

SANDRA CHEN

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Education:

Massachusetts Institute of Technology

June 2012 Cambridge, MA

Candidate for Bachelor of Science in Mechanical Engineering

GPA: 4.7/5.0

Relevant Coursework: Materials and Mechanics, Controls, Dynamics, Thermodynamics, Fluids Engineering, Design & Manufacturing I, Differential Equations, Engineering Management

Experiences:

IMS Gear, German manufacturer for automotive, aircraft, and electronics industry June 2010—August 2010 Taicang/Shanghai, PRC

Design and Manufacturing Intern

- Assisted senior management with the audit process of the company and with the product production approval process and increased efficiency by 5%
- Worked directly with the customer to design product fabrication processes, cost and benefit analysis, and packaging and delivery schemes.
- Conducted testing with quality management department to ensure products are created according to protocol by calculating cpk values, evaluated the cause and effect of faulty products, and improved current products in the market.

MIT Design and Manufacturing I: Project-Based Course

February 2010 --- May 2010 Cambridge, MA

Competition participant

- Designed and fabricated robotic system that can overcome competition challenge in mock playing field: score codices on pyramid, and push spring-loaded lever system to a maximum of 20 degrees
- Built own motor to run robot, solid designed through SolidWorks, and used simple electronics and machines to build functional parts.

JET Injector: MIT Bioinstrumentation Laboratory

November 2009—February 2010 Cambridge, MA

Undergraduate Researcher

- Engineered an improved injector to deliver drugs that are composed of large molecules and proteins by decreasing the initial high throughput pressure, creating a new piston system, and the design of the insulin pen.
- Quantified the amount of active drug injected to predict the appropriate amount of drug delivery.

CombinatoRx, Inc: Drug Discovery

June—August 2009 Cambridge, MA

Process Development Intern

- Engineered a cell migration assay for wound healing using a REIC-6 model
- Conducted high throughput screening of drug combination orders on human keratinocyte cell line HaCat, and 8 colorectal cell lines to discover drug synergies for potential novel drugs
- Programmed laboratory robots to maximize the efficiency of the above and for large scale production.

Second Summer Program: Product Development

January 2009 Cambridge, MA

Team Member & 3rd Place Winner

- Developed, conceptualized, designed, and built the Bicycle Turning Light System, a revolutionary bike signal turning system, that is composed of LED lights on a circuit board in a plexi-glass casing and is detachable from the bike.

Skills:

Biomedical: Performed cell culture, high-throughput screening, bacterial genetic transformation, protein purification via column chromatography (HIC) and size exclusion chromatography (SEC), DNA restriction analysis, protein electrophoresis, ELISA, PCR, Microarrays, RNAi, gene splicing, northern, southern and western blots, *mass* spectroscopy, layer-by-layer thin films

Mechanical and electrical: soldering, basic electronics, cnc machining, structural and materials analysis, welding

Computer: Knowledge of MatLab, SolidWorks, Excel, Adobe Photoshop, Dreamweaver, Flash CS3, Mac/Windows/Linux OS

Language: Fluent in Cantonese, Proficient in Spanish, Beginner Mandarin

Leadership and Activities:

MIT Career Fair 2009 Executive Committee

May 2009—September 2009

Publicity Director

- Conceptualized and implemented the mass promotion of the MIT Career Week and the Career Fair to 4,000 undergraduates and 6,000 graduates on campus and recruited 280+ companies to participate.

MIT Alumni Association Student Ambassador Program

September 2008—Present

Club Treasurer/Event Chair

- Showcase the opportunities and news at MIT through a students' perspective to 5,000+ alumni, parents, prospective students, and honored guests through tours and welcome receptions. Active volunteer for Tech Reunions, Alumni Leadership Conference, Campaign for Students, and the MIT150 Kickoff

Society of Women Engineers

September 2008—Present

National Member, Vice President of Membership & Information, Region F Collegiate Communications Editor

- Coordinate and lead weekly professional workshops, company tours, and networking events for undergraduates and graduates to connect with engineering leaders in corporate industry and academia.
- Recruit new SWE members, organize biweekly board meetings, and communicate monthly with SWE National chapter