Michael Mong

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EDUCATION

CARNEGIE MELLON UNIVERSITY
BS in Mechanical Engineering
Expected May 2020 | Pittsburgh, PA
GPA 3.19 out of 4
Carnegie Institute of Technology

JESUIT COLLEGE PREPARATORY
High School Diploma
GPA 98.98/100
2016 | Dallas, TX
National Honor Society Member
Graduated with Honors

LINKS

www.linkedin.com/in/mmong

COURSEWORK

Engineering
- 24-101: *Fundamentals of Mechanical Engineering*
- 18-100: *Introduction to Electrical and Computer Engineering*
- 88-345: *Perspectives on Industrial Research and Development*
- 39-245: *Rapid Prototype Design*
- 24-261: *Statics*
- 24-221: *Thermodynamics I*

Mathematics and Sciences
- 33-142: *Physics II*
- 21-259: *Calculus in Three Dimensions*

Computer Science
- 15-112: *Fundamentals of Programming and Computer Science*

SKILLS

SOFTWARE
Certified SolidWorks Associate
Python • Fusion 360 • Java

MANUFACTURING
Laser Cutting • 3D Printing •
Lathe • Mill • Drill Press

EXPERIENCE

REV ROBOTICS | Mechanical Engineering Intern
Summers 2016, 2017 | Dallas, TX
- Designed FIRST Tech Challenge robots using SolidWorks with the new REV product line which were later used in presentations and to determine number of parts per kits before launch of product
- Troubleshot issues with build system to determine new parts to be added
- Rendered models for use in Educational Guides and compiled step by step build guides for basic robots
- Designed and manufactured a functional WALL*E Robot and Rubik Cube solver for promotional purposes
- Proposed and implemented changes to a robot for educational use which resulted in increased durability and safety
- Programmed various robots using Java including the WALL*E robot
- Performed quality control on level shifters and motors
- Reorganized warehouse and work areas to improve efficiency

LEADERSHIP

FRC 2848 THE ALL SPARKS | President
2013 – 2016 | Dallas, TX
- Designed the drive train of the competition robot and coordinated work between the different sub-systems of the design team
- Led prototype team responsible for development of robotic claw assembly
- Responsible for robot maintenance and repair during 2014 FRC World Championship
- Served as captain of a FIRST Tech Challenge(FTC) team my second year on the team and then served as a mentor to four FTC teams and a FIRST Lego League team the following year

PROJECT IGNITE | Project Advisor
2016-2017 | Pittsburgh, PA
- Served as a volunteer mentor to a team of four high school students and provided guidance as they designed, prototyped and manufactured their own version of an improved household item

RESEARCH

UNIVERSITY OF TEXAS AT DALLAS : TENSEGRITY ROBOT RESEARCH
Summer 2015 | Dallas, TX
- Designed, fabricated and tested icosahedron and serpentine tensegrity robots controlled by the contractions of nylon artificial muscles
- Presented work at a public symposium to demonstrate the possibility of flexible and compact robots using artificial muscles in tensegrity structures

PROJECTS

FIRST PERSON 3-D MODELING | 15-112 Final Project
Fall 2017
- Using Python and PyOpenGl I created a modeling program which allows the user to create 3-D or 2-D surfaces and extrude them into a wire mesh which can then be further adjusted using the points of the mesh.

MOUSETRAP CAR | 24-101 Final Project
Spring 2017
- Created a mousetrap car that traveled 12 feet overcoming 1" by 2" speed bumps as fast as possible
- Utilized living hinges laser cut into the body to create a suspension system that allowed the car to achieve first place in the competition