

Jyothish Sudhakaran

Mechanical Design | Manufacturing Methods | Estimation | Automation

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PROFESSIONAL SUMMARY

Estimation and Design Specialist and APEGA Engineer-in-Training with 6+ years of experience in custom manufacturing and mechanical design across aerospace, oil and gas, and product development. Connect RFQ and specification review with cost estimates, production tooling and manufacturing-ready documentation. Combine SolidWorks, GD&T and shop-floor problem-solving with CAD automation and planning tools to improve engineering release and production handoffs.

TECHNICAL CAPABILITIES

Design and tooling: SolidWorks, PDM, GD&T, tolerance stacks, datum and clamp design, fixtures, soft jaws, gauges and end-of-arm tooling.

Manufacturing methods: CNC machining, waterjet, sheet metal, fabrication, DFM, routings, BOMs, work instructions and shop-floor prove-outs.

Estimation: RFQ and specification review, process selection, setup and tooling costs, material planning, make/buy decisions and outside services.

Automation and quality: SolidWorks VBA/API, Excel automation, DXF/PDF exports, cut-list planning, nesting, NCR investigation and revision control.

SELECTED ENGINEERING ACHIEVEMENTS

- Designed and supported 89+ production and inspection fixtures in 2025, connecting locating and clamping decisions with drawings, BOMs and shop-floor implementation.
- Designed universal end-of-arm tooling for workpiece diameters from 0.5 to 6 inches, reducing the need for diameter-specific design and fabrication for the automation team.
- Created 20+ SolidWorks automation macros for batch assembly and drawing processing, including DXF organization by material/thickness and revision-aware drawing PDF exports.
- Developed an Excel nesting tool used by Design, Supply Chain and bandsaw operators to plan standard buy lengths and clarify cutting requirements.
- Created custom DXF nesting software used by the design and waterjet teams to improve material utilization and their nesting workflow.

PROFESSIONAL EXPERIENCE

Estimation and Design Specialist

GN Corporation Inc. | Calgary, AB | September 2026-Present

- Review RFQs, drawings, CAD models, BOMs, revisions and quality clauses to define quote scope, materials, special processes, inspection, certification and traceability needs.
- Build manufacturing plans and estimates covering raw material, CNC machining, waterjet and fabrication, setups, tooling, assembly, finishing, inspection, packaging and outside services.
- Evaluate machine access, setup strategy, GD&T and tolerance risk, stock availability, coatings and workholding before pricing; document technical questions and estimate assumptions.
- Translate awarded quotes into routings, BOM/material needs, process documentation, inspection steps and fixture requirements.
- Coordinate Purchasing, Quality, Production and external processors through estimating and engineering-to-production handoff.

PROFESSIONAL EXPERIENCE CONTINUED

Junior Mechanical Designer

GN Corporation Inc. | Calgary, AB | April 2024-August 2026

- Defined datum structures, locating and clamping strategies, tolerance requirements, GD&T drawings and BOMs.
- Collaborated with machinists, waterjet operators, Production and Quality during fixture prove-outs and revisions.
- Prepared process sheets, work instructions, routings and repeatable design-release conventions.
- Designed and supported 89+ production and inspection fixtures in 2025.
- Developed engineering automation for CAD, drawing release, export and manufacturing planning.

Assistant Lead - Engineering & Design

Protocase Inc. | Sydney, NS | October 2023-April 2024

- Reviewed drawings and methods documentation for manufacturability, completeness and standards adherence.
- Supported NCR root-cause investigations, procedure updates and corrective-action coordination with Production.
- Balanced urgent design requests with clear technical communication across Engineering, Estimating and Production.

Engineer & Design Team Member

Protocase Inc. | Sydney, NS | June 2021-October 2023

- Prepared production-ready drawing packages and technical notes with fabrication and machining teams.
- Interpreted customer requirements and supported estimating with scope clarification and process selection.
- Coordinated technical questions and revisions for urgent custom orders.

Design Engineer

Conveyortech Engineers | India | 2017-2018

- Designed conveyor subsystems and mechanical components; supported drawing release, design optimization and production planning.
- Standardized repeatable subassemblies for more consistent quoting and planning across similar builds.

SELECTED ENGINEERING PROJECTS

Assembly Part Search Tool: A SolidWorks VBA search and navigation tool for large assemblies, with ranked text matching and temporary visibility isolation.

Positive-Stop Vernier Gripper Calculator: A 2D CAD-style HTML calculator for selecting front/back gripping modes and positive-stop lock combinations.

CNC Machining-Time Calculator: A standalone browser calculator for operation-level machining time, setup, rates, quantity, and cost assumptions.

Fixture ROI Calculator: A browser and workbook calculator for comparing conventional and fixture-assisted workholding economics.

EDUCATION AND CREDENTIALS

Engineer-in-Training (E.I.T.): Association of Professional Engineers and Geoscientists of Alberta (APEGA)

B.Tech., Mechanical Engineering: Sree Buddha College of Engineering, Kerala University, India - 2018

Post-Baccalaureate Diploma, Supply Chain Management: Cape Breton University, Nova Scotia