

JULIO CHANA

Senior AI Systems Engineer

Santiago, Chile • Phone: +56 9 6604 6447 • jachanauc@gmail.com

Portfolio: cv.juliocode.com • LinkedIn: [julio-chana](https://www.linkedin.com/in/julio-chana) • GitHub: github.com/jachana

Professional Summary

Software engineer with **10+ years building production systems** in C++, Rust, and Python, with recent focus on **LLM-powered applications and ML inference pipelines deployed under strict reliability and security constraints**. Currently designing AI systems for **industrial and SCADA-related environments**, where information isolation, controlled access to operational data, and deterministic behavior are first-class requirements. Track record of moving research into production: architected a real-time computer-vision SDK shipped to **thousands of enterprise integrations** with a 98% inference-time reduction, and now translating academic findings on electrochemical process modelling into deployed predictive systems for industrial clients. Comfortable owning the **reliability, performance, and security boundary of a system end-to-end** — from algorithm to SDK surface to deployment.

Core Technical Competencies

- **Languages:** C++, Rust, Python, C#, JavaScript/TypeScript, Node.js
- **AI Systems:** LLM application architecture, RAG pipelines, model integration, ML training and inference, NLP, computer-vision pipelines
- **Systems & Infrastructure:** SDK and API architecture, cross-platform deployment, real-time inference optimization, performance profiling, CI/CD
- **Security & Reliability:** Information-isolation patterns, controlled access to operational data, deployment into regulated industrial environments, safety-critical tooling
- **Operational Domains:** Industrial / SCADA-adjacent systems, digital twins, process-prediction ML, autonomous-vehicle tooling, telemetry pipelines

Professional Experience

Senior Software Engineer | PCVue Latam

January 2026 – Present

Santiago, Chile

- Designing and implementing **LLM-powered systems for industrial and SCADA-related environments**, where information isolation and controlled access to operational data are non-negotiable requirements
- Building AI components in which **security boundaries, deterministic behaviour, and operational reliability** are treated as core engineering constraints, not afterthoughts
- **Aclara Metals – Tierras Raras de Penco**: developing ML models to **predict anodic effects** during the metallization stage of rare-earth production from **gas-emission telemetry**, enabling earlier process intervention
- Translating findings from academic research on electrochemistry and process modelling into deployable predictive systems with measurable operational impact
- **Technologies**: Python, ML, LLMs, RAG, industrial telemetry, SCADA integration patterns

Freelance Solutions Engineer | Independent Engagements

2022 – 2025

Remote

- **Conico Cotiza – LLM + RAG quoting system**: built an end-to-end pipeline that converts informal email requests into validated commercial quotes against a structured product database
- **Har Ris – HR assistant API**: designed a RAG-backed chatbot service with **scoped access to confidential HR knowledge**, including handling of confidentiality-sensitive content and answer-grounding
- **Manomotion (advisory)**: as the former SDK architect, provided architectural continuity on a deadline-driven pharmaceutical engagement and led the port of a real-time computer-vision SDK to new OEM hardware
- Built a voice-synthesis demonstration commissioned to publicly illustrate fraud risk, broadcast on Swedish national TV (TV4)
- **Technologies**: Python, Node.js, LLMs, RAG, NLP, voice synthesis, real-time inference

Senior Software Engineer Consultant | Tobii AB

August 2022 – October 2024

Stockholm, Sweden

- Architected consumer-facing APIs in **Rust and C#** for high-throughput sensor-data systems shipped in Tobii's eye-tracking product line
- Designed SDK surfaces that simplified integration for downstream client teams while preserving strict latency and data-flow guarantees

- Built and maintained CI/CD pipelines and automated test infrastructure, reducing release-cycle overhead for the team
- Owned cross-platform compatibility decisions and SDK best practices across multiple consumer integrations
- Acted as Scrum Master, combining delivery ownership with hands-on technical contribution
- **Technologies:** Rust, C#, Unity, SDK architecture, CI/CD

Technical Product Owner & Team Lead | Scania AB

September 2021 – August 2022

Stockholm, Sweden

- Led a cross-functional team of 9+ engineers building diagnostic and visualization tooling for **autonomous heavy-vehicle systems**
- Owned end-to-end delivery into a **safety-critical, multi-platform vehicle fleet**, balancing operational incident response with longer-horizon roadmap work
- Coordinated technical implementation across vehicle platforms with divergent hardware and reliability constraints
- Managed complex stakeholder requirements while keeping engineering focus on production-grade, deployable software
- **Technologies:** C++, Unity, Agile delivery, autonomous-systems tooling

Founding Engineer / Senior Software Developer | Manomotion AB

February 2016 – August 2021

Stockholm, Sweden

- Founding engineer on a **real-time computer-vision SDK** shipped to thousands of enterprise integrations across mobile and embedded targets
- Drove a **98% reduction in per-frame inference time (300 ms → 6 ms)** through algorithmic redesign and low-level C++ optimization
- Owned the cross-platform SDK architecture (mobile, embedded, Unity plug-in) and integration support for enterprise clients
- Led technical integrations with major hardware and platform partners, including showcases at CES, AWE, VRX, and MWC
- Built and maintained ML pipelines for training and evaluating computer-vision models against constrained inference budgets
- **Technologies:** C++, OpenCV, ML, Unity, cross-platform SDK

Software Developer | Austral3D

2015

Santiago, Chile

- Built **industrial training simulators** for mining and manufacturing operators, replacing exposure to real operational hazards with instrumented virtual environments
- Generated digital twins of client facilities and instrumented worker interactions to collect performance and safety telemetry
- Implemented evaluation and assessment systems used to score operator readiness against role-specific procedures
- **Technologies:** Unity, C#, telemetry collection

Education & Professional Development

Professional Scrum Master Certification | Pro Agile | 2019

International Exchange Program | Linnaeus University, Sweden | 2015–2016

Software Engineering | Pontificia Universidad Católica de Chile | 2011–2015

Languages

English: Bilingual proficiency (C2) • **Spanish:** Native speaker • **Swedish:** Beginner level

Professional References

Yeray Delgado – Head of Development, Manomotion AB | Yeray@manomotion.com

Avraam Georgiadis – Technical Lead, Scania AB | Avraam.georgiadis@Scania.com

Dennis Radell – Senior Engineer, Tobii AB | d.radell@proton.me