Alberto J. Lopez

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EXPERIENCE

Software Engineer at Pratt & Whitney   June 2023 - Present

- Designed and implemented flexible, scalable data analysis tools for neural net models, contributing to improved process efficiency.
- Designed and implemented auditing tools for our neural net models, and their deployment environments.
- Collaborated with cross-functional teams using Agile methodologies to drive product development, ensuring alignment with project timelines and goals.
- Developed and maintained APIs and data access tools, enhancing data-driven decision-making in process optimization.
- Programmed in Python, C++, SQL, and bash to create and automate productivity and quality tools, contributing to overall process improvement.

Process Development Engineer at Artifex Solutions LLC   May 2022 - June 2023
- Led laser marking process development and validation, optimizing parameters for medical device applications.
- Executed Validation Plans for CNC machine processes, ensuring precision and repeatability in manufacturing operations.
- Designed and implemented automated quality control processes for Class II medical devices, including orthopedic implants.
- Developed custom fixturing for CMM, laser marking, and vision quality tools using GD&T principles, managing the entire process from design to manufacturing as design engineer.
- Led the development of a CMM quality process using a Zeiss Contura, reducing QC turnaround time from 10 days to 1 hours per batch.
- Wrote and executed a risk-based Validation Plan for Zeiss Contura CMM, ensuring regulatory compliance.
- Applied GD&T standard ANSI Y14.5 for detailed manufacturing drawings and fixture design.
- Drafted comprehensive validation and manufacturing documentation for medical devices.

EDUCATION

M.S. in Mechanical Engineering
Northeastern University - Starting 2025

B.S. in Mechanical Engineering - Aerodynamics Concentration
The Catholic University of America — August 2018 - May 2022

Full Stack Software Engineering Bootcamp - Non Degree
Columbia University — October 2022 - January 2023

SKILLS

CAD: SolidWorks, Onshape, Fusion360
Manufacturing Processes: Laser marking, CNC machining, 3D printing, CMM programming/operation
Design: GD&T, fixture design, mechanical systems design
Analysis: pFMEA, Gage R&R, Test Method Validation
Programming: Python, Javascript, SQL, Java, C++, bash

PROJECTS

CineBud: AI powered content-based filtering application using HTML, CSS, React.js, Python, and MongoDB.

INTERESTS

Running: Reykjavik Marathon 2024, Double Blossom Race DC 2024, Manati Half Marathon 2023
Watersports: Wing-surfing, sailing (Florida to Puerto Rico), scuba diving (PADI Open Water Diver)