Lillian Chin

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Education

Massachusetts Institute of Technology (MIT) **June 2017**
B.S. in Electrical Engineering and Computer Science *Cambridge, MA*
Minors in Mechanical Engineering, Comparative Media Studies *GPA: 4.9/5.0*

Work Experience

Apple **June – Aug. 2016**
iPad Hardware Systems Integration, Electrical Engineering Intern *Cupertino, CA*

- Designed schematic layout and PCB board for internal board involving high-speed signals.
- Wrote TCL scripts to validate functionality of SoCs. Deployed this test suite on SMT, FATP and REL lines in China.
- Performed power validation and signal integrity measurements on low and high speed signals, including I2C and SPI.
- Wrote Python scripts to conduct thermal experiments on battery life and power output.

Square **June – Aug. 2015**
Electrical Engineering Intern *San Francisco, CA*

- Wrote C code for NFC card proximity detection, part of firmware needed to pass contactless payment certification
- Tuned NFC antennas with VNA and SMT rework skills, enabling proposal of new antenna design directions
- Wrote Python script to send HCI commands to Bluetooth chip, validating results with spectrum analyzer
- Created preliminary schematics and PCB layout for new NFC board in Altium

Research Experience

MIT Computer Science & Artifical Intelligence Lab, Distributed Robotics Group **Sept. 2016 – present**
Researcher with Dr. Daniela Rus *Cambridge, MA*

- Will be designing a self-deploying robot that uses novel auxetic materials to interlock and create foldable structures

Massachusetts Institute of Technology, Department of Mechanical Engineering **Feb. 2014 – Jun. 2016**
Researcher with Dr. John Hart *Cambridge, MA*

- Created machine vision algorithms in C++ for dynamic photolithography system, increasing speed of tracking, detection and encapsulation by 300% with multithreading, Kalman filters and bit plane splicing.
- Performed encapsulation experiments on liver hepatocytes in photopolymers for tissue engineering applications.
- Adapted photolithographic system to a robot arm, enabling accurate micropatterning on macro-scale objects. Improved scanning system's accuracy and designed mechanical enclosures for electronic / optical systems.
- Designed and printed NFC circuits to test capabilities of photolithography system for flexible circuits

MIT Media Lab, Biomechatronics Group **Jan. – May 2015**
Researcher with Dr. Hugh Herr *Cambridge, MA*

- Created thin-wire electrodes and Matlab script to stimulate rat sciatic nerve and measure response
- Wrote automated particle analysis in ImageJ to measure neuron size, count and g-ratio to quantify nerve regrowth

MIT Computer Science and Artifical Intelligence Laboratory, Big Data Initiative **Sept. – Dec. 2014**
Researcher with Dr. Sam Madden *Cambridge, MA*

- Created REST API for a secure personal data storage system based on Django and Javascript

Georgia Institute of Technology, Department of Mechanical Engineering **May 2011 – Aug. 2013**
Researcher with Dr. Michael Leamy *Atlanta, GA*

- Constructed agent-based model in NetLogo of collective cell movement based on time-lapse videos of wound healing.

Emory University, Department of Pharmacology **Aug. 2011 – May 2013**
Researcher with Dr. Jennifer Hurst-Kennedy *Atlanta, GA*

- Conducted cell invasion and cell-migration assays to study the role of a deubiquitnating enzyme in cancer metastasis.
- Established a method for quantitative analysis of cell invasion data taken from time-lapse confocal video microscopy.

Westminster Schools **Jan. 2010 – May 2013**
Researcher with Dr. Chris Harrow and Dr. Shaffiq Welji *Atlanta, GA*

- Investigated locus of a conic sections foci using projective and algebraic geometry

Skills and Activities

Laboratory – Cell culture, time-lapse video microscopy, manual & CNC machine shop experience, surface mount soldering
Languages – *Fluent:* Python, Java, C/C++, LaTeX, Matlab, TCL; *Familiar:* Javascript, SQL, HTML/CSS, Bash, Chinese
Proficiencies – Git, Cadence, Adobe Photoshop, Adobe Illustrator, Django, EAGLE, Altium, MasterCAM, Solidworks