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 College, May 2017

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

EXPERIENCE

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 assembles 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

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

Central Difference FORTAN Program
November 2018

- Estimated the derivative of a function based on its known value at discrete points using the central difference method.
- Implemented an error assessment to determine how the magnitude error in the first derivative

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 implemented a State Space Control algorithm into MATLAB by taking the inverse kinematics of the gantry which gives the complete movement of the machine