

# Jesus Martinez Jr

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## EDUCATION

California Polytechnic State University, San Luis Obispo

**Bachelor of Science in Electrical Engineering**

July 2026

## RELEVANT COURSEWORK

Power Systems Analysis I & II; Power Electronics I; Electronic Design, Sustainable Electric Energy Conversion; Microcontroller-Based System Design; Electromagnetic Fields & Waves; Energy Conversion Electromagnetics; Power Systems Laboratory (Spring); Power Systems Protection (Spring)

## SKILLS

**Software:** LTspice, PowerWorld, MATLAB, Fusion 360, Cube IDE, Python

**Hardware:** Oscilloscope, DC Power Supply, Waveform Generator, Source Meter, PCB assembly, Soldering with Iron, Reflow Gun and Reflow Oven

**Soft:** Adaptability, Attention to detail, Team collaboration, Spanish (Fluent)

## TECHNICAL PROJECTS

### **Senior Project | 3 Team Project**

1/26 – Present

- Building a Maximum Power Point Tracker for a Solar Module
- Implementing an algorithm to extract the panel's maximum available power instantaneously
- Integrating an off-shelf DC-DC converter to actively change the load seen by the panel

### **Led Driver**

9/25 – 12/25

- Implemented an LT1618 LED driver by arranging surface-mount components on a provided test board
- Verified constant-current LED performance and PWM dimming through LTspice simulation and hardware testing

### **Per-Unit Modeling & Power Flow Analysis via Simulator**

9/25 – 12/25

- Simulated power-flow analysis of a multi-bus transmission network
- Demonstrated a voltage regulation solution achieving a 5% voltage increase at a specified load bus

### **Dice Imaging Engine | 3 Team Project**

4/25– 6/25

- Utilized a Sony Spresense Camera Board to capture a RGB565 image of a standard six face dice
- Implemented SPI communication between the Spresense and an STM32 Nucleo microcontroller to transfer image data
- Processed image data on the STM32 to perform grayscale conversion, thresholding, and pixel counting for dice value detection

## WORK EXPERIENCE

### **College Corps Fellowship**

9/23 – 6/25

Pacheco Elementary – San Luis Obispo, CA

- Assisted first grade teachers with everyday activities and aided students with reading and math.

### **Planet Fitness Team Lead**

6/22 – 9/22

Visalia, CA

## LANGUAGES & INVOLVMENT

• English | Spanish

• Member, Society of Hispanic Engineers

2022 – Present

• Member, Power Engineering Society

2022 – Present

• Cal Poly Scholars

2022 – Present