

# CARLOS S. GUILLEN MARÍA



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## PROFESSIONAL PROFILE

### Professional Profile

Electrical Substation Design Engineer with strong expertise in Protection & Control (P&C) systems. Proficient in design tools including MicroStation, AutoCAD, Substation Design Suite (SDS), and BlueBeam. Brings several years of experience in supervision, coordination, and project management, supported by a solid foundation in electrical engineering principles. Skilled in substation design, system installation, telecommunications, and schematic development. Recognized for strong technical acumen, leadership, sound decision-making, and data-driven analysis.

#### Substation Engineer

2024 – 2025

Line Work Engineering– Florida, Tampa, USA

- Development of substation single-line diagrams, relay and metering schematics, relay panel and rack elevations, and wiring drawings.
- Execution of calculations for AC/DC systems, and ampacity
- Creation of detailed physical drawings, including general arrangements, plans and sections, grounding, conduit, cable trough, and bills of material (BOMs)

#### P&C (protection&controls) Substation Engineer

2023 – 2024

Sargent & Lundy – San Juan, PR

- Design of medium voltage and 138 KV and above electrical systems
- Management of protection, control and telecommunications for high voltage substations, including design, installation and coordination
- Participation in the development of substation single-line diagrams, relay diagrams, metering, DC schematic diagrams, substation drawings and sections
- Expertise in line, busbar and equipment protection
- Proficient in AC/DC systems
- Control of circuit breakers, transformers and similar equipment, RTU and SCADA based data concentrators, telemetering and communications (fiber optics, microwave, power line carrier, etc.)
- Knowledge of NESC and IEEE standards and ability to create equipment specifications

#### Junior Electrical Engineer

2022 – 2023

Integra Designs – San Juan, PR

- Supervision and coordination of construction projects, assigned materials and financial resources
- Administrative participation in auctions and handling of legal contract paperwork
- Budget evaluations

- Fulfillment of contracts ensuring their technical specifications
- Preparation of reports
- Staff training

#### **Project Engineer / PLC Engineer**

2021 – 2022

Johnson Controls – Carolina, PR

- Programming of PLC systems to perform specific functions
- Diagram design
- Supervision and management of operations
- Creation and design of new PLC machines for the use and creation of manufacturing parts
- Efficiency tests to guarantee the operation of the machine

#### **Senior Field Representative / Inspector**

2020 – 2021

Integra Designs – San Juan, PR

- Inspection of damage caused by natural catastrophes
- Support in benefit collections
- Orientation and providing information to the victims of the necessary documentation for the processing of the damage caused

#### **Machine Operator**

2019 – 2019

Kerry Ingredients – Minnesota, USA

- Performing installation activities, such as mechanical assembly, placement of tubes, film rolls and loading of packaging materials
- Inventory inspection
- Handling of machine adjustments
- Packaging quality supervision

#### **Electrician Assistant**

2017 – 2019

SG Electric Company – San Juan, PR

- Assistance in the installation and repair of electrical equipment systems
- Installations and design of lighting and PV systems
- Delegation and supervision of functions to a team of 4
- Realization of prepared control panels and 120V/240V circuits

## **WORK EXPERIENCE**

## **ACADEMIC FORMATION**

2019

### **Bachelor of Science in Electrical Engineering**

Polytechnic University of Puerto Rico – San Juan, PR

## **SKILLS AND ABILITIES**

- Bilingual Spanish/English
- Identification of problems and implementation of solutions
- Effective communication with broad synthesis and conveyance of ideas
- Leadership in decision making and supervision
- Integration of interdisciplinary work teams and maintenance of assertive working relationships
- Knowledge of MATLAB RSLogix 500, SLC Project, Visual Studio
- Proficiency with Microsoft Office programs and tools, Microsoft Project, Microstation, AutoCAD, BlueBeam

## **COURSES AND CERTIFICATIONS**

Electromagnetism

PV Systems
Illumination Systems
Automations & Controls Systems
Power and Mathematics

2025 – Present

Substation Engineer

Line Work Engineering – Tampa, FL

- Development of substation single-line diagrams, relay and metering schematics, relay panel and rack elevations, and wiring drawings
- Creation of detailed physical drawings (2D and 3D), including general arrangements, plans and sections, grounding, conduit, cable trough, and bills of material (BOMs)
- Design of structural components, including station steel, pier and slab-on-grade foundations, and transformer oil containment systems
- Site grading and drainage design, including subsurface drainage and applicable permitting documentation
- Execution of calculations for AC/DC systems, grounding, lightning protection, shielding, cable fill, and ampacity
- Design and programming of SCADA and telecommunication systems, from drawings to full implementation