About Rose City Robotics

Build inspection from CAD. Software-first quality control for high-mix manufacturing.

Rose City Robotics is a Portland-based machine vision lab led by **Joseph Cole, PhD**. We help factories catch defects earlier, reduce scrap, and keep inspection stable—even when parts and finishes change. Our product, **RoseVision CAD Studio**, trains directly from your design files and deploys on your edge hardware.

What we do (in plain engineering terms)

We convert your CAD/STEP into deployable inspection logic. No brittle threshold rules. No waiting for a big dataset of bad parts. Pass/fail + defect localization outputs integrate to your PLC, robot, or HMI.

- **CAD → inspection model**
- **Jetson-friendly on-prem deployment (Orin Nano/NX) or x86**
- **Works with off-the-shelf USB3 cameras (e.g., FLIR, IDS)**

> If your CAD defines what “good” looks like, your QA should start there—not after scrap shows up.

How it works

1) Send CAD and context
Share a STEP file and the inspection context (camera placement, cycle time, lighting constraints, reject rules). We align to how your station actually runs.

2) Simulate, define, and validate
RoseVision CAD Studio builds the inspection zones and defect checks from geometry. You review in a CAD viewer, confirm tolerances/acceptance criteria, and we run feasibility to ensure cycle-time fit.

3) Deploy on your line
We package a production-ready model to your Jetson Orin Nano/NX or x86 box. Outputs are simple: pass/fail, defect class, location. Your integrator ties it into PLCs/robots/HMIs. When the part revision changes, update CAD → regenerate logic.

Why factories choose Rose City Robotics

- **Catch defects before first shot.** Build inspection before tooling is finalized to avoid post-paint surprises.
- **High-mix friendly.** CAD-driven logic adapts across variants without weeks of re-tuning.
- **Keep your cameras.** Upgrade inspection logic, not your entire station.

- **Real support from engineers.** Built and supported by people who ship to factory floors—not demo teams.

Where it fits best

- **Injection molding & plastic enclosures:** flash, sink marks, short shots, surface blemishes.
- **Die casting & machined housings:** porosity indications, inclusions, missing features.
- **Stamped & formed sheet metal:** warping, incomplete features, cosmetic damage.

Launch scenarios: new mold/tool introductions, replacing brittle rule-based QA stations, or bringing first-article inspection forward in the process.

Hardware & integration

- **Edge compute:** NVIDIA Jetson Orin Nano / Orin NX, or x86 industrial PCs.
- **Cameras:** USB3 (FLIR, IDS) and compatible industrial units.
- **Outputs:** pass/fail + defect class + location; integrable with PLCs, HMIs, and robot pick/segregate routines.
- **Environment:** built for production variance and real-world lighting.

Built by engineers, led by Joseph Cole, PhD

Joseph has spent 20 years shipping machine vision and signal-processing systems into real production environments—semiconductor inspection, ultrasound imaging, and factory automation. He founded Rose City Robotics to make QA behave like good tooling: defined, repeatable, and adaptable.

How to get started

Feasibility Sprint
Ship a STEP file and a short video/photo of the inspection setup. We return a model preview, cycle-time check, and deployment plan. If it meets your requirements, we finalize station integration with your team or preferred integrator.

Factory License / On-Prem
For plants standardizing across lines, we provide on-prem deployments with unlimited builds and SLA support.

Next step: *Run your part through RoseVision.*

Partner-friendly

System integrators, camera vendors, and machine builders use RoseVision to de-risk vision on quotes and deliver stations that hold up in the field. Bundle our feasibility sprint or include RoseVision in your cell to reduce support calls and speed installs.

Contact

- **Engineering + Sales:** hello@rosecityrobotics.com
- **Location:** Portland, Oregon
- **Typical lead time:** Feasibility in days; deployment aligns to your station build.

Software-first QA. Built from your CAD. Deployed on your line.