

SRINIDHI SHANKAR JAIN

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SUMMARY

Skilled Mechatronics Engineer with hands-on experience in optimizing control systems and integrating embedded systems. Skilled in designing mechanical components and test stations using Fusion 360 and Bambu Studio. Proficient in circuit design and familiar with various communication protocols such as Profibus and Profinet. Experienced in conducting in-depth research on automation systems, safety standards, and sustainability, with a strong focus on enhancing production efficiency. Adept at collaborating in multidisciplinary teams and solving complex technical challenges in fast-paced environments.

TECHNICAL SKILLS

- **Mechanical & Mechatronics Engineering:** CAD (Fusion 360, SolidWorks), FEA (ANSYS, SimScale), Mechanical Design, Motion Systems, Sensor Integration, Pneumatics & Actuators.
- **Embedded Systems & Electronics:** Arduino, Raspberry Pi, STM32 (ARM Cortex), BTT Octopus, Atmega328p, PCB Soldering & Debugging, I2C/SPI/UART, Power Supply Design (NDR, SDR series).
- **Industrial Automation & Controls:** Siemens SINUMERIK, PROFIBUS/PROFINET, PLCs (Basics), Servo & Stepper Motor Integration (T6 AC Servo, NEMA 23), Endstop & Proximity Sensors, Predictive Maintenance Concepts.
- **Programming & Scripting:** Python (Data Logging, Automation), MATLAB (Control Systems, Signal Processing)
- **3D Printing & Digital Manufacturing:** FDM/FFF Printing, Bambu Studio, Slicing Optimization, 3D Printer Control Systems, Maintenance & Calibration, Revo Foods Custom Systems

PROFESSIONAL EXPERIENCE

REVO FOODS GmbH [Vienna, Austria]

09/2024 – 02/2025

Mechatronics & Software Engineering Intern

- Revo Foods GmbH is a plant based seafoods producing company that uses advanced 3D food printing technology to produce vegan alternatives.
- Troubleshoot and optimized 3D printer control systems using ARM embedded systems, integrating stepper motors, T6 servo motors, drivers and sensors.
- Designed 3D-printed case using Fusion 360, Bambu studio and developed a motor test station for simultaneous stepper and servo motor inspection.
- Conducted research on Siemens Sinumerik and other automation systems, drawing a schematic diagram using Draw.io to support system upgrades and enhance production efficiency.
- Comprehensive research and review of actuators which are Profibus and Profinet compatible and further research on safety standards and sustainability of the components.
- Collaborated with the R&D team to select and integrate food-safe materials and electronics, ensuring compliance with food safety standards while maintaining a sustainable production model.

PRO-SPEC PERFORMANCE PARTS [Bengaluru, India]

01/2023 – 07/2023

Senior Operations Engineer

- Streamlined daily operations by integrating demand forecasting with inventory optimization to minimize lead times and ensured an uninterrupted supply chain with advanced Excel and ERP systems.

- Implemented the integration of Amazon MFN (Merchant Fulfilled Network) and FBA (Fulfilled by Amazon) marketplaces into Zoho Books, automating inventory synchronization, order management, and financial reporting. This ensured real-time stock visibility, seamless order processing, and accurate revenue tracking across multiple sales channels.
- Implemented Just-in-Time (JIT) manufacturing and procurement processes by synchronizing material requirements planning (MRP) with supplier schedules, minimizing inventory holding costs.
- Developed and standardized Product Life Cycle Management (PLM) principles for two distinct product families, ensuring efficient development, tracking, and end-of-life strategies.

PROJECTS

TWO-DIMENSIONAL PEN PLOTTER

Objective: To design and develop a high-precision XY pen plotter that can reliably draw complex architectural drawing such as Nicolaus House.

Responsibilities:

- Designed and 3D-printed custom parts using CAD software.
- Conducted code testing, debugging, and calibration to ensure high-precision performance.
- Developed and implemented the V-model development process to integrate mechanical, electronic, and software components.

ANOMALY DETECTION FOR PREDICTIVE MAINTENANCE

Objective: To design and develop a predictive maintenance system that detects anomalies in real-time, reducing downtime and improving operational efficiency.

Responsibilities:

- Developed a predictive maintenance solution for a mechatronic system using Python and Jupyter Notebook, enabling early detection of potential failures.
- Implemented anomaly detection algorithms on sensor data, improving system reliability through proactive maintenance insights.
- Visualized and analyzed machine sensor patterns to identify abnormal behavior, enhancing understanding of operational risks.

EDUCATION

Bachelor of Engineering in Mechanical Engineering

New Horizon College of Engineering, Bengaluru, India | **07/2018 – 07/2022** | GPA: **1.8**

Masters of Engineering in Mechatronics & Robotics Engineering

Schmalkalden University of Applied Sciences, Schmalkalden, Germany | **10/2023 – Present** | GPA: **2.0**