Sami Bentaiba

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Summary

Software Engineer

I'm a software engineer who evolved from a computer science student into a full-stack developer, then into a software architect and team lead. My journey has taken me through every stage of software creation — from learning computer fundamentals, algorithms, and system design, to mastering multiple programming languages and building complete software solutions. As an architect, I learned to design and implement scalable patterns and system plans, and as an operator, I developed workflows and maintenance strategies to ensure long-term software quality. Through this continuous growth, I've become a software engineer capable of planning, creating, and improving entire systems — bridging the gap between development, architecture, and operational excellence.

Skills

Development Operations

Pipeline Manipulation (Applied): Using ngrok for exposing local servers and manipulating pipelines for webhook testing. Used effectively in the AiHorizons project.

Microservices (Applied): Designing applications as a collection of loosely coupled services. I explored this architecture in the H2-SpringBoot project.

Vercel (2+ years): Vercel is a deployment and collaboration platform for frontend developers. I use Vercel to deploy and host web applications, leveraging its serverless functions and edge network.

Frontend Development

React (2+ years): React is a JavaScript library for building user interfaces. I've used React extensively to build single-page applications and components within Next.js projects, focusing on component-based architecture and state management with hooks and context API.

Next.js (2+ years): Next.js is a React framework that enables server-side rendering and static site generation. I've used Next.js to build performant and SEO-friendly web applications, leveraging its file-based routing system and API routes in projects like my portfolio, ITC Hub, and Algis.

Tailwind CSS (2+ years): Tailwind CSS is a utility-first CSS framework. I use Tailwind CSS to rapidly build custom designs without leaving HTML, focusing on responsive design and component consistency in my Next.js projects.

Backend Development

Node.js (2+ years): Node.js is a JavaScript runtime built on Chrome's V8 JavaScript engine. I've used Node.js for server-side logic in Next.js applications and for scripting, including within the c-studio Electron project.

Express (1+ year): Express is a minimal and flexible Node.js web application framework. Used for building RESTful APIs.

PostgreSQL (1+ year): PostgreSQL is an advanced, open-source relational database. I've used PostgreSQL with Prisma for data storage in projects like ITC Hub and Algis.

Prisma (1+ year): Prisma is a next-generation ORM for Node.js and TypeScript. I use Prisma to interact with databases (PostgreSQL and SQLite) in projects like ITC Hub and Algis.

SQLite (1+ year): SQLite is a C-language library that implements a small, fast, self-contained, high-reliability, full-featured, SQL database engine. Used for local development in the Algis project.

Java (1+ year): Java is a high-level, class-based, object-oriented programming language. I use it for backend development with Spring Boot.

Spring Boot (1+ year): Spring Boot is an open source Java-based framework used to create a micro Service. I use it to build robust and scalable backend services.

Next.js (2+ years): I leverage Next.js for full-stack development, utilizing API Routes and Server Actions to build secure and scalable backend logic directly within the application.

NextAuth.js (1+ year): A complete open-source authentication solution for Next.js applications. I use it to handle secure user authentication and session management.

Programming Languages

Rust (<1 year): Rust is a language focused on performance and safety. Explored through the iShowOff project and interested in its potential for enterprise solutions.

Python (Explored): Explored Python for scripting and data processing tasks.

Go (Explored): Explored Go for its concurrency model and performance in backend systems.

Architecture & Documentation

System Architecture (Applied): Designing scalable systems, microservices, and database schemas. I use tools like Excalidraw and Figma to visualize code flows, design patterns, and architectural decisions.

Technical Documentation (Applied): Creating comprehensive documentation for code, APIs, and system designs using Obsidian. I focus on explaining the 'why' behind technical decisions to facilitate maintenance and onboarding.

Projects

Algis (Next.js, React, TypeScript, Prisma, PostgreSQL, NextAuth.js, Tailwind CSS, shadcn/ui, Linux Ecosystem, System Architecture, Technical Documentation, Full Stack, Backend, Software Engineer)

Working on Algis for a client in the agricultural sector has been a rewarding experience. The project involves complex data modeling with Prisma to handle UAPs, livestock, machinery, crops, and their relationships. I'm building a modern full-stack dashboard that replaces manual Excel-based workflows with a dynamic web application featuring authentication and role-based access. The repository is private due to client terms of service.

https://algis-preview.vercel.app

C-Studio (Electron, TypeScript, React, MinGW-w64, Node.js, Windows, Linux Ecosystem, System Architecture, Technical Documentation, Software Engineer, Desktop Development)

Building C-Studio was an exciting journey into desktop application development with Electron. The biggest challenge was bundling the MinGW compiler and ensuring it works seamlessly without any system configuration. I focused on creating a user-friendly experience for beginners learning C programming, with features like instant compilation and interactive terminal support.

https://github.com/samibentaiba/c-studio

ITC Hub (Next.js, React, TypeScript, Tailwind CSS, shadcn/ui, Prisma, PostgreSQL, NextAuth.js, React Hook Form, Zod, Nodemailer, Recharts, Linux Ecosystem, System Architecture, Technical Documentation, Full Stack, Backend, Software Architect)

Developing ITC Hub was a deep dive into full-stack Next.js development. The biggest challenge was designing the relational database schema with Prisma to handle complex relationships between users, departments, teams, and tickets. Implementing role-based access control (RBAC) with Next-Auth was a critical feature to ensure data security. This project solidified my skills in building secure, scalable, and data-intensive web applications.

https://itc-hub.vercel.app
https://github.com/samibentaiba/itc-hub

Remdani Dental Center (React, Node.js, Tailwind CSS, Linux Ecosystem, Frontend)

Collaborated as a Frontend Developer on this project, working closely with the backend developer and deployment lead. I also contributed to the backend development with small commits, gaining exposure to the full stack.

https://ramdani.vercel.app
https://github.com/ismail-devmaster/finalProjectFe

AiHorizons (React, TypeScript, Tailwind CSS, Vite, Figma, Pipeline Manipulation, Frontend)

This was a high-intensity project where I collaborated closely with a backend developer and a UI/UX designer to deliver a polished product in a very short timeframe. It tested my ability to work under pressure and coordinate effectively with a team.

https://ai-horizons.netlify.app
https://github.com/samibentaiba/AiHorizons

ITCP (React, Vite, CSS, Figma, System Architecture, Technical Documentation, Python, Frontend)

Worked as a Frontend Developer in a team with a backend developer and a UI/UX designer. This project enhanced my teamwork skills and my ability to integrate frontend components with backend APIs.

https://itc-programming.netlify.app
https://github.com/samibentaiba/ITCP

Microservices & DevOps (Java, Spring Boot, Angular, H2 Database, Microservices, Linux Ecosystem, System Architecture, Technical Documentation, Backend, DevOps)

Expanded my skillset into backend and DevOps by working with Java Spring Boot and microservices. This project gave me a deeper understanding of full-stack architecture and database management.

https://github.com/samibentaiba/H2-SpringBoot

Education

Master's Degree in Software Engineering
USTHB, 2023-2025

Bachelor's Degree in Computer Science
USTHB, 2020-2023