

JOSHUA MOLINA VARGAS

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Belgian Citizen | EU Work Authorization (no sponsorship required) | Willing to relocate
Academic and professional records under: Joshua Molina Van Den Bergh

Education

Costa Rica Institute of Technology

Graduated in March 2025

Bachelor of Computer Engineering

Costa Rica

- Represented Costa Rica in the ICPC (International Collegiate Programming Contest), qualifying for the World Finals as the only Central American team selected, after winning 1st place at the ICPC Central America Finals (2022) and the Costa Rica National Contest multiple times
- Built deep expertise in graph theory, dynamic programming, combinatorics, and advanced data structures across 6 years of competitive programming in C++
- Taught algorithms and data structures to university students and programming communities across Costa Rica

Work Experience

Teradyne (Teradyne Costa Rica S.R.L.)

Apr 2026 – Present

Software Engineer

Costa Rica

- Developed and maintained the EDF Logger, a C#/.NET application that captures real-time test data from semiconductor test equipment across 2 tester platforms and generates structured EDF logs used for manufacturing analysis
- Reverse-engineered the data output of a competing test platform (Advantest 93k) and replicated its behavior, enabling a smooth migration for a major customer
- Diagnosed and resolved complex production issues across multiple interconnected components, improving the reliability of the data pipeline

Intel Corporation (Componentes Intel Costa Rica S.R.L.)

Jan 2024 – Sep 2025

Software Engineer

Costa Rica

- Designed and delivered a full-stack vehicle access management platform (React, .NET/C#, Azure) adopted across Intel facilities in 4 countries on 3 continents, enabling real-time access control with role-based permissions and enterprise integrations for employees and delivery companies
- Developed certificate lifecycle management features (issuance, renewal, revocation) for a Certification Authority desktop application (.NET/C#, WinForms, AWS) managing 70+ digital certificates across organizations and devices
- Led internal technical talks on algorithms and advanced data structures to audiences of 50+ engineers, promoting knowledge sharing and problem-solving skills across the team
- Founded and organized an internal algorithmic programming competition for 20+ engineers at Intel Costa Rica, designing original problems and coordinating cross-team participation

Intel Corporation (Componentes Intel Costa Rica S.R.L.)

May 2022 – Jan 2024

Software Engineer Student

Costa Rica

- Built an automated patch deployment system (Python, NodeJS, JavaScript, PostgreSQL) for an air-gapped network of 20+ machines, eliminating manual patch distribution and enabling reliable validation and status tracking
- Developed a web scraper using Python and Selenium to automatically discover and retrieve Windows OS and Microsoft Office updates from official sources, replacing a fully manual search process

Projects

3D Top-Down Survival Shooter Game | nostarckdev.itch.io

Unity | C#

- Solo-developed and published a 3D top-down shooter in Unity for a game jam, handling all gameplay programming, system design, and 3D character modeling
- Implemented complete shooter mechanics (aiming, shooting, reloading, hit detection, damage handling), NavMesh-based enemy AI with detection radius and cooldown-based combat, wave spawning with progressive difficulty, and pickup systems for ammo and health

Steganographic File System | github.com/Nostarck

C | FUSE | Linux

- Built a fully functional i-node file system in user space (600+ lines of C) using the FUSE library, implementing 10 system operations (read, write, mkdir, rmdir, rename, readdir, getattr, mknod, access, statfs) with super block management and block allocation
- Hid all file system data within the least significant bits of BMP image pixels using LSB steganography, enabling ~500KB of persistent hidden storage with support for files, directories, and hierarchical path traversal

Custom Language & Interpreter | github.com/Nostarck

Python

- Designed a custom programming language with three data types (int, bool, string), conditionals, while loops, arithmetic expressions with operator precedence, and built-in functions (print, input, strlen, strcpy)
- Built the full interpreter pipeline: regex-based lexer, recursive descent parser generating a 20+ node-type AST, and a visitor-pattern type checker with scoped symbol tables for nested variable resolution

Achievements

- 1st Place — ICPC Central America Finals (2022)
- 1st Place — UNA Student Programming Contest (2021)
- 1st Place — CIDEV GameJam (2021)
- 3rd Place — ICPC Central America Finals (2020)
- 5th Place — ICPC Central America Finals (2019)
- Honorable Mention — ICPC Mexico & Central America Regional Final (2018)

Skills

Languages: C#, Python, C++, C, HTML, CSS, JavaScript/TypeScript, SQL

Developer Tools: Azure, AWS, Git, GitHub, Docker, Postman, Visual Studio, Jira

Libraries/Frameworks: .NET, ASP.NET Core, React, NodeJS, Windows Forms, Unity, PostgreSQL, Selenium

Spoken Languages: Spanish (Native), English (Advanced), French (Intermediate)