GERARDO CARRANZA

PO Box 202407, New Haven CT, 06520 • cell 786-376-6009 • e-mail gerardo.carranza@yale.edu

EDUCATION

Yale University New Haven CT, Class of 2017

ABET-Accredited Mechanical Engineering major, Cumulative GPA 3.43
Relevant Coursework: Differential Equations, Linear Algebra, Mechatronics, Data Structures & Programming Techniques, Thermodynamics, Fluid Mechanics, Heat Transfer, Data Mining and Machine Learning, Numerical Methods

EXPERIENCE

MENG 489, SENIOR CAPSTONE **New Haven CT, Fall 2016**

Final Project
- Developed a mechatronics educational kit that would be accessible to visually impaired students
- Created a two-wheeled robot that would be driven with a shaft/handle, implemented obstacle detection and course correction, supported multiple sensor and steering configurations, and featured a blind friendly electronics interface

HONEYWELL AEROSPACE, ADVANCED TECHNOLOGY DIVISION **Phoenix AZ, June—August 2016**

Intern, Mechanical Design
- Designed a test rig to test the thermal gradient of a CMC engine shroud under the supervision of senior engineers
- Developed a MATLAB program to automatically create report packages for +150 Excel Files that were part of a research collaboration with NASA which replicated ice crystal formation in turbofan engines for the first time ever.

CPSC 679, 3-D DESIGN AND FABRICATION **New Haven CT, Spring 2016**

Final Project (Graduate Course)
- Developed a Java program that created 3-D printable models of the topography of Earth and Mars from scratch
- Wrote an exporter to automatically convert GeoTIFF image files into a binary STL file with a triangular face mesh

YALE UNDERGRADUATE AEROSPACE ASSOCIATION **New Haven CT, Fall 2013—Present**

President **Fall 2015—Spring 2016**
- Led Yale's largest engineering organization, comprised of over 60 members across 4 project teams
- Planned student-run workshops, speaker events, & outreach with an executive board of 12 members
- Served as a speaker at Space Apps NYC, a yearly space entrepreneurship conference

Finance Director **Fall 2014—Spring 2015**
- Secured $20,000 in funding and allocated budgets for the radio telescope, rocket competition, multi-stage rocket, and UAV project teams
- Worked with the Department of Engineering to complete purchases, issue reimbursements, and plan travel logistics

IREC Team Member **Fall 2013—Spring 2014**
- Competed at the Intercollegiate Rocket Engineering Competition (IREC), launching our rocket, *Chronos*, to 7003 ft.
- Awarded 2nd place out of 36 teams in the Payload Design category for our general & special relativity payload

STARS SUMMER RESEARCH PROGRAM **New Haven CT, June—August 2014**
Student Researcher, GRAB Lab
- Presented "Rapid Prototyping of Electric Circuits using 3-D Printing," a research effort to embed electric circuits directly into 3-D printed parts via the injection of liquid metal through channels designed within the part
- Developed a MATLAB program to automatically convert HTML data from a 2-D EAGLE Printed Circuit Board schematic into a series of channels in a 3-D OpenSCAD model

SKILLS

Programming Languages: Java, MATLAB, Racket, C, HTML, Google Scripts, R
Software: Microsoft Office, SolidWorks, OpenSCAD, Android Studio, NX, Cura, Meshlab, EAGLE PCB
Trainings: Laser Cutter, Next Engine 3-D Scanner, Lulzbot 3-D printer, Metal Lathe, CNC Mill, Drill Press, Six Sigma
Language: Fluent Spanish (written and spoken)