

Andrew R. Noble

(907) 351-0739 | aknoble.andrew@gmail.com | [Linkedin](#) | [Github](#)

EXPERIENCE

Field Robotics Engineer, Tortuga AgTech — Denver, California, England, Oct 2021 - April 2023

- At Tortuga, I developed robots that help growers tend to strawberries and table grapes
- Robotics R&D
 - Developed ultraviolet treatment system, allowing company to offer a new chemical-free fungicide service just ahead of the series B fundraise. This work is now being incorporated into a patent ([video](#)).
 - Developed a fail-safe UV bulb test stand through 6 iterations, allowing firmware team to iterate safely around hazardous hardware in the lab
 - Designed PCBA and accompanying ROS2 node in python (running on a Nvidia Jetson Nano) that seamlessly performs a diagnostic routine on robot end-effector units, saving 45 mins of technician troubleshoot time
 - Determined root cause for a fleet-wide slip ring communication instability, deployed stopgap mitigation that allowed a 50-robot fleet to harvest record volumes (3x 800 kg/day) in Fall 2022
 - Conducted numerous in-field software tests (releases, features, A/B), interpreted and reported the resulting data to the software team
- Operations
 - Extensive robot troubleshooting, bring-up, and repair through entire tech stack
 - *Mechanical*: cable pinch damage, bent arms, motor replacements
 - *Electrical*: faulty PCB's, unreliable connections, ground shorts
 - *Software*: miscalibrated cameras and sensors, misconfigured software
 - Managed California farm site for 9-week period, maintaining unprecedented 3x/week harvest rate and 80%+ fleet health
 - Developed formal work instructions and flows for next-gen robot production (100's/year)
 - Developed fleet baselining checklist and dozens of repair SOPs, increasing robot availability
 - Trained employees on robot diagnosis & repair, new software features

Field Robotics Engineer Intern, Tortuga AgTech — Santa Maria, CA, Summer 2020

- Solo electrical, software, and mechanical diagnosis and repair of prototype robots
- Coordinated harvest operations with grower customer
- Conducted software release and feature tests, communicated results to Denver SWE's

Mechanical Engineering Intern, Coffman Engineers — Anchorage, AK, Summer 2019

- Developed pipeline loading estimates based on environmental conditions on AK's north slope
- Made pipeline support designs using AutoCAD and AutoPipe
- Made excel calculator to enable estimation of heat transfer losses from pipelines
- Identified occupational hazards in the early stages of a liquified natural gas plant

EDUCATION

Bachelor of Science in Mechanical Engineering (Mechatronics), California Polytechnic State Univ., SLO — 2021

- GPA: 3.8

Web Development, Udemy — 2024

PROJECTS — see github

[Subsea Coral Sample Container](#)

- BSME capstone project. Rotary specimen container for an oceanic research non-profit doing deep sea submarine exploration

Projects with an NXP HCS12 microcontroller

- A PI motor controller + LCD + keypad program written in assembly using cooperative multitasking
- Function generator using a 10-pin, 12V DAC written in assembly

Hot Dice Scoreboard

- A react app for managing and displaying score during a tabletop dice game called hot dice

Book notes + quotes

- Javascript CRUD apps to manage interesting ideas I come across. React, Express, PostgreSQL

Spotify Player

- A javascript app that uses the authenticated spotify API for music playback

SKILLS

Software

- Linux
- Web dev: HTML, CSS, Javascript, React
- Python: matplotlib, numpy
- Source control: git, github
- CI/CD: github actions
- SQL: PostgreSQL

Manufacturing & Repair

- Drilling, tapping, heli-coil repairs
- Soldering, crimping
- Reading electrical schematics
- Multimeter usage

Hardware

- CAD: OnShape, Solidworks, Circuitmaker
- 3D printing
- Prototyping with 80/20 aluminum
- Oscilloscope usage

OTHER WORK EXPERIENCE

Sales Specialist, REI — Anchorage, AK 2024

- A part time job while I studied programming in preparation for my next engineering career move

Fish Technician, Alaska Department of Fish and Game — Dillingham, AK, Summer 2019

- Collected age, sex, length, species and quantity data on Bristol Bay salmon at two different remote field sites using sonar and live sampling

MORE ABOUT ME

I was born and raised in Alaska, and love spending time outside— I hiked the Pacific Crest Trail in 2021! My other interests include woodworking, sewing, cooking, welding, writing, philosophy and literature.