

# Jonathan Duarte

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

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## EDUCATION

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### B.S. in Mechanical Engineering

University of Notre Dame, May 2018

### B.A. in Mathematics

Assumption College, May 2017

- **Skills:** C and C++, Java, Fortran, LaTeX, MATLAB, HTML5, CSS3, Javascript, Python, Solid Works, ANSYS
- **Knowledgeable in:** Linked List, Vectors / ArrayList, Hash Tables, Binary Search, Quick Sort, Recursion, Dynamic Programming, Big O Time & Space, Object-Oriented Programming.

## EXPERIENCE

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### Mechanical Design Engineer

FLIR Systems Inc., Marlborough, MA

August 2019 – Present

- Interpreting and analyzing 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.
- Updating existing ITAR, EAR, and non-ITAR mechanical drawings to new company template. Managing 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

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### 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