Jonathan Duarte

Motivated duel 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 optic-mechanical designs 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.

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

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