

Jonathan Duarte

Motivated dual degree candidate seeking a challenging technical position with a focus on development

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EDUCATION

B.S. in Mechanical Engineering

University of Notre Dame, May 2018

B.A. in Mathematics

Assumption University, May 2017

- **Skills:** Calipers, Depth Gauges, Micrometers
Optical Fabrication i.e. shaping, grinding, and polishing.
- **Knowledgeable in:** Oscilloscopes, Mechanical / optical assembly, Optical inspection techniques including the use of phase shift interferometers, Solidworks, Bill of Materials, Finite Element Modeling.

EXPERIENCE

Mechanical Design Engineer

FLIR Systems Inc., Marlborough, MA

August 2019 – May 2020

- Interpreted and analyzed optic-mechanical designs such as housings, cells, spacers, brackets, retainers, followers, electronic sensors and optical lenses through tolerance analysis and mechanical assemblies using ASME Y14.5-2009 within a variety of programs simultaneously.
- Updated existing ITAR, EAR, and non-ITAR mechanical drawings to new company template. Managed engineering change notice process and implementing full release of the mechanical prints while liaising with manufacturing operations.

Mechanical Engineer

Yushin America Inc., Cranston RI

November 2018

- Performed training for an End Of Arm Tool curriculum using tools such as Oracle and SOLIDWORKS to quote, design, confirm, and ship customized robots
- Assisted in sophisticated robot designs of other mechanical engineers and kept record of any failures
- Interacted with vendors concerning parts they supply or propose to supply to the company

Mechanical Engineering Intern

Worcester Polytechnic Institute, Worcester MA

June 2015 – August 2015

- Researched and identified Nacre's mechanical structure through sample electron microscope imaging
- Assembled finite-element models based on Nacre's structure through Abaqus
- Stabilized Nacre's finite element models with given forces, reactants, elasticity, and boundary conditions

PROJECTS

SOLIDWORKS Improved Robot Assembly

March 2019

- Designed a robot which could perform a simple kinematics simulation of its trajectory
- The robot was created and assembled in SOLIDWORKS while GUI program was generated and controlled by MATLAB

Dynamic Windshield Simulation Project

December 2018

- Performed a dynamic simulation of the four-bar windshield wiper mechanism driven by the AM equipment 328 motor
- The end result corresponds to positive crank velocities with minimal fluctuations for long periods of its life cycle

Senior Design: Automated Gantry

January 2018 – May 2018

- In a team of six, we conceptualized and assembled an indoor miniaturized linear gantry to assist automated manufacturing line for AME Automation
- I assisted in the electrical and motor design in Solidworks while also machining metal components for its complete linear assembly