

# Gustavo Castro

Orlando, FL | +1 (352) 349-4910 | [gustavocastro73@gmail.com](mailto:gustavocastro73@gmail.com) LinkedIn: [linkedin.com/in/gustavocvcastro/](https://linkedin.com/in/gustavocvcastro/)

## PROFESSIONAL SUMMARY

Highly accomplished **Senior Backend Engineer and Engineering Leader** with 25 years of experience in building and scaling high-performance software and hardware solutions. Expert in **SaaS architecture, AI/Computer Vision, and IoT**. Proven track record in developing robust backend systems using **C#, Python, and Node.js**. Expert at aligning technical strategy with business goals, scaling engineering teams from 15 to 38 members, and delivering complex global projects across the USA, Germany, and China.

## TECHNICAL SKILLS

- **Languages & Frameworks:** C#, .NET, Python, Node.js, C++, Java, Next.js.
- **Backend & Architecture:** Microservices, SaaS, Distributed Systems, RESTful APIs, System Design.
- **Data & Databases:** SQL, NoSQL, Telemetry Data Analysis, Image Processing.
- **AI & IoT:** Machine Learning, Computer Vision, OpenCV, MQTT, TCP/IP, Industrial Protocols.
- **Tools & DevOps:** GIT, Jira, Agile/Scrum, CI/CD, Project Management.

## PROFESSIONAL EXPERIENCE

### Crear Sistemas SA | Engineering Manager / Senior Lead

Canoas, RS | 11/2023 – Present

- **Architected and scaled backend solutions** for a high-traffic SaaS platform, overseeing the expansion of the engineering team from 15 to 38 members.
- Led the development of **AI-driven Safety Cameras and telemetry systems** for heavy vehicles, focusing on real-time data processing and backend reliability.
- Spearheaded a major **platform restructuring**, implementing component modularization and enhancing infrastructure to improve scalability and system performance.
- Managed the full **SDLC (Software Development Lifecycle)**, ensuring best practices in coding standards, security, and agile methodologies across backend, frontend, and data science teams.
- Unified disparate product lines into a cohesive ecosystem, ensuring seamless integration between hardware IoT devices and the cloud backend.

### Ponfac SA | R&D Manager (Backend & AI Focus)

Porto Alegre, RS | 10/2019 – 07/2023

- Developed a proprietary **No-Code system for computer vision projects**, integrating an IDE with SDKs, OpenCV, and AI solutions.
- Designed and implemented a complex **area-to-weight conversion algorithm** using Python and AI to estimate animal weight based on visual telemetry.
- Defined software architecture for visual inspection and robotics projects, focusing on high-performance data processing.
- Coordinated innovation projects funded by FINEP, bridging the gap between R&D and production-ready backend systems.

### Elo Sistemas Eletronicos SA | Software Development Manager

Porto Alegre, RS | 08/2010 – 09/2019

- Managed the development of **Smart Grid infrastructure**, including remote reading servers, automated registration systems, and alarm management.
- Designed the **backend architecture for smart grid solutions** in Brazil, ensuring high availability and secure data transmission for industrial and residential meters.
- Developed network infrastructure routers for IoT access, managing the product from specification through pilot production.

ALTUS SA | R&D Manager / Software Factory Lead

*Sao Leopoldo, RS | 08/1999 – 07/2010*

- Led a team of 25 engineers in developing **industrial automation products**, fault-tolerant systems for oil platforms, and embedded software.
- Established a **Software Factory** focused on process improvement and high-performance system architecture.
- Collaborated with international partners in India and the Czech Republic to specify new technologies and backend protocols.

## EDUCATION

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- **MBA in Management of Technology-Based Companies** | UNISINOS, Brazil
- **Bachelor's in Computer Science** | UNIVALI, Brazil

## LANGUAGES

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- **English:** Fluent / Professional
- **Portuguese:** Native
- **Spanish:** Intermediate