CANNELLE BOCCO

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Motorized Product Test Engineer with mid-level manufacturing engineering experience in production testing, process optimization, and quality systems. Proven ability to design and execute validation protocols, drive continuous improvement initiatives, and collaborate cross-functionally with teams to resolve manufacturing challenges. Skilled in DFM/DFA principles, root cause analysis (FMEA, CAPA), materials testing, and production-scale manufacturing system engineering. Experienced in additive manufacturing strategy, creating scalable production plans and DfAM solutions that cut part costs and accelerated time-to-market. Fluent in French and English.

SKILLS

Production Engineering & Process Development

Processes & Fabrication : CNC Machining, Welding, Casting, Production-Scale Additive Manufacturing, Prototyping, Materials Testing (Tensile, Impact, Fatigue with Instron Equipment), Grinding, Laser Cutting, Soldering, Injection Molding, Deburring & Polishing, Powder Coating.

Optimization : Design for Manufacturing (DFM) & Assembly (DFA), Production Testing & Validation, Quality Assurance & Control, Root Cause Analysis (FMEA, CAPA), Continuous Improvement Initiatives, Technical Reporting & Documentation, Manufacturing Strategy & Supply Chain Coordination, Risk Management (PHA, SHA, FMEA), Statistical Analysis (T-Test, Tolerance Interval, ANOVA), Simulation-Based Design, Thermal Analysis, Stress Analysis.

Computer Aided Software

MATLAB, Simulink, SolidWorks, SolidWorks Simulation feature, Fusion 360, AutoCAD, Sharp 3D, Mechanical Graphics, Working Model 2D, Siemens Teamcenter, SPARX Systems Enterprise Architect, Innoslate.

Systems Engineering

Trade Study & Decision Analysis, Make/Buy & Process-Selection Analysis, Manufacturing Systems Integration, Cross-Functional Interface Coordination, Product Lifecycle Planning, Manufacturing Roadmap Development, System-Level Trade-off Evaluation (Cost/Manufacturability/Performance).

Programming
Python: Intermediate
MATLAB: Intermediate
Arduino: Intermediate

Certifications
SolidWorks Mechanical Design Associate (CSWAs) – Obtained
CSWP – Nearly done
OSHA Laboratory Safety – Nearly done

Project Management
Microsoft Suite/Office
Microsoft Project
Microsoft Planner
Jira Portfolio Management PPM
Notion

Languages
English: Full Professional proficiency
French: Fluent
Fongbe: Fluent
Spanish: Limited Proficiency

EMPLOYMENT HISTORY

MOTORIZED PRODUCT TEST ENGINEER

Shark Ninja LLC – Needham, MA — September 2025 – Present

- Design, execute, and document test protocols, aligning them with DQTPs, JIRA tracking, and motorized product requirement documents, which streamlines validation and speeds up release readiness
- Engineer and execute comprehensive test protocols for 9+ appliance SKUs supporting 4 concurrent product development programs, ensuring manufacturing readiness and production quality standards through rigorous functional and durability validation.
- Collaborate cross-functionally with Product Development, Quality, Compliance, and Manufacturing Engineering teams to resolve design and performance issues, accelerating problem resolution and supporting timely product launches.
- Lead root-cause investigations and develop corrective and preventive actions (CAPA) for failures observed during test cycles, reducing repeat failures and improving overall product reliability
- Design, fabricate, and maintain custom test fixtures and instrumentation setups, ensuring repeatable and reliable data acquisition for design validation and production acceptance testing.
- Author and maintain 14+ technical test reports aligned with DQTP requirements and JIRA tracking systems, translating complex test data into actionable engineering recommendations for manufacturing process improvements.
- Communicate findings through data reports, PowerPoint presentations, and team reviews, delivering clear recommendations that guides design iterations and validation efforts, helping reduce design rework.
- Champion continuous improvement initiatives by standardizing test procedures and optimizing laboratory workflows, increasing testing throughput and reducing cycle times.

