

Nicolas Armando Alba Murillo

Software Engineer | Backend & Full Stack | ICPC World Finalist (Top 1% Worldwide)

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PROFILE

Software Engineer with production experience designing, debugging, and improving **backend and full-stack systems** using **.NET, ASP.NET, C#, React.js, SQL/NoSQL databases, Docker, GitLab CI/CD, microservices, REST APIs, testing, andDDD/Onion Architecture**. Combines real production delivery with **ICPC World Finals-level algorithmic reasoning**, strong debugging, performance optimization, and the ability to explain complex trade-offs clearly. Known for **fast ramp-up, ownership of ambiguous issues, mentoring, stakeholder-facing delivery, remote collaboration, and clear communication with Product Owners and technical teams**.

IMPACT SNAPSHOT

- **ICPC World Finalist 2025 - top 1% of teams worldwide:** reached the **premier global university programming contest**, earned **Honorable Mention**, and solved **5 World Finals problems**.
- **2,000+ programming problems solved across Codeforces and LeetCode:** **1,905 Codeforces problems solved, Codeforces max Candidate Master 2004, LeetCode Guardian, and 180+ LeetCode C++ problems solved.**
- **Production impact:** fixed a **critical high-traffic financial endpoint** and built a **MongoDB reporting pipeline for up to 3M+ records**.
- **End-to-end engineering delivery:** contributed to **microservices, microfrontends, real-time SignalR/OpenVidu features, CI/CD, test coverage, environment management, and stakeholder demos**.
- **Technical leadership:** mentored interns, supported ICPC training at UMSS, contributed as **IOI 2025 Host Scientific Committee Member**, and tested/set algorithmic problems.

TECHNICAL SKILLS

- **Languages:** C++, C#, Python, JavaScript/TypeScript, Java, Kotlin, SQL, Bash/Shell/PowerShell.
- **Backend:** .NET, ASP.NET, Entity Framework/Core, REST APIs, microservices, SignalR, Node.js/Express.js, Spring Boot, Swagger, global API error handling.
- **Frontend:** React.js, Angular, JavaFX, React Flow, React Beautiful DnD, custom React hooks, frontend debugging, UX improvements.
- **Databases:** PostgreSQL, MySQL, MongoDB, data modeling, query optimization, graph persistence, access-pattern optimization, CAP trade-off analysis.
- **DevOps, Testing & Architecture:** Docker, Git, GitLab CI/CD, Linux, Terraform, xUnit, Jest, JUnit, TDD, unit/mock testing, SOLID, Clean Code, DDD, Onion Architecture.
- **Algorithms:** graph algorithms, dynamic programming, advanced data structures, persistent data structures, optimization, combinatorics, probability, complexity analysis, validators, checkers, generators.
- **Collaboration:** remote/asynchronous communication, mentoring, Product Owner communication, stakeholder demos, technical trade-off explanation, fast adaptation to new teams.

PROFESSIONAL EXPERIENCE

Micro1 - AI Trainer - Human Data | San Francisco Bay Area, Remote | May 2025 - Oct 2025

- Created and reviewed human data for AI training tasks, focusing on **correctness, reasoning quality, edge cases, and client requirements**.
- Selected for advanced tasks requiring **algorithms, logic, data structures, and precise technical reasoning**; applied competitive-programming-level analysis to produce high-quality technical outputs.
- Progressed to more complex work involving **checkers and validators** after strong performance; consistently met client KPIs and earned performance-based bonuses.
- Explained algorithms, reasoning paths, and corner cases in technical meetings; communicated asynchronously through Slack-based remote workflows.
- Maintained high availability during intensive periods, including the ability to work **50+ hours per week** when needed.
- Publicly recognized by micro1 for **ICPC World Finals participation** and strong client work.

FaaS - Full Stack Developer | Chile, Remote | Apr 2025 - Aug 2025

- Developed and debugged **.NET microservices** for a banking/financial system covering ordering, factoring, and leasing workflows adopted by clients in **Peru and Chile**.
- Identified, isolated, and resolved a **critical high-traffic endpoint issue**, improving reliability and earning Product Owner recognition for impact and speed.
- Contributed to a **microservices and microfrontends architecture** using **.NET and React.js**; investigated endpoint bottlenecks and proposed improvements for scalability, maintainability, and performance.
- Resolved production and application bugs independently and with the team, improving stability and reliability across backend and frontend workflows.
- Escalated business-dependent technical issues to the Product Owner with clear context, options, and recommendations; supported interns and helped them become ready to contribute.

Jalasoft - Software Engineer / Full Stack Developer | Bolivia, Remote | Jan 2024 - Apr 2025

- Built and optimized backend/frontend features for **Meetpoint**, a virtual-presence platform with video calls, chat, reporting, and face-recognition workflows.
- Designed and implemented a **MongoDB reporting pipeline capable of handling up to 3M+ records**, delivering stakeholder-critical analytics recognized by the Product Owner and Architect.
- Improved **SignalR-based real-time performance**, video-call behavior, feature flags, and production reliability across **ASP.NET/C#, React.js, MongoDB, MySQL, OpenVidu**, and Docker.

- Proposed refactors and technical improvements to improve maintainability and solve backend/frontend architectural challenges.
- Fixed frontend/backend bugs, improved frontend code quality, presented feature demos to stakeholders, and mentored interns on project workflow and engineering practices.

