Cyndia Cao

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EDUCATION

Massachusetts Institute of Technology – Cambridge, MA — Sept 2013 - June 2017
B.S. in Mechanical Engineering | GPA: 4.9/5.0

SKILLS & INTERESTS

Professional mechanisms – power systems – rapid prototyping – robotics – precision design
Hardware SolidWorks – mill – lathe – laser cutter – 3D printer – Arduino – mbed – raspberry pi
Programming Matlab & Simulink – python – C/C++ – ROS – Visual Basic (Excel)
Communities Summer Science Program – Pi Beta Phi – Tau Beta Pi – MIT Cheerleading

WORK EXPERIENCE

NASA Jet Propulsion Laboratory – Pasadena, CA — May – Aug 2016
Advanced Large Precision Structures Intern
- *Fabricated 1/20 scale engineering models of Starshade, an external occulter for finding exoplanets*
- *Explored various 3D printing & rapid prototyping methods for providing models with high fidelity*

Robot Locomotion Lab – Cambridge, MA — Jan – May 2016
Undergraduate Researcher
- *Developed component-level closed loop control along with higher-level ROS control of a soft robotic fish*

The Robot Garage – Birmingham, MI — Aug 2015
Camp Counselor
- *Coached middle school students in building LEGO robots to instill an interest & intuition for engineering*

Bell Helicopter – Fort Worth, TX — May – Aug 2015
Control Laws Intern
- *Created modelling tools for interpreting flight & simulation data to verify functionality of aircraft*
- *Proposed method to integrate medical rescue capability into the Short Light Single class Bell 505*

Institute for Vocational Education: Tsing Yi – Hong Kong, China — Jan 2015
Mentor
- *Brainstormed & sketched with students reliable, controllable mechanisms for robots playing badminton*
- *Wrote trajectory prediction code to complement others' work on birdie tracking and drive automation*

Magna Exteriors & Interiors – Troy, MI — May – Aug 2013 & 2014
Product & Process Development Intern
- *Created an energy efficiency calculator to evaluate benefits of active aerodynamic devices on vehicles*
- *Coordinated system testing & reports with labs (environmental, life cycling & aerodynamic)*
- *Researched latest manufacturing techniques & products and evaluated their relevance to Magna*

NOTABLE PROJECTS

2.72 Elements of Mechanical Design – Desktop Lathe — Feb – May 2016
FEA lead; reached tolerances of 10-15 microns on parts up to 0.5"

MakeMIT – Hardware Hackathon — Jan 2016
Worked on a StarCraft style game of robot laser tag; focused on electronics

2.007 Design & Manufacturing I – Hack to the Future — Feb – May 2015
Built a scissor lift that could raise 0.5 kg from 1 foot to over 5.5 feet

6.270 Autonomous Robotics Competition — Jan 2014
Developed board navigation code for a LEGO robot with periodic access to a GPS system

FIRST Robotics Competition – Team 469 Las Guerrillas — Sept 2009 – Apr 2013
Team captain; designed flexible conveyor system to bring Frisbees from ground to shooter
World Finalists 2010 & 2013; State Champions 2010, 2012 & 2013