

Gustavo Castro

Senior Manager – Machine Learning | Computer Vision | Edge AI | Safety Systems | IoT Platforms

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SUMMARY

Senior Engineering Manager and CTO/R&D leader with 25+ years of experience delivering AI-driven computer vision systems, intelligent edge devices, and large-scale SaaS platforms for industrial and safety-critical environments. Proven track record leading multidisciplinary teams of software engineers, ML engineers, data scientists, and hardware engineers building AI safety systems, telemetry platforms, and operational intelligence solutions.

Extensive experience managing the full machine learning lifecycle including data curation, training pipelines, validation, deployment, edge inference, and continuous improvement loops. Strong background integrating computer vision models with telemetry, sensor data, and embedded systems to deliver real-time safety insights in physical operations.

Deep expertise in IoT platforms, industrial systems, and AI-enabled safety solutions closely aligned with connected operations environments.

CORE COMPETENCIES

- Machine Learning Leadership
 - Computer Vision Systems
 - AI Safety Cameras & Driver Safety Systems
 - Edge AI & Embedded Inference
 - Sensor Fusion & Telemetry Platforms
 - IoT & Connected Devices
 - ML Lifecycle & Continuous Improvement Pipelines
 - Hybrid Edge + Cloud Architectures
 - AI Product Strategy & Innovation
 - Multidisciplinary Engineering Leadership
 - SaaS Platforms & Distributed Systems
 - Industrial Automation & Intelligent Devices
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TECHNICAL SKILLS

- Languages:** Python, C++, C#, Java, SQL
 - AI & ML:** Machine Learning Systems, Computer Vision, Image Processing, OpenCV
 - Edge Systems:** Embedded AI, Edge Inference, Hardware Integration
 - IoT & Data:** Telemetry Platforms, MQTT, TCP/IP, Sensor Integration
 - Architecture:** Distributed Systems, Edge + Cloud Systems, SaaS Platforms
 - Engineering Process:** Agile, Git, Jira, Platform Architecture, R&D Innovation
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PROFESSIONAL EXPERIENCE

Crear Sistemas SA — Engineering Manager

11/2023 – Present

Lead multidisciplinary teams of software engineers, ML engineers, data scientists, and hardware engineers delivering AI-driven SaaS and IoT safety platforms for vehicle and industrial operations.

- Led development of AI safety camera systems combining computer vision, telemetry, and operational analytics.
- Managed teams building machine learning models deployed on edge devices for real-time safety insights.
- Oversaw machine learning lifecycle including data pipelines, training, validation, deployment, and continuous iteration.
- Directed engineering teams responsible for telemetry systems processing vehicle and operational data at scale.
- Scaled engineering organization from 15 to 38 engineers while expanding responsibility to multiple AI-driven product lines.
- Led platform architecture evolution improving scalability, modularity, and system integration.
- Coordinated applied research initiatives with Federal University of Rio Grande (FURG).
- Delivered operational intelligence platforms for heavy vehicles including transport and agribusiness sectors.

Ponfac SA — CTO / R&D Manager

10/2019 – 07/2023

Led R&D and engineering teams delivering AI and computer vision systems for industrial automation and intelligent analysis.

- Designed and implemented computer vision algorithms and AI-based inspection systems.
- Built a No-Code computer vision development platform integrating SDKs, OpenCV, and AI models.
- Led multidisciplinary engineering and research teams developing intelligent automation solutions.
- Defined architecture and technology strategy for AI-driven systems.

Elo Sistemas Eletronicos SA — Software Development Manager

08/2010 – 09/2019

Managed engineering teams delivering industrial IoT and telemetry platforms.

- Led development of distributed telemetry systems processing operational data from large-scale infrastructure.
- Architected backend platforms handling high-volume sensor data and operational monitoring.
- Delivered Smart Grid projects integrating sensors, networks, and analytics platforms.

ALTUS SA — R&D Manager

08/1999 – 07/2010

Led engineering teams developing embedded systems, industrial automation platforms, and high-availability control software.

- Managed a 25-person engineering organization delivering industrial control and automation systems.
- Delivered embedded software and distributed industrial solutions for critical environments.

Fundação Bradesco — Technical Instructor

03/2002 – 10/2011

- Instructor in electronics, automation, programming, networking, and industrial systems.

EDUCATION

- **MBA – Management of Technology-Based Companies**, UNISINOS

- **Bachelor of Computer Science**, UNIVALI
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LANGUAGES

- **Portuguese:** Native
 - **English:** Professional Fluency
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INTERNATIONAL EXPERIENCE

- **USA, Germany, India, China:** Engineering collaboration, architecture discussions, and international R&D initiatives.