Jalasoft - Software Engineering Intern | Bolivia, Hybrid | Jan 2023 - Jan 2024

- Designed the initial BPM backend architecture using **Domain-Driven Design** and **Onion Architecture**; implemented global API error handling and graph-based data persistence.
- Configured MySQL database access with **Entity Framework/Core and Pomelo**, and solved query-performance issues such as **Cartesian explosion**, improving reliability and database access patterns.
- Configured **GitLab CI/CD**, test coverage reporting, production/QA/development environments, automated/manual deployments, Semantic Release, and changelog automation.
- Fixed complex React Flow issues and created a reusable custom React hook for alert management, reducing repetitive frontend code and improving UX consistency.
- Worked in an Agile/Scrum environment, collaborating through Trello and GitLab while learning production-grade engineering workflows.

SELECTED PROJECT HIGHLIGHTS

- **Micro1 AI human-data work:** created and reviewed technical training data requiring precise reasoning, corner-case analysis, and quality control against client requirements; moved into checker/validator work after strong performance.
- **FaaS banking/financial workflows:** contributed to a remote product used by clients in Peru and Chile, focused on high-traffic .NET microservices, microfrontends, production debugging, and Product Owner communication.
- **Meetpoint virtual-presence platform:** worked on video calls, real-time chat, reports, and face-recognition workflows using ASP.NET/C#, React.js, MongoDB, MySQL, SignalR, OpenVidu, Docker, GitLab, xUnit, and Jest.
- **Blueprint BPM platform:** helped build a workflow automation system with DDD/Onion Architecture, graph-structure persistence, global API error handling, CI/CD, test coverage, environment management, and React Flow features.

COLLABORATION & SOFT SKILLS

- **Ownership:** comfortable taking ambiguous production issues, isolating root causes, proposing options, and delivering fixes with clear communication.
- **Technical communication:** able to explain algorithms, architectural trade-offs, database choices, edge cases, and business-dependent issues to engineers, Product Owners, and stakeholders.
- **Mentoring:** guided interns in professional projects and supported university students learning data structures, ICPC methodology, and problem-solving techniques.
- **Remote teamwork:** experienced with Slack, GitLab, Trello, and asynchronous workflows; adapts quickly to new teams and communicates progress proactively.

SELECTED ACHIEVEMENTS & TECHNICAL LEADERSHIP

- **ICPC World Finalist 2025 - Honorable Mention:** represented Universidad Mayor de San Simon in Baku, Azerbaijan; solved **5 problems** at the World Finals and competed with top global universities.
- **Honorable Mention, ICPC Latin America Championship 2026:** represented Bolivia / UMSS with **Team Wasos del Valle** in Santiago, Chile.
- **ICPC Latin America Championship 2025 - Bronze Medal:** ranked **12th out of 45** teams and qualified for the ICPC World Finals.
- **ICPC Regionals 2024:** ranked **14th out of 2,842** teams, **6th in the subregion**, and earned a National Gold Medal.
- **IEEEXtreme 18.0 - Global 22nd place: 1st** among teams from Bolivia and IEEE Region 9, in a contest with **19,000+ participants**.
- **Meta Hacker Cup 2023 - Round 3:** reached Round 3 and ranked **329th** in that round.
- **IOI 2025 Host Scientific Committee Member:** reviewed complex problems, checkers, validators, and heuristic solution ideas in English for a major international programming event.
- **Algorithm Instructor / ICPC Training Support at UMSS:** supported university students learning data structures, ICPC methodology, and algorithmic problem solving.

ADDITIONAL TECHNICAL TRAINING & COMMUNITY WORK

- **Competencia Boliviana de Programacion / ICPC Bolivia 2024 - First Place:** team earned **1st place among 189 teams**, solved **8 of 12 problems**, and ranked **21st out of 1,424 teams** in a simultaneous regional competition.
- **Brazilian ICPC Summer School 2025 - World Final Class:** completed **85 hours** of in-person advanced algorithms training in Campinas, Brazil, with students from across Latin America.
- **50th Petrozavodsk Programming Camp - Winter 2026:** participated in an advanced programming contest training camp awarded/certified by Petrozavodsk State University.
- **Programming Contest Training Camp Argentina 2024:** completed a two-week competitive programming training camp at Universidad Nacional de La Matanza.
- **Problem Setter - OBI and Oh Sansi 2024:** designed algorithmic problems, helped configure judging systems, reviewed contest quality, and supported fair-play enforcement.
- **Codeforces Contest Tester:** contributed to pre-contest quality assurance for two Codeforces rounds by testing problems before official publication.
- **SanSi Cup Champion 2024:** won a national individual programming competition organized by Universidad Mayor de San Simon.
- **Fast execution and focus:** competitive programming background strengthened speed under pressure, precision, memory, pattern recognition, and systematic debugging.

EDUCATION & LANGUAGES

Universidad Salesiana de Bolivia - Bachelor's Degree in Commercial Software Engineering | Jan 2020 - Dec 2023

Highest GPA in the program: **93.5 / 100** | **100% merit scholarship** | Graduated with Excellence.

Languages: Spanish - Native | English - **C1 Advanced**.