Jonathan **Duarte**

Mechanical Engineer

United States

jonathanduarte313@gmail.com | www.jaytsystems.com | JonathanDuarteGH | jduarte4

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

Education

University of Notre Dame — *Notre Dame, Indiana, USA*

B.S. in Mechanical Engineering — *2018*

Assumption University — *Worcester, Massachusetts, USA*

B.A. in Mathematics — *2017*

Skills

Software	SOLIDWORKS, Zemax, FEA
Programming	Excel VBA, Java, MATLAB, Python
Mechanical Tools	Calipers, Depth Gauges, Micrometers, Multimeter, Sin Bar, Interferometer, Spectrometers

Experience

FLIR Systems, Inc. — *Marlborough, MA, USA*

Mechanical Design Engineer — *August 2019. - May. 2020*

- Planned and executed blueprints and technical drawings to new company template for state-of-the-art high-capacity infrared optic-mechanical systems, increasing industrial output by 20%
- Interpreted and implemented optic-mechanical designs through tolerance analysis on ASME Y14.5-2009 within a variety of programs simultaneously.
- Managed engineering change notice process while liaising with manufacturing operations

Worcester Polytechnic Institute — *Worcester, MA, USA*

Mechanical Engineering Intern — *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 FEA.
- Stabilized Nacre's finite element models with given forces, reactants, elasticity, and boundary conditions.

Personal Projects

Portfolio Website

HTML, CSS, Javascript — *May 2019*

- Designed a responsive personal portfolio to showcase my skills and abilities within the mechanical engineering field.
- Utilized Font Awesome, wow.js and smooth scroll to beautifully capture browsing in all screen sizes.

SOLIDWORKS Improved Robot Assembly

MATLAB, SOLIDWORKS — *March 2019*

- Designed a 4 linked 1/3 scale industrial arm robot that performed a pick and place kinematics simulation.
- Created a MATLAB GUI interface that sent lateral, longitudinal, and angular commands to the robot.
- Used MATLAB workspace to stabilize feedback within a closed loop control during intensive operations.

Dynamic Windshield Simulation Project

MATLAB — *December 2018*

- Performed a dynamic simulation of the four-bar windshield wiper mechanism driven by the AM equipment 238 motor.
- Maintained an appropriate response time of 7% to test the torque limits of the AM 238 using Newton's Method.
- Data resulted in a positive crank velocities with minimal fluctuations for long periods of its life cycle.