



WattWashers

Where Clean Equals Kilowatts!

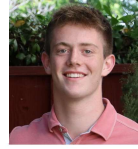
Meet the Prototype:
Wattson



Meet the Team!



Christian Webber



Andrew LaVay



Alonso Valenzuela



Garrett Baum



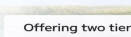
Peyton Henley

Business Analysis

Growing Demand for Solar Panel Cleaning



Increasing Panel Installations



Offering two tiers of drones to serve different customer needs.

First Tier: Wattson 5000 2.0

- AI-integrated autonomous drone
- Detects and cleans Dirty solar panels on its own.

\$5,999
Purchase



Second Tier: Wattson 5000

- Manually controlled Drone for owners to clean their own solar panels.

\$3,499
Purchase



Cleaner

RESTORES AND MAINTAINS SOLAR PANEL EFFICIENCY
Effectively cleans and protects your solar panels for maximum energy efficiency.



- 1 Mix with water
- 2 Fill container
- 3 Spray panels

Both drones can be started up by the owner



Weekly Cleaning Subscription

- Up to 20 panels **\$299/month**
- 21-35 panels **\$399/month**
- 36-60 panels **\$599/month**

Pricing

Wattson 5000	\$3,499
Wattson 5000 2.0	\$5,999
Optional Setup/onboarding	\$249

Weekly Cleaning Subscription	
• Up to 20 panels	\$299/month
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• 36-60 panels	\$599/month

AI Implementation for Autonomous Solar Panel Cleaning



<h4>1 Camera Input</h4> <p>Live video feed from onboard Camera</p>	<h4>2 Detection</h4> <p>Uses YOLOv8 to detect and locate solar panels</p>	<h4>3 Cropping</h4> <p>Extracts the panel region for Analysis</p>	<h4>4 Classification</h4> <p>Classifies panel cleanliness</p>	<h4>5 Decision</h4> <p>Triggers action based on results</p>
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TRAINING APPROACH

- ~3,000 - 4,000 LABELED IMAGES**
- Dataset Includes:**
 - Dust
 - Debris
 - Cracks
 - Clean Panels
- Train / Validation / Test Split** for reliable evaluation
- Local Training Environment** Python, VS Code, and custom scripts
- Iterative Training** Tuned for accuracy and reduced overfitting

MODEL ARCHITECTURE

- YOLOv8 (Ultralytics)**
 - Detects solar panels
 - Filters out non-panel scenes
- CNN (Convolutional Neural Network)**
 - Classifies panel cleanliness
 - Outputs: Clean or Dirty
- Optimized for Edge Deployment**
 - Lightweight and efficient
 - Designed for real-time inference on onboard hardware

SYSTEM INTEGRATION

On Board Computing No cloud required	Processes Live Camera Feed Frame-by-frame, real-time analysis	Real-Time Decision Making Controls the cleaning mechanism	CONTROL LOGIC <ul style="list-style-type: none"> DIRTY? Activate Mist Cleaning CLEAN? No Action Needed
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