

Gabriel Serrano Rojas

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EDUCATION

Universidad de Costa Rica <i>Bachelor of Science in Software Engineering</i>	Mar. 2023 – Dec. 2026 (Expected) <i>San José, Costa Rica</i>
Universidad de Costa Rica <i>Bachelor of Science in Physics (concurrent degree)</i>	Mar. 2021 – Present <i>San José, Costa Rica</i>

EXPERIENCE

Full-Stack Engineer <i>MangaKaCR Bookstore</i>	Mar. 2024 – Present <i>San José, Costa Rica</i>
- Built a clean-architecture POS and inventory system (ASP.NET Core, Blazor, PostgreSQL), reducing costs by 78% - Implemented invoicing, layaways, cashback, audited voids and sales analytics; fixed POS concurrency races - Wrote 900+ xUnit and Testcontainers tests; set up CI, CodeQL, SonarQube and Docker builds on GitHub Actions - Developed the Wix e-commerce site (~3,000 monthly users, ~\$2,000 monthly revenue); started a Next.js storefront (in progress) - Automated a daily product-catalog PDF sync to Google Drive and integrated the tax authority's (Hacienda) API	
Student Research Assistant <i>Universidad Estatal a Distancia / Universidad de Costa Rica</i>	Feb. 2026 – Present <i>San José, Costa Rica</i>
- Digitized biomedical questionnaires into an offline HTML/CSS/JS app that keeps patient data in local CSVs - Built CSV merge and schema-restore tools and a response viewer to reconcile diverging questionnaires - Supervised the on-site migration of 600+ paper questionnaires to the digital system used by 10 other research assistants	

PROJECTS

LASCE Research Lab Platform <i>Next.js, TypeScript, Prisma, PostgreSQL, Playwright</i>	Aug. 2026 – Present
- Built the publications module and its PostgreSQL schema (Prisma + SQLAlchemy) for UCR's Space Weather Lab - Developed a reusable in-place CMS and a news module with role-gated API routes and image uploads to MinIO - Created the admin dashboard and its access control, covered by Vitest, Storybook and Playwright tests	
Virtual Microscope Administration Panel <i>C#, .NET, Blazor, PostgreSQL, Electron</i>	Mar. 2026 – Jul. 2026
- Replaced in-memory repositories with an EF Core + PostgreSQL persistence layer, mappings and migrations - Developed the Blazor WebAssembly frontend with a typed API client, CRUD pages and paginated search - Packaged it as a Windows desktop installer with Electron and an embedded PostgreSQL, no Docker needed	
ThemePark@UCR <i>C#, .NET, Blazor, SQL Server, Entra ID, Azure</i>	Sep. 2025 – Dec. 2025
- Implemented Azure Entra ID role-based authorization for a multi-team Web VR portal, enforced across API and UI - Set up deployment to Azure App Service with environment-specific config and Bearer-token validation	
Distributed ASCII-Art Network <i>C++, Sockets, HTTP, L2/L3 Switching</i>	Mar. 2025 – Jul. 2025
- Configured and physically managed 6 L2 switches (one per team, each with a client and server) and L3 routing - Developed the team's C++ HTTP client, fork server and drawing servers that serve ASCII art across the network	

TECHNICAL SKILLS

Languages: C#, TypeScript, JavaScript, Python, C/C++, SQL (PostgreSQL, SQL Server), HTML/CSS, R
Frameworks: ASP.NET Core, Blazor, EF Core, Next.js, React, Node.js, Prisma, xUnit, Vitest, Playwright
Cloud & Tools: Git, GitHub Actions, Docker, Azure, Entra ID, Google Cloud, Cloudflare R2, Supabase, MinIO, Wix