

Michael Mong

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EDUCATION

CARNEGIE MELLON UNIVERSITY

BS IN MECHANICAL ENGINEERING

Expected May 2020 | Pittsburgh, PA

GPA 3.24 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

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*

24-262: *Stress Analysis*

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

• C++ • MATLAB

MANUFACTURING

Laser Cutting • 3D Printing •

Lathe • Mill • Drill Press

EXPERIENCE

IDEATE | TECH ADVISOR

Fall 2017 - Current | Pittsburgh, PA

- Assist students using IDeAte's resources and ensure all safety protocols are being followed
- Conduct maintenance on tools and machines within IDeAte
- Serve as a Teaching Assistant for a Solidworks and lasercutting course

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
- Troubleshoot 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
- Led 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

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