

Daniel Fleming

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Career Objective:

Skilled materials research technician with experience in quality and regulatory procedures, CVD/CVI, materials processing, machining, engineering, troubleshooting, PLC programming, instrument calibration, control devices, motor controls, SolidWorks modeling, control system schematics, and mechanical/electrical/electronic installation, inspection, and repairs with a focus of industrial maintenance.

Education:

- **Mechatronics Technology, A.A.S.** 05/2021
Roane State Community College, (4.0 GPA)
- **Siemens Level II Certification (Mechatronics)** 04/2021
Roane State Community College
- **Siemens Level I Certification (Mechatronics)** 12/2020
Roane State Community College

Experience:

- **High-Temperature Materials Processing Technician at Oak Ridge National Laboratory**
Materials Science and Technology Division, Oak Ridge, TN 06/2022-present
 - Installed, measured, and calibrated flowmeters, pressure controllers, thermocouples, pressure relief valves, barometers, liquid level sensors, pyrometers, rotameters, pneumatic valves, and other closed-loop instruments on vacuum/furnace systems.
 - Troubleshooted and repaired various equipment, such as wire EDM (electric discharge machining), vacuum systems/pumps, tube and box furnaces.
 - Operated, monitored, and maintained wire EDM, CVD (chemical vapor deposition) systems, high-temperature gas flow furnace systems.
 - Wrote, edited, and reviewed official documents such as standard operating procedures, research safety summaries, P&ID (piping and instrumentation diagrams).
- **Electronic Manufacturing Instrument Technician at Teledyne FLIR, Radiation**
Oak Ridge, TN 08/2021-06/2022
 - Assembled, disassembled, and reassembled mechanical and electrical assemblies for handheld radiation detectors.
 - Calibrated radiation detectors by safely handling radioactive sources for high voltage and high dose rate nuclear reaction calibrations.
 - Troubleshooted mechanical and electrical design and assembly flaws.
- **Research Intern at Oak Ridge National Laboratory (ORNL), Dryepondt Lab, Materials Science and Technology Division**
Oak Ridge Institute for Science and Education (ORISE), Oak Ridge, TN 06/2021-08/2021
 - Analyzed 3D images of small-scale AM specimens for tensile strength and density data.
 - Submitted feedback to technicians and researchers to improve process efficiency.
 - Extracted data from creep tested small-scale AM specimens.

Distinctions/Organizations:

- Phi Theta Kappa Honors Society, Roane State Community College 06/2020-06/2021
- 1st Place SkillsUSA State Championship – Mechatronics 04/2021
- Excellence in Mechatronics, Roane State Community College 04/2021
- President's List, Roane State Community College 08/2019

Skills & Abilities:

- CVD/CVI reactor design, assembly, modification, and operation. Materials processing and sample analysis.
- Wire EDM machining, sample preparation, various machining methods.
- Proficient abilities include fitting and assembling/disassembling electro-mechanical instruments, and sub-assemblies, installing, troubleshooting, modifying, calibrating, and repairing automatic control devices, electrical, mechanical, hydraulic, pneumatic, and thermal equipment, inspecting machinery, examining drawings and specifications.
- Installation and calibration of sensors (limit switches, liquid level, flow, pressure, temperature, pH, draft, RPM, and dB).
- Access and interpret system schematics, and electrical and mechanical engineering drawings.
- Proficient with digital fundamentals and Programmable Logic Controllers (PLCs), including designing complex ladder logic, programming ladder logic onto PLCs, and HMI programming.
- Performed individually and with teams to design, program, and edit machines, including motors, blueprints, assembly line, and a hydraulic lift and pour system.
- Extensive safety training, including radiation safety training, internal quality systems, regulatory requirements.
- Highly skilled in SolidWorks 3-dimensional parametric modeling and the tools used to convert 2-dimensional sketches into 3-dimensional models.
- Skilled at programming languages, (MELFA Basic, and C++), and programing parameters into PIDs.

Publications:

- **Fleming, D.;** Dryepondt, S. "Extracting Data from Tested Specimens Using 3D Imaging". **2021**, RES ID 164031.

Acknowledged in 2 reports.