

# Luke De Caires

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## EDUCATION:

**Embry-Riddle Aeronautical University, Mechanical Engineering BSc - 2013 - Present**

## WORK AND PROJECT EXPERIENCE:

### **August 2016-Present- Solar Decathlon (Team Daytona Beach)**

Solar Decathlon is an international competition where you are tasked with designing the best Clean Energy based house. (Solar) I was the System Engineer of the team and also the Fire Suppression/Plumbing Team Lead. I completely designed the plumbing/fire suppression system where I met all Health and Safety Standards. I also assisted in the design of the HVAC system where I calculated heating and cooling loads on the house, Electrical/PV system, Hydroponics system and Structural/Automation part of the house.

### **May 2016-August 2016 – C.D.C. Internship**

In the summer of 2016 I did an Internship with C.D.C. in Trinidad. During my time there I was tasked with designing piping systems for an entire factory using Auto Cad. I was also tasked with optimizing/improving the cleaning manuals of all the machines in the factory along with pump sizing and concrete design.

### **February 2017-May2017- Wind Turbine Project**

For my Clean Kinetic Power Systems class, three other team members and I were tasked with designing a Wind Turbine from scratch. The only parameters we were given were the different wind patterns/surveys in a particular area. This project included the design and shape of the airfoil, the structural analysis, the vibrational analysis, the dynamic analysis and the heat transfer analysis. My part of the project was mainly the design of the wind turbine, the vibrational and structural analysis and the heat transfer analysis. The programs I used in this project was MATLAB, Microsoft Excel, ANSYS Workbench, ANSYS Fluent and CATIAv5.

## SKILLS:

- Over 120 community service hours
- I have successfully performed various team projects, in both academic and non-academic environments.
- I am MATLAB, CATIAv5-R, ANSYS Work bench, Auto Cad, ANSYS Fluent, Maple and Microsoft qualified.
- Alumni of the Embry-Riddle Tennis Team. (NCAA)
- Member of ASME and ASHRAE

## Extracurricular Activities:

- National/Student Athlete (Lawn Tennis)
- Member of the Clean Energy and Caribbean Club

