ENOSH REEDER

Mechatronics and aerospace engineer with extensive CAD & prototyping experience. Currently implementing metrology for solid-state lithium batteries. Previously developed cargo robotics for an autonomous electric last-mile delivery vehicle and built an aerial Wide Area Motion Imaging system.

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San Francisco Bay Area, CA

TECHNICAL SKILLS:

Design: SolidWorks CAD/CAM/FEA/PDM | Autodesk Fusion 360/Inventor/HSM | Alibre CAD/CAM

Software: Python | C++ | MATLAB | SQL | LabView | Star-CCM+ CFD | Linux | Arduino | G-Code | Simplify3D | Eiger.io | Microsoft Word / Excel / PowerPoint |

Machining: CNC Lathe / Mill / Router | Waterjet | Sander | Laser-Cutter | Band / Table / Jig Saw

Fabrication: Carbon Fiber & Fiberglass Composite Prepreg & Wet Layups / Tooling / Mold Making | FFF / FDM / SLA / 3D Printing | Soldering | MIG / SMA Welding | Sand / Lost Casting | Oxyacetylene Cutting | Brazing | Powder / Gel / Surface Coating | PCB & Cable Harnesses

DFM/DFA: Plastic Injection Molding | Aluminum Extrusions | Sheet Metal | CNC | EDM

Languages: Native English | Fluent in Mandarin Chinese | Intermediate Spanish

Certificates: FAA Registered Remote Pilot (SUAS) | ASME Y14.5 – 2018 GD&T

ENGINEERING EXPERIENCE:

Metrology Engineer — QuantumScape | *San Jose, CA* *Aug 2023 – current*

- Designed and installed optical linescan inspection systems and web cleaners in a clean room environment for solid-state lithium battery separators
- Analyzed X-ray basis weight gauge data in python and compared with data from a Keyence laser profiler and 3D microscope to evaluate sensor for new production line
- Wrote SQL scripts to parse data from linescan inspection system and create log files

Senior Mechatronics Engineer — Udelv | *Burlingame, CA* *Sep 2021 – Jul 2023*

- Designed, built, and tested the uPod, a 4000lb & 340ft^3 modular robotic cargo storage platform for an autonomous electric delivery vehicle
- Created a modular cargo door and shelving system, structure, electronics and sensor housings, and mechanisms to optimize cargo capacity and cost
- Determined and resolved areas of high friction on the cargo door system by analyzing oscilloscope data with python scripts
- Researched materials and additives to achieve a product lifetime of millions of cycles

Mechatronics Engineer — Transparent Sky | *Albuquerque, NM* *Jul 2020 – Sep 2021*

- Prototyped a modular aircraft-mounted gigapixel-class Wide Area Motion Imaging (WAMI) system enclosed in an aerodynamic composite pod
- Recruited & mentored interns and junior engineers for design & manufacturing roles

NSF Research Internship | *UC San Diego Bio-Inspired Robotics and Design Lab* *Jun 2019 – Aug 2019*

- Designed everting soft robotics mechanisms for computer vision on an ROV for coral reef mapping and created point clouds with photogrammetry tools

EDUCATION:

California Polytechnic State University (Cal Poly) | *San Luis Obispo, CA* Sep *2017 – Jul 2020*

B.S AEROSPACE ENGINEERING, AERONAUTICS CONCENTRATION