

FRANK FUNNY

CONTROLS AND AUTOMATION ENGINEER

CONTACT



935 232 542



ffunnyfrank@gmail.com



Cascais, Lisbon, Portugal 2785-805



<https://www.linkedin.com/in/frankfunny/>



<https://electronsandbits.github.io/>

SKILLS

- C/C++, Python, SQL, RTOS/FreeRTOS, Zephyr RTOS, UML/SysML
- STM32, ESP32, Teensy
- ARM/RISC-V, ARM/RISC-V Assembly
- Real-Time Programming, Low-Level Programming
- Mechanical Design: Fusion, Solidworks
- PCB design: Altium Designer, KiCAD, Eagle
- Programming/Software: Ladder Logic, Function Block Diagram (FBD), Structured Text, MATLAB/Simulink, RSLogix
- Control Systems: PID Control, MPC, Distributed Control Systems (DCS), SCADA, PLC Programming, HMI
- Industrial Automation: Robotics Integration, Motion Control, Industrial

PROFESSIONAL SUMMARY

I'm a Controls Engineer with expertise in real-time embedded systems, PLC programming, and automation. I specialize in tightly integrated hardware-software systems- from robotics, and drones to motion control and IIoT. I'm passionate about full-stack product development, from embedded firmware to electrical design, and thrive in building scalable, reliable systems that drive innovation in modern industry.

EXPERIENCE

January 2022 - December 2024

R&D Automation Engineer

Rockwell Automation, Sao Paulo, SP

- Developed Programmable Logic Controller (PLC) and Human-Machine Interface (HMI) programs for automation systems.
- Troubled and optimized PLC and HMI code, ensuring peak system performance.
- Selected sensors, actuators, and control devices tailored to project requirements.

January 2014 - December 2021

Automation Engineer

Siemens, Sao Paulo, SP

- Enhanced monitoring and control capabilities of existing systems by integrating IoT technologies, achieving a 10% reduction in operational costs through improved asset tracking.
- Collaborated with the R&D team to integrate new sensor technology that enhanced the precision of automated equipment by 12%.
- Customized and optimized PLC programming that resulted in a 15% increase in automation process speed, setting a company record for throughput.

January 2012 - December 2013

Electrical Controls Engineer

Schneider Electric, Sao Paulo, SP

- Deployed an advanced PID controller scheme, enhancing system stability and achieving a 10% improvement in product quality consistency
- Redesigned control panel layouts for three product lines, which increased the serviceability and reduced average repair times by 20%.
- Designed and developed automation solutions for industrial customers using standard Schneider Electric products.

January 2009 - December 2009

Sensors, Machine Vision Systems,
Hydraulic/Pneumatic Systems

- Protocols & Standards: Profibus, Modbus, OPC, MQTT, Ethernet/IP, ISA-88, ISA-95, IEC 61131-3

Automation Technician

ABB, Sao Paulo, SP

- Assisted in programming PLCs for new production lines, which boosted operational efficiency by 20% within the first year of deployment.
- Helped design electrical schematics for new automation projects, contributing to a 10% increase in design efficiency..
- Maintained and troubleshooted PLC and HMI systems, reducing machinery downtime by 18%..

January 2005 - December 2006

Electrical Engineering Intern

Phoenix Contact, Sao Paulo, SP

- Supported the development of a prototype control system for Tesla's manufacturing line, contributing to a successful pilot and subsequent full-scale rollout.
- Supported senior engineers in optimizing electrical schematics for new system installations.
- Developed and documented control logic and electrical drawings, ensuring compliance with industry standards and improving the accuracy of system installations by 15%.

February 2004 - February 2005

Electrical Engineering Intern

Bosch, Sao Paulo, SP

- Assisted in the development of an electrical panel for automation control, which later became a standardized module for a range of products.
- Utilized CAD software to design custom control panels that improved operational safety, leading to a 15% decrease in safety incidents.
- Assisted customers with troubleshooting automation software issues, enhancing customer satisfaction metrics by 15%.

EDUCATION

September 2013

Master of Science (M.S.) in Systems Engineering - Control and Automation

Polytechnic School of University of Sao Paulo, Sao Paulo, Brazil

December 2010

Bachelor of Science (B.S.) in Electrical Engineering

Pontifical Catholic University of Sao Paulo, Sao Paulo, Brazil