

DANIEL DOERRFELD

CAD/CAM Expert · SolidWorks (CSWP) · Inventor · Fusion 360 · AutoCAD · CAMWorks · Python

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PROFILE

Mechanical design engineer and CAM programmer with 12 years of hands-on experience: Certified SolidWorks Professional, fluent in Autodesk Inventor, Fusion 360, and AutoCAD. Programs 3–4 axis milling and 4-axis wire EDM in CAMWorks (12 years), plus Inventor CAM and Fusion CAM. Sets up and troubleshoots CNC equipment and reviews customer drawings for manufacturability, process sequence, and cost. Builds and evaluates AI systems for manufacturing, scoring LLM output against DFM criteria before it is trusted. Writes precise SOPs, process specs, and rubrics; proficient in Python. Available 15–20 hrs/week, including evenings and weekends.

CORE COMPETENCIES

3D CAD Modeling & Production Drawings · GD&T (ASME Y14.5) · Design for Manufacturing · CAM Programming (3–4 Axis Mill, 4-Axis Wire EDM) · CNC Process & Setup Planning · Machining Cost Estimation · Rubric & Scorecard Design · LLM Output Evaluation · Technical Writing & SOPs · Python

EXPERIENCE

Variable Operations Technologies

Aug 2024 – Present

Operations Manager

ISO 9001:2015 contract machine shop (Haas mills and lathes, Sodick wire EDM); operations leadership plus hands-on design and CNC engineering.

- Model parts and fixtures in Inventor and SolidWorks, release GD&T drawings, and review customer models for manufacturability, setup sequence, and tolerance risk before quoting.
- Built Quotient, an LLM pipeline (Claude API plus drawing vision) that turns customer drawings into DFM gate reports, stock specs, setup sequences, and tiered pricing; defined the criteria each stage is scored against.
- Direct AI coding agents through phase-gated builds with scored acceptance reviews (e.g., an Inventor API tool generating shop-floor IDW drawings); built a Python vision pipeline that triaged a 220-drawing RFQ backlog.
- Diagnosed intermittent wire breakage on carbide EDM cuts (asymmetric thermal loading, collet-side flushing); rewrote parameters with a four-zone exit ramp for zero breaks at a 3:50 cycle.
- Authored a 165-row machine-tool capability reference, an Inventor Design Data SOP fixing a failed 2024-to-2025 upgrade, and a pneumatic machine schematic package with bench-test protocol.

Stintera

2025 – Present

Founder

- AI-assisted CNC quoting and routing for job shops, built on a proven shop estimating methodology (operations, setups, cycle time, stock, pricing).

616 Flatsticks LLC

Oct 2022 – Feb 2025

Founder & CEO

Custom CNC golf-club manufacturer, founded with a partner; ownership stake retained.

- Took the putter line from concept through 3D models, CAM toolpaths, and CNC production, with parametric configuration for made-to-order geometry.
- Mass-properties engineering: multi-port ballast putter (~395 g, interchangeable cartridge weights, Izz ≈ 8,500 g·cm²) with full technical drawings and MOI benchmarking.

Lion Tool and Die Co.

May 2014 – Jul 2024

Engineering Manager

- Led design of die-cast trim dies (parametric modeling, complex assemblies, GD&T detailing, release) and owned CAD and drawing standards.
- Adapted trim tooling for robotic automation: over half of programs incorporated automation and roughly a third ran in fully robotic cells.

TECHNICAL SKILLS

CAD & PDM: SolidWorks (CSWP) · Autodesk Inventor · Fusion 360 · AutoCAD · Autodesk Vault · iLogic · Inventor API

CAM & CNC: CAMWorks (3–4 Axis Mill, 4-Axis Wire EDM) · Inventor CAM · Fusion CAM · Haas Mill/Lathe · Sodick EDM

Code & AI: Python (pythonOCC, Vision) · VB.NET · Claude API · Claude Code · LLM Output Evaluation · Rubric Design

CERTIFICATION & EDUCATION

Certified SolidWorks Professional (CSWP) | B.S. Business Administration, minor in Accounting — Aquinas College, 2010