

Mechanical Part Inspection Platform

AI-powered mechanical part inspection and quality management platform for manufacturing and engineering teams. Upload CAD files, run AI visual defect detection, perform dimensional inspections, and generate traceable PDF reports.

Key Features

- CAD file upload and parsing (STL, STEP, DXF) with 3D viewer
- AI visual defect detection using YOLOv8 with photo evidence
- Dimensional inspection with tolerance tracking per feature
- PDF inspection report generation with pass/fail traceability
- Real-time collaboration with multi-user WebSocket editing

Technology Stack

YOLOv8 AI

CAD Parser

FastAPI

React



Undetected mechanical defects reaching assembly →

AI-inspected with full dimensional traceability

Live Demo: <https://part-ok.vercel.app>

Tools to Nought Error — Engineering precision into every system.