LUCAS SANTOS SILVA

Senior C++ Software Engineer
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PROFESSIONAL SUMMARY

Senior C++ Software Engineer with 7+ years building high-performance, production-grade native systems across telecom, computer vision, and industrial automation. Currently working remotely at NinjaOne (US-based company), developing native C++ components for Remote Monitoring and Management (RMM) software and diagnosing OS-level issues across Windows, macOS, and Linux. Also working with micro1 as an AI trainer and data annotator, labeling and evaluating data for reinforcement learning of AI models in robotics, combining hands-on robotics and computer vision experience with rigorous, detail-oriented written English. Previously at FITec/Ericsson, led a team of C++ developers delivering billing, taxation, and promotion modules for BSCS, a mission-critical telecom platform handling millions of records, integrated with Oracle databases. Earlier, built computer vision systems integrated with robotics for industrial inspection at Autaza, including deployments in automotive production lines (Volkswagen). Stack: C++, Qt, SQL, OpenCV, PCL, VTK.

CORE STRENGTHS

- Modern C++ (11/14/17/20), STL, RAII, ownership, and memory management
- Multithreading, concurrency, synchronization, and safe management of shared state
- Cross-platform systems debugging (Windows, macOS, Linux): WinDbg, Visual Studio debugger, Valgrind, GDB, root-cause diagnosis
- Distributed systems and backend architecture
- SQL/Oracle database optimization
- Computer Vision (OpenCV, PCL, VTK)
- AI training and evaluation: data annotation/labeling for reinforcement learning, model output review, and prompt design for robotics
- Fluent in English

PROFESSIONAL EXPERIENCE

C/C++ Senior Software Engineer **Nov 2025 – Present**
NinjaOne | Remote (US-based company)

- Design and implement native C++ components and features for a cross-platform (Windows, macOS, Linux) RMM system, using C++, Qt, and SQL.
- Delivered 70+ tickets to date, including new features and bug fixes across Windows, Linux, and macOS, contributing to platform stability and performance.
- Debug and resolve defects across Windows, macOS, and Linux using WinDbg, Valgrind, and the Visual Studio debugger, improving system stability.
- Collaborate in an Agile environment, contributing to sprint planning and code reviews.

AI Trainer – Data Annotation & Evaluation (Robotics) **2026 – Present**
micro1 | Remote (Contract, part-time)

- Annotate and label robotics-related data for reinforcement learning of AI models, completing 30+ tasks with an average of 30+ annotations each (900+ annotations in total) while following detailed quality guidelines and maintaining consistency and precision.
- Evaluate and critique AI model outputs, identifying reasoning errors, hallucinations, and physically implausible results, and writing clear, structured feedback in English.
- Craft nuanced, well-structured prompts and questions designed to probe deep understanding and test the limits of current model capabilities.
- Conduct independent research, cross-checking multiple sources to verify technical claims before judging model answers.
- Apply domain knowledge in robotic kinematics, 3D environments, computer vision, and industrial robots (UR, FANUC) to assess the correctness of robotics-related tasks.
- Work autonomously in a remote setting, managing own schedule and delivering reliable, accountable results.

Technical Lead – Software Development **Jan 2024 – Oct 2025**
FITec | Brazil

- Led a team of 6 C++ developers in the design and implementation of high-performance software solutions for Ericsson BSCS telecom infrastructure.
- Oversaw code reviews, debugging, and performance tuning across the platform.
- Contributed to the design, development, and delivery of 50+ features across billing, promotion, and taxation modules for Ericsson BSCS, leveraging C++, SQL, and Oracle databases.

- Authored and reviewed technical design documents and implementation plans for cross-team alignment.
- Automated recurring tasks and testing workflows to streamline delivery.
- Created and maintained unit tests using Google Test to ensure code reliability and coverage.

Software Development Specialist **Jun 2021 – Jan 2024**
FITec | Brazil

- Developed and maintained telecom systems software using C, C++, C#, and SQL on the Ericsson BSCS platform.
- Implemented new features across billing, promotion, and taxation modules with full documentation.
- Designed and executed unit and integration tests using Robot Framework and Google Test.
- Investigated and resolved bugs and performance bottlenecks through in-depth debugging and profiling.
- Interacted with Oracle databases for data access, query optimization, and processing.
- Created custom automation scripts to streamline development, testing, and deployment processes.
- Provided mentorship and technical support to junior developers.

Mid-Level C++ Software Engineer **Jan 2020 – May 2021**
Autaza | Brazil

- Led development and maintenance of Autaza Paint and Autaza Surface products focused on automated defect detection on automotive production lines, deployed at 4 Volkswagen inspection stations.
- Developed advanced computer vision software in C++ integrated with robotic systems using OpenCV, VTK, and PCL.
- Implemented features for the 3D mesh processing pipeline that increased processing speed by ~80%.
- Built desktop applications with rich UIs using Qt/Qt Creator with 3D vision library integration.
- Implemented defect detection algorithms and 3D surface processing pipelines, reaching 90% inspection precision.
- Coordinated software validation efforts for successful product deployments in industrial environments.

C++ Software Engineer **Jan 2018 – Dec 2019**
Autaza | Brazil

- Contributed to computer vision systems for industrial inspection, covering requirement analysis, implementation, testing, and deployment.
- Designed and implemented image processing modules for surface analysis and defect detection using C++ and OpenCV.
- Built user interfaces using Qt/Qt Creator and integrated visual feedback for inspection systems.
- Collaborated with hardware teams to ensure integration with industrial robotic platforms and Basler vision cameras.

EDUCATION

- **Master of Science in Computer Engineering (in progress),** University of Campinas (UNICAMP), Brazil. Expected Dec 2027
- **Bachelor of Technology in Systems Analysis and Development,** Fatec São José dos Campos, Brazil. Completed 2020
- **Technical Degree in Computer Networks,** SENAI São Paulo, Brazil. Completed 2016

TECHNICAL SKILLS

- **Languages:** C++, C, C#, Python, SQL
- **Databases:** Oracle SQL (queries, optimization, stored procedures)
- **Tools & Platforms:** Visual Studio, WinDbg, Qt, Qt Creator, MATLAB, CloudCompare, VTK, PCL, Docker, Jenkins, Git, Gerrit, Jira, CMake
- **Testing Frameworks:** Google Test, Robot Framework
- **Operating Systems:** Windows, Linux/Unix, macOS
- **Protocols:** Modbus, TCP/UDP
- **AI Training & Evaluation:** Data annotation, Labeling, RLHF-style data, Model evaluation, Prompt design, Red-teaming
- **Concepts & Methodologies:** OOP, Multithreading, Concurrency, Agile, Scrum, CI/CD, Code Review, TDD

HARDWARE & EMBEDDED

- Experience with Arduino, Raspberry Pi, UR Robots, FANUC Robots, and Basler cameras.
- Knowledge in robotic kinematics and 3D environments for inspection and automation.

LANGUAGES

Portuguese: Native | English: Advanced