# LANDON SWARTZ

## Software and Vision Engineer

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## EXPERIENCE

### American Outdoor Brands

**Electronics Engineer**

May 2024 – Ongoing | Columbia, MO

- Engineered under an accelerated schedule a precision automated scale called the Intellidropper 2.0 that is projected for over $1,000,000 in 12 month sales and app functionality over BLE
- Designed a digital signal processing pipeline for a high-precision Doppler radar for measuring velocities of projectiles from 200 to 5000 ft/sec in real-time on a micro-controller

### Computational Imaging and VisAnalysis Lab

**Aerial Imagery and Reconstruction**

Jan 2023 – May 2024 | University of Missouri

- Contributed to a team dedicated to enhancing defense surveillance through efficient city-scale reconstruction, utilizing handcrafted and deep learning methods
- Mentored an interdisciplinary team of 6 biologists and engineers for collaborative data engineering projects that resulted in 3 published scientific articles

## PROJECTS OF INTEREST

### Intellidropper 2.0

**American Outdoor Brands**

May 2024 - February 2025 | Columbia, MO

- Championed the design and implementation of firmware for operating a precision scale and dispensing system utilizing a stepper motor for quiet operation and 24-bit ADC for high resolution weight readings

### Real-Time Doppler Velocity Estimation

**American Outdoor Brands**

December 2024 - Present | Columbia, MO

- Drove the development of a real time processing pipeline for continuous wave radar on a resource-constrained micro controller that identifies, processes, and reports results to the user autonomously
- Created simulated testing framework to reproduce field test results for in-house performance evaluations of algorithm on target hardware

### GPU-Accelerated Harris Corner Detector

**Computational Imaging and VisAnalysis Lab**

Spring 2024 | Columbia, MO

- Implemented the Harris Corner Detector in C++ using CUDA primitives and libraries that accelerated the processing of large aerial images
- Performed distributed testing on multiple datasets using the NSF-funded National Research Platform Nautilus and Kubernetes

## EDUCATION

### M.Sc. in Computer Science

**University of Missouri**

Jan 2023 - May 2024

- Focus: Computer Vision
- GPA: 3.62/4.00
- Relevant Coursework: Deep Learning, Advanced Image Processing, Computer Vision, Parallel Hardware & Distributed Systems, Unsupervised Learning, Neural Networks

### B.Sc. in Computer Engineering

**University of Missouri**

Aug 2018 - May 2022

- Minors in Biological Sciences and Mathematics
- Honors College Certificate
- GPA: 3.69/4.00
- Relevant Coursework: Circuit Theory, Real-Time Embedded Systems, Architectural Robotics

## KEY ACCOMPLISHMENTS

**Intellidropper 2.0**
Taking over a delayed project and bringing it back on schedule for release in the winter of 2025

**OPEN Leaf Publication**
Being one of 12 monthly cover stories when published to *The Plant Journal*, where the total acceptance rate is only 28%

## TECHNICAL SKILLS

Six Sigma | 3D Graphics | Image Processing | Embedded Systems | PCB Design | Computer Vision | Digital Signal Processing

C/C++ | CUDA | OpenCV | Python | Kubernetes | Pytorch | CI/CD | Git | Altium | FreeRTOS

## SOFT SKILLS

Honest | Adaptable | Collaborative Leader | Flexible Lea | Strong Writer | Time Management