ADDITIVE MANUFACTURING & LOGISTICS ENGINEER

OsiLab Prototype & Systems LLC - Boston, MA — June 2025 – August 2025

- Developed scalable manufacturing plans and supply chain strategies for multiple early-stage startups and established firms, integrating additive manufacturing workflows into production roadmaps to accelerate time-to-market.
- Provided design-for-additive-manufacturing (DfAM) consultation including tolerance optimization, material selection, and build orientation strategies to maximize part performance, minimize post-processing, and reduce production costs.
- Qualified and coordinated with vendors, suppliers, and 3D printing service bureaus to establish reliable supply chains, ensuring on-time material procurement and production capacity for client manufacturing requirements.
- Conducted design verification and validation studies, assessing material selection against performance and manufacturability requirements for client engineering programs.
- Created and maintained production documentation, supporting manufacturing execution and process consistency across client engagements.
- Initiated and managed client projects against program-management guidelines, coordinating scope, timeline, and deliverables.
- Conducted trade studies and make/buy analyses comparing additive versus traditional manufacturing approaches across cost, lead time, and performance, integrating findings into client production system architecture.

ADDITIVE MANUFACTURING TECHNICIAN

Douglas D. Schumann Library & Learning Commons – Boston, MA May 2023 – Apr 2025

• Operated and maintained a fleet of FDM 3D printers including Prusa Minis, Prusa i3 MK3S, MakerBot Replicator Z18, and Bambu Lab X1C, ensuring optimal uptime and print quality.

• Delivered three technical training workshops to students and faculty, simplifying complex additive manufacturing concepts and contributing to a 40% increase in successful print completions within three months.

• Developed a system for repurposing failed prints and filament waste, supplying sustainable materials for 10+ student engineering projects per semester while reducing lab material waste.

• Troubleshot slicing errors, printer malfunctions, and adhesion failures, improving turnaround time for print jobs and increasing lab. efficiency.

• Supported interdisciplinary teams with design for additive manufacturing (DfAM) feedback, helping users adapt CAD models for printability and structural integrity.

• Served as primary point of contact between students, faculty, and staff for print requests, coordinating equipment scheduling, budget approval, and material needs across the lab.

• Managed the full print job lifecycle from intake through delivery, overseeing inventory and supply planning alongside a recurring equipment maintenance schedule to sustain lab uptime.

EDUCATION

BACHELOR OF SCIENCES
MAJOR: MECHANICAL ENGINEERING

Wentworth Institute of Technology – Boston, MA

Relevant Coursework: Thermodynamics, Material Sciences, Scientific & Precision Instrumentations, Heat Transfer, Robotics, Machine Design, Data Analysis, Acoustics and Vibration. Minor: Chemistry

PROTOTYPE ENGINEERING CO- OP

FutureLabs – Boston, MA Jan 2023 – Apr 2023

• Led the full prototyping lifecycle of the LaneStop safety device, guiding a cross-functional team of 8 students from ideation through alpha prototype selection during Q1 reviews.

• Conducted design research and generated multiple innovative concept sketches, 2 of which were selected for further development due to their technical feasibility and end-user relevance.

• Produced detailed documentation and version tracking for all iterations, minimizing redundant design work and improving communication across development phases.

• Applied DFM principles and rapid prototyping techniques to accelerate validation cycles and reduce material waste.

MECHANICAL ENGINEERING CO-OP

Wentworth Institute of Technology – Boston, MA Sept 2023 – Dec 2023

• Modeled and analyzed mechanical component behavior using MATLAB and SolidWorks Simulation, generating data-driven insights that informed iterative design improvements.

• Conducted preliminary topology optimization research, integrating findings into mechanical part redesigns to improve material efficiency and structural performance.

• Created and delivered technical presentations to both engineering faculty and non-technical audiences, effectively translating complex concepts into actionable outcomes.

• Participated in campus industry events and engineering showcases, engaging with professionals to gather feedback and align academic projects with real-world applications.

PROJECTS

Automated Gearbox Assembly – *Design of Machine Elements Course Project*

• Designed an automated gearbox system in SolidWorks with a 97% system reliability rate, integrating mechanical elements and performing FEA stress analysis to optimize key components.

• Delivered detailed engineering drawings, exploded views, and motion simulations for final presentation and peer review.

Robotic Arm with Feedback Control – *Robotics and Automation Lab Project*

• Developed a robotic arm using Python-based control algorithms and motion sensors for object detection and sorting tasks.

• Programmed and tested closed-loop feedback logic, achieving a functional rate of 2 sorted parts per minute with 90% accuracy.

3D CAD Modeling for Complex Product Assembly – *CAD/CAE Coursework Project*

• Created a fully detailed mechanical assembly in SolidWorks, including part modeling, hierarchical sub-assemblies, and production-ready technical drawings.

• Emphasized design for assembly (DFA) and dimensional fit, enabling simulated virtual testing of part alignments.

Portfolio: www.cannelleportfolio.com