Lucas Cardoso

Senior Software Engineer · AI & Computer Vision

Blumenau, Santa Catarina, Brazil · lucas@znsoftworks.com · WhatsApp +55 53 99920-1992
lucasbcardoso.com.br · linkedin.com/in/lucasbrasilcardoso · github.com/LucasBCardoso

SUMMARY

I build AI systems that work outside the notebook: on factory machines, in irrigation canals, at the edge. At Delta Máquinas Têxteis I develop embedded computer vision models that detect fabric defects in real time. Before that, I founded Green Next and led it as CEO for over six years, taking it from the first sensor prototype to an IoT platform with 50+ sensors on commercial rice farms, around 30% energy savings, a team of up to 15 people and more than R$ 1.2M raised in investment and R&D funding. Specialist in R&D project management with the TRL scale and agile methods.

EXPERIENCE

Senior Software Engineer, AI & Computer Vision

Nov 2025 – Present

Delta Máquinas Têxteis · Pomerode, SC, Brazil

Developing the AI-based visual inspection system for Delta's textile machinery: computer vision models, embedded in the machine, that identify fabric defects in real time.

- Develop deep learning models for real-time fabric defect detection, from data strategy through to deployment on embedded hardware.
- Own the machine learning lifecycle end to end: data collection and curation, training, validation and edge deployment in an industrial environment.
- Balance detection quality, inference speed and hardware cost under real production-line constraints.
- Work with the mechanical, electronics and product teams to integrate AI into the machine's control system.

Technical details are confidential.

Founder & CEO

May 2019 – Nov 2025

Green Next · Rio Grande, RS, Brazil

Founded and led an agritech startup that automates water management for irrigated crops. Took the Hydra platform from idea to production on commercial rice farms.

RESULTS

- Deployed 50+ IoT sensors in irrigation canals and pump stations for large producers and cooperatives, delivering around 30% energy savings.
- Raised R$ 500k in investment (Ventiur accelerator, 2021, and a private fund linked to Agropecuária Canoa Mirim).
- Secured R$ 719k in R&D funding from SEBRAE, in partnership with EMBRAPII and ITEC-FURG, to develop remote pump actuation technology.
- Built and led a multidisciplinary team of up to 15 people across engineering, software and sales.

TECHNOLOGY

- Architected and led development of Hydra: IoT sensors, pump telemetry and remote actuation, an offline-first mobile app and real-time reporting.
- Built forecasting models for water and energy consumption from sensor and weather data.
- Developed back-end APIs and data models (Python, Django REST Framework, FastAPI, PostgreSQL), real-time dashboards (Plotly Dash), Docker deployments and CI/CD.

LEADERSHIP

- Set up field operations, sensor installation processes, performance metrics and a data-driven delivery culture.

EDUCATION

M.Sc. in Computer Engineering
2025 – Feb 2027 (expected)

Federal University of Rio Grande (FURG), Brazil

Provisional thesis title: “Modeling and Simulation of Irrigation in Rice Cultivars”. Building a predictive model of irrigation dynamics in rice crops from Hydra field devices, IoT sensors and weather data, using deep learning forecasting methods such as N-BEATS. Advisor: Prof. Dr. Adriano Velasque Werhli.

Postgraduate Specialization, Software Engineering for Applied AI
In progress – May 2027 (expected)

UNIPDS, Brazil

Current coursework: LLMs, RAG, agents and MCP.

B.Eng. in Control and Automation Engineering
2013 – 2020

Federal University of Rio Grande (FURG), Brazil

Final project: “Experimental analysis of LoRa technology for remote sensing on rural properties”. Tested point-to-point LoRa links from 240 m to 12 km. Advisor: Prof. Dr. Vitor Irigon Gervini.

SKILLS

Computer vision	YOLO (custom training), OpenCV, PyTorch, TensorFlow
Data & ML	Python, R (tidyverse, ggplot2), Pandas, NumPy, Scikit-learn, time-series forecasting (N-BEATS)
IoT & automation	LoRa, field sensors, telemetry and remote actuation, PLC, C
Backend & deployment	FastAPI, Django REST Framework, PostgreSQL, Docker, AWS, Plotly Dash, Streamlit, CI/CD with GitHub
Management	R&D project management with the TRL scale, agile methods, R&D and investment fundraising

LANGUAGES

Portuguese — native

English — full professional proficiency

Spanish — limited working proficiency

CERTIFICATIONS & PROGRAMS

Custom training of YOLO v10, v11 and v12 models

Interactive dashboards with Python

Ventiur acceleration program — Green Next

Banritech acceleration program — Green Next

Programa AGIR — social impact acceleration program, RS

Updated October 2026