

BRANDON VILLANUEVA

Moorpark, CA 93021 | 661-542-1419 | bv7656@gmail.com

Objective

Seeking internship/job with mechanical engineering design and fabrication work. Willing to relocate.

Education

Rensselaer Polytechnic Institute - Troy, NY

Started in 08/2022

Bachelor of Science: Mechanical Engineering

Expected in 05/2026

Oaks Christian School - Westlake Village, CA

High School Diploma (Institute of Engineering, with Honors)

05/2022

Certifications

HAAS

- CNC 3-axis Mill Training - July 2021

GD&T

- Geometric Dimensioning and Tolerancing certification through Hudson Valley Community College

Skills

- Solidworks 3D CAD
- Siemens NX 3D CAD
- Autocad Fusion/Inventor 3D CAD
- CNC G-Code
- Machine shop/fabrication skills
- Finite Element Analysis
- GD&T and Technical Drawings
- Public Speaking
- Production Management
- Manufacturing Process Improvement
- Project Management
- Team Leader

Experience

Manufacturing Engineer -- Mainstream Engineering

5/2023 to Current

- Project Manager for a new Rotoline and post-processing facility
 - Design production layout and identify and design necessary construction additions for a new facility
 - Coordinate sub-contractor construction efforts and manufacturing machinery to complete project on-time
- Improve existing production capabilities to scale up to demand
- Design, fabricate, and implement unique fixturing and assembly machinery to improve throughput
- Manage daily production to meet bi-weekly export deadlines
- Create detailed CAD models for production facilities to make data-supported production layout decisions

Chassis Team Lead -- Rensselaer Motorsport Team – Troy, NY

12/2022 to 5/2023

- Design many parts using Siemens NX such as chassis tubes and custom mounting hardware for every part on the car
- Fabricate specialized chassis components in a machine shop
- Write CNC toolpaths and run HAAS Mill for various precision components I designed using Fusion 360
- Direct subsystem team operations

Shop Fabricator and Research Assistant -- Rensselaer Polytechnic Institute – Troy, NY

10/2022 to 5/2023

- Design and fabricate solutions for graduate and PhD students on multiple research projects
- Use of Solidworks to design components and Fusion 360 to write CNC toolpath
- Run CNC and manual machine shop (HAAS TM-2 Mill and TL-1 Lathe)
- Collaborate and communicate effectively in a team environment by offering design consultation to colleagues

Welder -- Eckhart Trailer Hitches and Welding, Inc – Thousand Oaks, CA

06/2021 to 11/2021

- Trained to professionally MIG weld
- Fabricate trailer hitches for all types of vehicles from scratch
- Learned real-life mechanics of applied loads and custom support structure design by hand without CAD

Sheet Metal Fabricator -- Nite Lite Signs – Valencia, CA

05/2021 to 08/2021

- Worked full-time using sheet metal fabrication machines such as large benders, shears, saws, grinders, and routers to create large custom commercial signs
- Learned the importance of saving cost wherever possible in the design process

Senior Capstone Project -- Oaks Christian School – Westlake Village, CA

09/2021 to 05/2022

- Performed FEA to design an optimized bridge structure with Fusion 360
- Wrote toolpath to mill on HAAS TM-1p CNC Mill with NCSimul and Fusion 360
- Force-tested bridge to compare deflection with model prediction
- Created training videos for successive students to operate the mill by explaining setup and operation

Construction Plumbing -- RAVCO – Oxnard, CA

Seasonally from 2016

- Run pipe machines, cut, join, and solder pipe, use hand/power tools, jackhammers, and various other tools
- Learned to read industry-standard building plans
- Worked summers and weekends during school years, now work when home