

# Owen Farmer

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## Education

**College of Engineering - University of California, Berkeley**

December 2021

B.S. Mechanical Engineering

GPA: 3.4/4.0

**Coursework:** Manufacturing and Tolerancing (Reader), Rapid Prototyping, Design for Manufacturing, Human Inspired Design, Biomaterials, Manufacturing Improvement, Experimentation & Measurements, Mechanics of Materials, Statics, Fluids, Heat Transfer

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## Work Experience

**Nokia**, Mechanical Design Engineer

January 2023 - Current

- Concept and design die cast/machined metal, sheet metal, plastic, & PCB parts in customer-facing telecom radios
- Prototype sheet metal enclosures, aluminum mounting brackets, clamping fixtures for assembly line & internal lab radio testing
- Perform FEA, topology optimization, tolerance analysis, and 2D drawings & 3D models to communicate with overseas vendors

**Facebook**, Mechanical Engineering Intern, Server Hardware

June 2021 - September 2021

- Designed new server tray supporting add-in cards, creating sheet metal structure/supports, plastic baffles, die cast latches/handles
- Performed tolerance analysis to determine spacing between parts on PCB and between key locating features at tray and rack level
- Optimized part geometry and their placement to allow for maximum airflow through tray, making tray 12% more energy efficient

**Apple**, Product Design Intern, Audio Products

February 2021 - June 2021

- Performed tolerance analysis on plastic case and cosmetic/acoustic meshes, conducted failure analysis with global manufacturers to root cause mesh gap and step issues, and developed mesh measurement fixtures
- Created system level CAD model for FEA drop simulation, creating glue/solder bodies and simplified module representations

**Tesla Motors**, Quality Engineering Intern, Body in White

January 2020 - April 2020

- Led studies with trial parts for dimensional improvement, using CMM data to identify and correct variations in framing stations
- Conducted failure analysis to root cause vendor quality issues and released drawing changes to dimensionally control key features
- Recertified and tuned fixtures to solve quality issues, creating documentation to coordinate changes between production shifts
- Redesigned metal datum pins using NAAMS Standards to engage in 2-way holes in framing stations, solving interference issues

**UC Berkeley Machine Shop**, Technician

August 2018 - March 2020

- Completed prototyping part requests from the campus community & advised on appropriate tools to use for student projects
  - Taught the lathe section of the new student machine shop training, and performed equipment maintenance
  - Cleaned shop and created organizational solutions (dustpan wall mounts, tool compartments, tool checkout system etc.)
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## Projects

**Unicycle Frames and Accessories**, Fabricator

December 2021 - Current

- Started my own side business of creating high-end custom mountain/street unicycles and unicycle related accessories
- Design, CAD, perform FEA analysis, machine, notch, TIG weld, and test each frame per customers' needs/requests, making them compatible with specific unicycle/bike parts that I recommend based on riding style and preference
- Create clamping/aligning fixtures for frames and parts during machining, notching, and welding processes

**Human Powered Vehicle Team Lead**

September 2017 - January 2021

- Led a team of 15 to design, manufacture, prototype, and test a human powered vehicle capable of travel at 60 mph
- Cut, bent, and welded aluminum/steel tubing, created CAD models/gcode and CNC'd various parts on the bike, created carbon layups for composite parts, assembled/sourced off the shelf bike components to use for our vehicle

**Internally Geared Automatic Bike Hub**, College Senior Project

August 2021 - December 2021

- Designed a bike hub that switches from an internal 1:1 drive and 4:3 internally geared drive based on the pedaling cadence
  - Machined all parts myself, including waterjet gears, lathed housings/axles/bushings, and milled drivetrain components
  - Created CAD models for all parts and 2D technical drawings for reference while machining parts
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## Skills and Interests

**Software:** Creo (passed Associate Certification Exam 2023), SolidWorks, NX, AutoCAD, ANSYS, Fusion 360, MATLAB, MS Office

**Manufacturing Skills:** Machining, TIG Welding, Sheet Metal, Die Casting, GD&T/2D Drawings, Plastics, 3D Printing, Laser Cutting

**Interests:** Unicycling (World Record Holder, 3x North American Champion), Downhill Longboarding, Snowboarding, Surfing