# EILEEN LY

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## EDUCATION

**BROWN UNIVERSITY, PROVIDENCE, RI** Sep 2008 – May 2015

*Sc.B with Honors in Biomedical Engineering*

- ***Honors Thesis |*** Inducing Birefringence in Polycaprolactone at Different Temperatures, Pressures, and Holding Times
- **Upper-Level Courses |** Biomechanics; Neuroengineering; Photonics; CAD; Biomaterials; Cancer Nanotechnology; Translational Engineering & Entrepreneurship; Instrumentation Design

**CHINESE UNIVERSITY OF HONG KONG, HONG KONG** Aug 2013 – Dec 2013

*Exchange Student studying Engineering, Chinese, and Finance*

## SELECT ENGINEERING PROJECTS

**DESIGNSTUDIO** Spring 2015

- Iteratively design, build, and test projects by developing novel strategies to address problems through creative collaboration, Rhino, Illustrator, Photoshop, woodworking, prototyping, 3D printing, and laser cutting

**THE SMART MACHINES LAB** Spring 2015

- Design and construct a CNC machine using stepper motors and other parts from recycled computer hardware

**BIOMEDICAL ENGINEERING DESIGN, RESEARCH & MODELING** Fall 2014

- ***Capstone |*** Designed cost-effective time temperature indicator based on polymer optical/physical properties
- Exposed to engineering design and modeling, design/reliability testing and analysis, FDA regulations, 510(k)

**INSTRUMENTATION DESIGN** Fall 2014

- Worked on numerous circuit projects involving thermistors, phototransistors, strain gauges, LabView, amplifiers, capacitors, microphones, MATLAB, oscilloscopes, waveform generators, rovers, and Arduino

## RELEVANT EXPERIENCE

**MECHANICAL ENGINEERING INTERN** Jul 2015 – Present

*iRobot, Bedford, MA*

- Support design, modifying, building, and testing of prototypes for next generation home robotics product line
- Worked on improving design of part for Advanced Cleaning Development Team and selected a final design through rapid prototyping, devising and performing tests, analyzing results, substantiating the decision, and documenting the process
- Design, model in Creo, 3D print, mill, and construct parts and/or fixtures
- Verify and test components, documenting process and results
- Perform installation and wiring of PCBs and electrical/electromechanical assemblies

**DESIGN ENGINEER CONSULTANT** Feb 2015 – April 2015

*Startup, Providence, RI*

- Provide mechanical design expertise in designing, modeling, testing, and building prototypes of therapeutic health product

**RESEARCH LAB ASSISTANT** Feb 2014 – May 2015

*Mathiowitz Lab at Brown University, Providence, RI*

- Develop and improve methods to produce a controlled release device for small molecules like drugs and volatile oils
- Characterize working materials using DSC, FTIR, XRD, ICP, and polarized-light microscopy

- Create MATLAB program to calculate percent crystallinity and crystal size from extracted powder XRD data

**VBA DEVELOPMENT CONSULTANT** Aug 2014 – Feb 2015
*Entegris, Inc., Billerica, MA*

- Continue to refine, support, and develop VBA application created during internship

**R&D ENGINEERING INTERN** Jun 2014 – Aug 2014
*Entegris, Inc., Billerica, MA*

- Acted as key member of $20,000 project in charge of identifying, presenting, and executing a solution to quantify and characterize discrepancies within membrane coloration and define a distribution for quality control purposes
- Developed VBA database application with new features and streamlined functionality to replace system-wide form
- Served as liaison to several other companies while investigating the prospect of forming new partnerships
- Collaborated and assisted on 5+ projects at a time within R&D in varying roles including collecting samples, running experiments, designing new packaging, performing research, performing data analysis using Minitab and Excel, etc
- Utilized SolidWorks and AutoCAD to model and modify designs and update documentation

**STEM CELL RESEARCH LAB ASSISTANT** Sep 2013 – Dec 2013
*Chinese University of Hong Kong, Hong Kong*

- Perform lab procedures including plasmid DNA mini prep, gel electrophoresis, cell culture, splitting cells, transfection

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**SKILLS**

**PROGRAMMING**
PYTHON
MATLAB
VBA
HTML/CSS/JAVASCRIPT

**ENGINEERING/ANALYSIS**
SolidWorks/Creo/CAD
Minitab
LabView
ABAQUS

**LANGUAGES**
Basic Chinese and Spanish