

Ethan Xiao-xin Rosentreter

MECHANICAL ENGINEER

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Profile

Mechanical Design	CATIA V5, Solidworks, Fusion 360, manufacturability, adhesives, fixtures, GD&T
Engineering Tools	FEA in Abaqus and CATIA, CFD in Ansys CFX, kinematic simulations, Matlab
Prototyping	Waterjet, 3D printed SLA and FDM parts, CNC milling, laser cutting
Theory	Mechanics, materials, composites, fatigue, plastics, heat transfer, thermodynamics
Self-Direction	Strong initiative to learn, solve problems and ask questions

Relevant Experience

Tesla

Los Angeles, CA

INTERN, NEW PROGRAMS ENGINEERING

January - April 2018

- Designed and fabricated first prototype for precision sensor mount to measure aerodynamic performance of vehicles. Optimized using FEA and kinematics simulations in CATIA V5.
- Developed efficient fabrication and fixturing process for future mounts using waterjet aluminum, 3D printed plastics, and CNC milled foam. 3D scans confirmed positional accuracy was within 3 mm.
- Coordinated machining, assembly and shipment of over \$100,000 of urgently needed manufacturing equipment under tight time and constraints with speed and accuracy.
- Prototyped pneumatic lift system and switch panel for critical battery pack manufacturing line, prioritizing reliability and operator safety. System put into production across 16, full-time lines.

Tesla

Palo Alto, CA

INTERN, BODY IN WHITE DESIGN

September - December 2017

- Improved accuracy of test procedures to finish validation of new weld wire, and oversaw all steps of tensile weld testing. Successful validation resulted in a \$23 cost down per vehicle.
- Designed sheet metal mount for “E-Call” system, under manufacturing, crash safety, ergonomic and packaging constraints. FEA, weld access studies, and cost analysis conducted to assess the design against competing options.
- Root-caused a source of water ingress by studying sealant application on manufacturing line, and applying water activated ink. Flange modification of a body panel solved the issue.

Tesla

Fremont, CA

INTERN, BODY IN WHITE MANUFACTURING

May - August 2017

- Championed the compilation, improvement and distribution of a master list of daily tasks, ranked by importance and available manpower, for all BIW manufacturing lines during critical installation phase.
- Ran daily meeting between lead engineers and contractors under intense time pressure.

Education

University of Waterloo

Ontario, Canada

B.A.SC. IN MECHANICAL ENGINEERING

September 2013 - June 2019

- Top of Class - Ranked 1st or 2nd in class every semester studied.
- Capstone Project - Conceptualized, designed and prototyped “Counter Culture” Essential Oil Extractor. Nominated for best engineering effort and others. Project accepted into Canada’s largest start-up incubator Velocity.
- President’s Scholarship of Distinction and others for academic performance.

Interests

I am an avid snowboarder and surfer, ex-vegetarian, and self-proclaimed minimalist. I love Chinese tea, good beer, and can also speak a little bit of Mandarin. My pet projects include a self-hosted movie server and a photo journal.