

Emilio Tovar

Electrical Engineering

San Carlos, CA

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Electrical engineer with 3+ years of experience in railroad signaling systems, testing power transformers and programming power electronics systems. I am a problem-solving oriented professional with a high sense of collaboration. Actively seeking a challenging work environment in the Bay Area. Fluent in Spanish. U.S. permanent resident.

WORK EXPERIENCE

Electrical Engineering Specialist

IATASA Engineering, Palermo - Buenos Aires, AR -

May 2018 to September 2018

Buenos Aires, Argentina May 2018 - September 2018 (Relocated to the U.S.)

Electrical Engineering Specialist

San Martin train line expansion project, total budget 200 M USD

> Designed centralized railway signaling system, which included the following equipment:

- Jointless track circuits based on audio frequency
- Railroad signaling interlocking based on electromechanical relays
- Centralized communication and data processing system
- AC/DC and DC/DC converters
- Step down transformers in order to provide galvanic insulation
- Batteries and UPS systems
- Long distance cable-laying for communications and power supply

> Tested dielectric properties of railroad components: track ballast, rails, railroad ties, rail fastening system

> Designed and approved power distribution plans of train stations and viaduct structure grounding system

Project Supervisor

Tecma S.A., La Plata - Buenos Aires, AR -

January 2017 to May 2018

Development of railway signaling adaption project on the General Roca Train Line, total budget 4.3 M USD, and relocation of railway signaling system on the Belgrano Norte train line, total budget 23 M USD

> Designed and evaluated electrical engineering plans

> Generated technical specifications and supervised the installation of electric systems on site such as:

- Track circuits based on audio frequency equipment
- Impedance bonds in electrified train lines
- ATS (automatic train stop) through electromagnetic fields

- Railroad signaling interlocking based on electromechanical relays
- AC/DC and DC/DC converters
- Step down transformers in order to provide galvanic insulation
- Batteries and UPS systems
- Long distance cable-laying for communications and power supply

Academic Researcher - Power Electronics

Universidad Simón Bolívar, Sartenejas, Miranda - VE -

September 2013 to December 2014

Venezuela September 2013 - December 2014

Academic Researcher - Power Electronics

Research project: Control of a voltage source inverter on a three-phase four wire distribution system in order to correct electric power quality issues.

- Operated voltage inverters based on IGBTs in power distribution schemes
- Implemented zigzag transformers, RLC filters and power semiconductors
- Simulated the different operative scenarios using Simulink Matlab and Matlab

Teaching Assistant - Electric Machines Principles

Universidad Simón Bolívar, Sartenejas, Miranda - VE -

January 2013 to December 2013

Venezuela January 2013 - December 2013

Teaching Assistant - Electric Machines Principles

Supported mechanical engineering students on electricity concepts related with energy conversion and generation

- Introduced DC and AC circuits and three-phase systems
- Supported understanding of the basic running of transformers, motors and generators
- Helped facilitate the simulation of electric systems during lab sessions

Lab Assistant - Power Transformers Testing

Corporación IADIEEXPORT C.A. (Power Transformers Factory) -

June 2012 to October 2012

Guatire, Miranda, Venezuela June 2012 - October 2012

Lab Assistant - Power Transformers Testing

Designed a programmable tool to obtain power transformers parameters based on test results

- Performed transformers tests such as: insulation resistance, load and no load losses, lighting impulse, switching impulse, short circuit, insulation power factor and others
- Programed and analyzed performance of the programmable tool

EDUCATION

Academic Intensive English Program

Colorado School of English - Denver, CO

May 2015 to October 2016

B.S. in Electrical Engineering

Universidad Simón Bolívar

February 2015

Mid-level Technician in Electronics in Electronic Circuits

Education Center Santa Maria Goretti - Guatire, Miranda, Venezuela

September 2007 to July 2008

SKILLS

Electrical Engineering, Electrical Design (3 years), Power Electronics (1 year), Power Semiconductors (1 year), Railroad Signaling Systems (2 years), Testing Electric Equipment (2 years)