Raphael Silveira e Silva

Belo Horizonte, Brazil | Available for Relocation to the U.S. | Visa Sponsorship Required  
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# Professional Summary

# Engineering Manager with over 15 years’ experience in custom industrial automation and motion-based electromechanical systems for the manufacturing, packaging, and process industries. Proven leadership in managing cross-functional teams, from requirements gathering to field commissioning, with a strong track record in sustainable solutions, energy efficiency, and client integration. Skilled in project management, design (SolidWorks, AutoCAD), and implementation of automation projects with a focus on compliance (NR-12, ISO 13849) and innovation. Fluent in Portuguese and English, with working proficiency in Spanish.

# Key Skills & Areas of Expertise

* Industrial Automation & Motion Control
* Project Management & Cross-functional Leadership
* Design for Manufacturing (DFM), SolidWorks, AutoCAD, Eplan
* Field Installation, FAT/SAT, Technical Training
* Compliance (NR-12, ISO 13849, OSHA), Safety Systems
* Sustainable Engineering & Energy Efficiency
* Client Integration & Stakeholder Communication
* Team Mentoring & Task Coordination
* Documentation: 2D/3D Layouts, Schematics, BOM
* Languages: Portuguese (native), English (fluent), Spanish (working proficiency, improving)

# Professional Experience

**SIMA Projetos e Soluções Industriais – Co-Founder, Engineering Manager**

Belo Horizonte, Brazil | 2016 – Present

* Led a multidisciplinary team of engineers and technicians in the design and delivery of engineered-to-order automation systems, integrating motion control, PLCs, and advanced sensors for manufacturing clients across Brazil.
* Delivered the first UV LED curing system for metal printing in Latin America (CMP), achieving 78% reduction in energy consumption, complete elimination of ozone and mercury emissions, and project deployment within 6 months. Featured in “The Canmaker” international magazine.
* Implemented UV LED curing modules for ZF, overcoming challenges of highly contaminated environments. Achieved 50% reduction in downtime and 45% fewer interruptions, along with elimination of hazardous emissions.
* Engineered custom compact UV LED modules for flexographic printing (Astergraf), enabling installation in extremely limited spaces with high-speed moving parts. Resulted in increased production rates, improved product quality, and reduced energy consumption.
* Modernized Supergasbras gas cylinder painting line by eliminating traditional curing ovens and flash-off steps, reducing energy consumption by 45%, improving paint hardness, and reducing material usage per cylinder.
* Directed field commissioning, FAT/SAT, and technical training for customers, ensuring seamless integration of new equipment with legacy systems.
* Developed AMR-based disinfection robot for Novo Nordisk, integrating LIDAR, vision systems, and safety sensors, fully compliant with pharmaceutical industry regulations and NR-12 standards.
* Managed complex automation and motion control systems for automotive component assembly lines (FIAT), delivering robust and efficient production solutions.
* Regularly interfaced with clients to translate requirements into technical solutions, adapted layouts to existing workflows, and negotiated modifications for optimal fit and performance.
* Presented technical solutions in English and Spanish at industry conferences and client meetings.

# Fourmec Industrial – Co-Founder, Engineering Lead

# Belo Horizonte, Brazil | 2008 – 2014

* Designed and delivered custom industrial machinery and automation solutions for the food & beverage, chemical, and manufacturing sectors.
* Managed project lifecycle from requirements gathering to final commissioning, leading technical teams and collaborating with clients for tailored engineering solutions.
* Integrated PLCs, HMIs, and industrial sensors into production lines, ensuring compliance with safety and regulatory standards.

# Highlighted Projects

* CMP: First UV LED curing system for metal printing in Latin America—78% energy savings, total elimination of hazardous emissions, featured in The Canmaker (2022).
* ZF: Custom UV LED modules for a high-particulate automotive plant—50% downtime reduction, improved process reliability.
* Astergraf: Ultra-compact UV LED installation for flexographic printers—solved critical space constraint, enhanced speed and quality.
* Supergasbras: Automation of cylinder painting process—eliminated curing ovens, cut energy use by 45%, improved paint efficiency.
* Novo Nordisk: Autonomous UVC disinfection robot—AMR, LIDAR, vision, and safety integration, pharma-compliant automation.
* FIAT: High-complexity motion-control system for automotive assembly—delivered robust automation for a leading OEM.

# Education

**Bachelor of Science in Mechanical Engineering**

Centro Universitário de Belo Horizonte (UNIBH), Brazil – 2021

# Certifications

**Basic Python Programming – Certificate of Completion, 2021**

Acquired foundational skills in Python for engineering applications, including scripting, logic, and basic automation tasks.

**NR-12 Machinery Safety Certification** **– Certificate of Completion, 2021**

Certified in Brazilian industrial safety standard (Comparable to OSHA standards – Emphasizes safe machine design, guarding, ergonomics, and operator training).

# Technical Skills

**CAD/CAE:** Fusion 360, SolidWorks, Siemens NX, Inventor, AutoCAD, Catia  
**Simulation & Design:** FEA (SolidWorks), 3DS MAX, Tolerancing, GD&T, DFM/DFA  
**Controls & Electrical:** TIA Portal (Siemens PLC/HMI), Arduino, EPLAN  
**Project & Documentation:** MS Project, Excel, Google Workspace, BOMs, PDF Markup Tools

**Prototyping:** 3D Printing (FDM/SLA), Reverse Engineering

# Languages

**Portuguese:** Native

**English:** Fluent

**Spanish:** Working proficiency (actively improving)