, and protected routing.
- Designed and implemented **REST APIs** with **Node.js, Express, MongoDB**, introducing typed DTOs, request validation, and shared contracts to reduce runtime errors.
- Refactored frontend into **reusable, accessible components**, reducing duplication and improving maintainability and load performance via route-level code splitting.

November 2025 – **Head of Program Management**, *SSIP*, Hybrid, Lucerne - Switzerland

- January 2026 ○ Led and coordinated the development and evolution of the **official SSIP web platform**, including public-facing pages and internal tools that support team coordination, events, and analytics.
- Oversaw technical aspects of digital platforms and tooling used to support international programs and collaborations within the European space innovation ecosystem.
- Played a key role in the planning and execution of **ActInSpace Switzerland 2026 (Lucerne)**, a CNES and ESA-backed hackathon, contributing across technology, operations, and program delivery.

Jul 2024 – Sep 2024 **Software Engineer**, *Headstarter AI*, Remote, USA

- Worked on AI features leveraging **Retrieval-Augmented Generation (RAG)** and embeddings for knowledge-aware responses.
- Built data pipelines and evaluation scripts, profiling latency and improving prompt consistency across environments.
- Collaborated in a fast-paced, US-based engineering environment focused on shipping and iteration.

Education

Oct 2025 – Dec 2025 **Aspire Leaders Program**, *Aspire Institute*

Selective global leadership program supported by HarvardX coursework. Certifications in project management and data analytics.

Dec 2024 – Dec 2026 **MSc. in Software Development**, *work-integrated program*

Industry placement: App'Ines (full-stack, production) - Part-time remote program alongside industry work. Focus on full-stack engineering, cloud deployment, testing, and Agile development.

Skills

Core	TypeScript, Angular, Next.js, Node.js
Backend/APIs	Express, FastAPI, Flask, RESTful design, JWT auth
AI Tooling:	RAG pipelines, embeddings, Groq SDK
Databases	MongoDB (Vector Search), PostgreSQL, Prisma
DevOps	Docker, GitHub Actions, Vercel, Linux CLI
Test/Validation	Jest, Vitest, Joi, Zod, Sentry
Languages	Python, Java, SQL, C++
Practices	Clean architecture, CI/CD, code review, Agile (Scrum/Kanban)

Recognition & Interests

Talks NASA Space Apps Challenge 2025: delivered two speeches in Lucerne, Switzerland on hackathons and their link in space exploration.

Awards Codédex February Challenge: **Best Data Visualization** (2026). NASA Space Apps Challenge 2024: **Global Nominee** (Zurich, Switzerland).