Robin Wang

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EDUCATION

University of California, San Diego
B.S. Computer Engineering (in progress)   Expected Grad. Feb 2025

RELEVANT EXPERIENCE (Website)

Qualcomm Institute Printable Robotics Research Engineering Assistant   **Aug. 2021 – Feb 2025**
UCSD CHEI/DroneLab
- **Shallow water surveying vehicle:** Designed and constructed 3D printed modular USV platforms for autonomous shallow water surveying. Designed custom wiring harness with waterproof bulkheads, PCBs, and hull optimized for FDM manufacturing. Pending first author publication in MDPI journal (2.5 impact factor).
- **Aerial Survey Drone Pilot:** responsible for flying commercial multirotors with camera/lidar/hyperspectral sensor payloads for post disaster survey. Collaboration with AlertCalifornia.
- **Cultural Heritage Prop Fabrication:** Fabricated various props for art/museum exhibits using CNC milling, multi-material finishing, and large-scale 3D printing.

PERSONAL PROJECTS

PotatoDB – Barcode Based Room Inventory System   **Sep. 2024 - Present**
- Designed and implemented a local hierarchical database with nested storage tracking
- Streamlined with user friendly front end, integrated thermal printer support, and setting changes via barcode scan
- Implement recursive search algorithm to trace item-to-room path for efficient location retrieval of deeply nested item

Fixed Wing Survey UAV (MFE Believer)   **Apr. 2024 – Feb 2025**
- Planned and assembled all hardware/electrical components such as propulsion and controls
- Constructed custom lightweight wiring layout, implemented/tuned ArduPilot firmware for surveying
- Optimizations allow 1+ hour endurance during autonomous mapping missions

Solar Ebike   **Jun. 2023 - Present**
- Built dual motor ebike with mid drive for hill climbing and regen capable hub motor via VESC and dual throttles
- Tows a 350w solar array sending power via MPPT controller into common port Li-ion battery (usable while moving)
- Custom wiring harness and separate high/low voltage waterproof frame boxes with quick release connectors

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TEAM PROJECT

Yonder Dynamics   **Jun. 2021 – Aug. 2024**
Electrical Co-Lead
- Developed various custom PCBs for mars rover intended for University Rover Challenge
- Lead drone team to construct an autonomous fixed wing signal repeater aircraft capable of 1 hr flights
- Focused on training new members and cleaning up electrical documentations
- Currently working on a long endurance helicopter UAV for next year's competition

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SKILLS

- **Software:** C/C++, Java, Python, Assembly, Blender, Marlin, Reprap, ArduPilot, ExpressLRS
- **Hardware:** Computer Aided Design (CAD): Fusion360, SolidWorks, Onshape, Cura, OrcaSlicer, CNC, welding
- **Electrical:** Altium 365, PCB design/manufacturing, electrical troubleshooting, soldering
- **Arduino/Rasp Pi:** General robotics control systems and integration primarily for vehicles
- **RC Systems:** Extensive experience with RC scale vehicles, FPV, and related hardware/software

Certificates
- Part 107 remote pilot license, Class B CDL