DYLAN SHACKELFORD
MECHANICAL ENGINEER

CONTACT
djshackx@gmail.com
(619) 379-8959
San Diego, CA
github.com/dshackelford

EDUCATION
Bachelor of Science,
Mechanical Engineering
*University of California,
Santa Barbara*
2013 - 2017
Santa Barbara, CA

SKILLS
Swift/Objc
Kotlin/Java
Python
SQL, SQLite
AWS/S3
PHP
Arduino/Raspberry Pi
Git
Source Tree/Gitea
— — — — —
SolidWorks
AutoCAD
FreeCAD
Matlab
Octave

HANDS ON
CircleSaw
DrillPress
Tap & Die
Soldering
Lathe
Push Broom

LICENSES
FAA Part 107 Remote Pilot

WORK EXPERIENCE

Drone Lead
Change Aerial
2025 - Current (San Diego)
- Created system for generating Repeats Station Images (RSI) waypoints based off initially flown data set.
- Route optimization algorithms for "Repeat Stations" of utility inspections.
- Flight exporter tool for DJI Drones
- Helped implement an Image Registration data set tool for model training.

Design Engineer
Drones Made Easy
2017 - Current (San Diego, CA)
- Design mounting brackets for DJI Drones to hold custom cameras.
- Used 3D Printer for rapid and iterative design improvement.
- Generated technical drawings for machine shops to get designs produced in a variety of materials and finishes (aluminum, carbon fiber, plastics).
- Managed the processes of assembling mapping rig bundles with custom designed calibration plates.
- Tested designs in real flight scenarios.
- Worked with Sony's Agricultural team to develop mounting brackets for their Multispectral platform on multiple DJI Drones.

Android/iOS Lead Software Engineer (Swift/Kotlin)
Drones Made Easy
2017 - Current (San Diego, CA)
- Lead developer of Map Pilot Pro for both Android and iOS
- Hundreds of flights per day, multiple thousands of subscribers, with maps created on every continent
- Implemented Key features:
  - Terrain Awareness - generated elevation profiles for drone to maintain constant elevation over the ground.
  - Quick Map Stitching - allowing on-device stitching of photos immediately after mission completion.
- Developed User Login and Subscription functionality, managing user information and access levels.
- Facilitated data transfer using AWS Services to sync user flight data (CSVs, KMLs, JSON, JPEGs) between devices and website.
- Used Test Driven Design methodologies with Unit Tests
- Managed requests through JSON RESTful APIs, ensuring seamless communication between app and server.
- Supported multiple Drone SDKs including DJI, Autel, & Parrot, to extend application compatibility.

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Freelance Design Engineer
Mutable Campers
2020 - Current (San Diego, CA)
- Developing a custom "camper canopy" out of 8020 aluminum and sheet metal to fit onto a truck bed
- Designed SheetMetal parts and rail assemblies in FreeCAD
- Ran tolerance geometry solutions in Octave

Systems Lead
NOAA Radar Station - USCB Capstone Project
2016 - 2017 (Santa Barbara, CA)
- Managed team of 5 to meet design requirements and deadlines.
- Worked with NOAA officials on campus to install a Radar station at Campus Point to help monitor fishing vessel traffic in the ocean.
- Found components for sale that could be easily purchased again for future installments (Telescoping tower, batteries…)
- Developed a Battery Management system in python to help provide readings of battery health on a website when the system would be deployed in remote locations on the Channel Islands.

Shop Assistant
Southern California Vintage Trailer
Summers 2014 - 2017 (San Diego, CA)
- Restored vintage Airstream trailers for clients
- Riveted aluminum cover skins and sand blasted rusted parts
- Ran electrical lines to appliances
- Cleaned the shop