DIEGO OLVERA-VEGA

(607) 793-0233 • diego4rma@gmail.com

EDUCATION

CORNELL UNIVERSITY, College of Engineering, Ithaca, NY

Graduate Studies

- Masters of Engineering in Mechanical Engineering — Class of 2014 — GPA 3.71

Undergraduate Studies

- B.S. Mechanical Engineering — Class of 2013 — Cum. GPA 3.22
- B.F.A. Fine Arts

WORK EXPERIENCE

Systems and Controls Engineer JUNE 2016 – PRESENT

United Technologies Aerospace Air Management Systems Group
Windsor Locks, CT

- Currently developing controls software for the Boeing 777X Anti-Ice Protection system. This involves the specification of software for digital communication, processing of analog sensor data, implementation of control laws and other logic needed for in-flight control of the Anti-Ice system as well as performing preliminary tests of the software on an electronics rig to verify the effectiveness of the logic.
- Developed and supported software for lab testing of Anti-Ice hardware by compiling a Simulink model onto a test controller for preliminary testing of hardware and controls. Participated in troubleshooting issues with both hardware and controls logic at both local and off-site facilities for integration with other airplane systems.

Process Engineer JULY 2014 – JUNE-2016

Intel Technology Manufacturing Group
Chandler, AZ

- Responsible for sustaining BARC tools used for Photolithography. This involves the constant maintenance and up-keep of machines that produce microprocessors in an automated factory.
- Responsible for constant optimizing of operational procedures that maximize throughput and yield of the factory.

Graduate Research Assistant JANUARY 2014 – MAY 2014

Biorobotics and Locomotion Lab [Prof. Andy Ruina's Lab]
Cornell University

- Developed a reference tracking observer based controller for a self-stabilizing bicycle using the CVX optimization package in MATLAB. Also, built a simulator using ODE45 and an animating function to plot the solution of the bicycle using the developed controller.
- Began construction of mechanical, electrical components, and code needed to build the self-stabilizing bicycle. This involved the integration of a hub motor, a servo-motor, motor-drivers, an IMU, a BeagleBone Black microcontroller and other circuits necessary for these components to communicate. Once completed, this bicycle will be used to test the theoretical controller developed in MATLAB.

Cornell Cup USA Mechanical Engineering Team Member/Team Lead SPRING 2012 - SPRING 2013

- Developed a new low cost, highly robust robotics platform for competition entrants and research.
- Designed, built and tested a racquetball launching system to be incorporated on a holonomic multi-bot juggling system during the spring of 2012. The design was developed in Solid Works, was built using a laser cutter and a machine shop, and was tested at our lab. The design currently employs overhead camera localization and a model-predictive controller.
- Led the Mechanical Engineering team in the spring of 2013 to complete a 1/5 scale modular outdoor roving vehicle to be controlled remotely or autonomously. The design includes a suspension system and approximate Ackermann steering. The vehicle is weatherproof and includes a system to cool electronic components. Helped model the steering system's dynamics in MATLAB. The robot was showcased at the 2013 Cornell Cup presented by Intel at Disney World, and it was the subject of an Engadget article

ADDITIONAL SKILLS

- Comfortable with MATLAB, Simulink and Python
- Proficient in SolidWorks, ANSYS, C++, Java, Photoshop, Adobe Illustrator
- Six Sigma Black Belt
- Working knowledge of machine shop equipment as well as Dimensioning and Tolerancing
- Fluent in Spanish
- Dynamics Modeling and Feedback Controls

ART EXPERIENCE

Artist/Photographer
CORNELL UNIVERSITY College of Architecture, Art and Planning

- Commissioned along with a fellow student by the Dean of the College to document the construction of Milstein Hall, a Rem Koolhaas building, for the Cornell School of Architecture.
- Photographic work was displayed in the new Milstein Gallery with a show titled CONSTRUCT in the fall of 2011.

AWARDS

Edith Stone and Walter King Memorial Prize (Given by the department of Fine Arts at Cornell University)