

# BORUM LONG

Los Angeles, CA 90007 | (209) 497-3839 | borumlong7@gmail.com | www.linkedin.com/in/long-borum-048458156

## EDUCATION

### University of Southern California

January 2024 - May 2026

M.S. Aerospace and Mechanical Engineering

GPA: 3.74

### University of California, Davis

September 2017 - June 2021

B.S. Mechanical Engineer, Minor in Computer Science

GPA: 3.3

## EXPERIENCE

### Tesla, Lathrop, California

January 2025 – May 2025

#### Manufacturing Controls Engineer Intern, Energy

- Developed and refined **automation & interlock logic** on Beckhoff PLCs for lifting and material-handling systems, improving safety compliance and reducing operator error by enabling deterministic control behavior.
- Integrated **Siemens RFID access control** with PLC logic and custom-designed sensor mounts, improving traceability and ensuring correct material flow across automated stations.
- Implemented **safety-critical lighting systems** for high-risk crane operations, enhancing visual signaling and reducing near-miss events on the production floor.
- Troubleshoot robotic and electromechanical systems (conveyors, torque tools, lifts) to eliminate intermittent faults, increasing system uptime and supporting continuous-flow manufacturing.

### Gallo, Modesto, California

#### Bottling Performance Engineer 1, Global Bottling Performance

January 2023 - December 2023

- Analyzed equipment reliability and production line performance metrics to enhance production efficiency
- Executed PFMEA-aligned process standardization by evaluating setup-sheet data, improving repeatability and reducing operator-dependent variation.
- Developed improvement project proposals and charters aligned with leadership objectives, worked cross-functionally, and implemented Lean Principles and Tools to achieve a 60% Overall Equipment Effectiveness

#### Controls Engineer 1, Capital Engineer

July 2022 - December 2022

- Conducted research and experiments to enhance image detection using a new sensor, resulting in a 2% increase in operational efficiency
- Led and supported cross-functional teams in building or improving capital assets
- Designed and implemented electrical schematics, PLC programming, and HMI interfaces, contributing to a more robust and user-friendly control system

#### Start Up Engineer Internship, Global Bottling Performance

December 2021 - June 2022

- Assisted in continuous improvement initiatives, reducing bottleneck processing time in depalletization by 77% (from 90s to 20s)
- Coordinated with stakeholders to identify and solve root causes of operational issues, enhancing overall bottling performance
- Collected and analyzed data to investigate the root cause and find countermeasures

## CERTIFICATES

- Lean Practitioner Certification by E. J. Gallo Winery
- Studio 5000 Logix Designer Level 1: ControlLogix System Fundamentals
- Studio 5000 Logix Designer Level 2: Basic Ladder Logic Programming
- Project Management Fundamentals by International Institute for Learning

## **SKILLS**

**Software:** Python, MATLAB

**Program Logic Controller (PLC):** Rockwell & Allen Bradley, Beckhoff (Twin CAT) , and Siemens (TIA Portal)

**Mechanical Software:** SolidWorks

**Soft Skills:** LEAN Manufacturing (**Green Belt from Gallo**), Data Analytics, Manufacturing, Budgeting, Financial Analysis, Operation Management