# Lillian Chin

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## Education

**Massachusetts Institute of Technology (MIT)** — **2017 - present**
*PhD in Electrical Engineering and Computer Science* — *Cambridge, MA*
*Advisor: Daniela Rus* — *GPA: 4.8/5.0*

**Massachusetts Institute of Technology (MIT)** — **2017 - 2019**
*S.M. in Electrical Engineering and Computer Science* — *Cambridge, MA*
*Thesis: "A High-Deformation Electric Soft Robotic Gripper via Handed Shearing Auxetics"* — *GPA: 4.8/5.0*

**Massachusetts Institute of Technology (MIT)** — **2013 - 2017**
*B.S. in Electrical Engineering and Computer Science* — *Cambridge, MA*
*Minors in Mechanical Engineering, Comparative Media Studies* — *GPA: 4.9/5.0*

## Honors

**Hertz Foundation Graduate Fellowship** — **2018 – 2022**
**National Science Foundation Graduate Research Fellowship** — **2018 – 2021**
**Paul and Daisy Soros Fellowship for New Americans** — **2018 – 2020**
MIT Energy Initiative Graduate Fellowship — **2018**
Jeopardy College Championship Winner — **2017**
Phi Beta Kappa Honors Society, Xi Chapter — **2017**

## Publications

### Peer-Reviewed Journal Articles

[J.4] **Chin, L.** "How to Survive a Public Faming: Understanding 'The Spiciest Memelord' via the Temporal Dynamics of Involuntary Celebrification". *First Monday*. Manuscript Under Review.

[J.3] Lipton, J., MacCurdy, R., Manchester, Z., **Chin, L.**, Celluci, D., & Rus, D. "Handedness in Shearing Auxetics Creates Rigid and Compliant Structures". *Science*. 360(6389): 632-635. (2018)

[J.2] Stevens, A., Oliver, R., Kirchmeyer, M., Wu, J., **Chin, L.**, Polsen E., Archer, C., Boyle, C., Garber, J., and Hart, J. "Conformal robotic stereolithography." *3D Printing and Additive Manufacturing*, 3(4): 226-235. (2016)

[J.1] Harrow, C. and **Chin, L.** "Technology-Enhanced Discovery." *Mathematics Teacher*, **107**: 660 – 665. (2014)

### Peer-Reviewed Conference Papers

[C.6] **Chin, L.**, Barscevicius, F., Lipton, J., & Rus, D. "Multiplexed Manipulation: Versatile Multimodal Grasping via a Hybrid Soft Gripper." In *Robotics and Automation (ICRA), 2020 IEEE International Conference on.* IEEE. (2020).

[C.5] Lipton, J., **Chin, L.**, Miske, J., & Rus, D. "Modular Volumetric Actuators Using Motorized Auxetics." In *Intelligent Robots and Systems (IROS), 2019 IEEE International Conference on.* IEEE. (2019).

[C.4] **Chin, L.**, Yuen, M.C., Lipton, J., Trueba, L.H., Kramer-Bottiglio, R., & Rus, D. "A Simple Electric Soft Robotic Gripper with High-Deformation Haptic Feedback." In *Robotics and Automation (ICRA), 2019 IEEE International Conference on.* IEEE. (2019).

[C.3] **Chin, L.**, Lipton, J., Yuen, M.C., Kramer-Bottiglio, R., & Rus, D. "Automated Recycling Separation Enabled by Soft Robotic Material Classification." In *Soft Robotics (Robosoft), 2019 IEEE International Conference on.* IEEE. (2019). **Winner, Best Poster Award**

[C.2] **Chin, L.**, Lipton, J., MacCurdy, R., Romanishin, J., Sharma, C., & Rus, D. "Compliant Electric Acutators Based on Handed Shearing Auxetics." In *Soft Robotics (Robosoft), 2018 IEEE International Conference on.* IEEE. (2018).

[C.1] Beaudoin J., **Chin L.**, Zlotnick H., Cervantes T., Lassey S., Robinson J., Slocum A. "Obstetrical Forceps with Passive Rotation and Sensor Feedback." ASME. Frontiers in Biomedical Devices, *2018 Design of Medical Devices Conference*. (2018).

### Patents

[P.1] Lipton, J., MacCurdy, R., **Chin, L.**, & Rus, D. "Non-planar shearing auxetic structures, devices, and methods", Application #: US 15/965,711

**Workshop and Symposium Contributions**

[W.3] **Chin, L.** "Focusing the Legal Lens on Data: Examining Metaphors of Personal Data and their Legal Implications " Paper and poster in 2019 ACM Inaugural Symposium on Computer Science and Law
**First Prize, Student Paper Competition**

[W.2] **Chin, L.** "Design and fabrication of dual-flipping mechanisms." Abstract and poster in 2019 International Conference on Robotics and Automation workshop: *Robot Design and Customization: Opportunities at the Intersection of Computation and Digital Fabrication*

[W.1] **Chin, L.**, Lipton, J., MacCurdy, R., Romanishin, J., Sharma, C., & Rus, D. "Compliant Electric Acutators Based on Handed Shearing Auxetics." Poster in 2018 New England Manipulation Symposium

## Teaching Experience

**Academic**

| | |
|---|---|
| Teaching Assistant, MIT 6.146 – Mobile Autonomous Systems Laboratory | **2018** |
| Head Lab Assistant, MIT 6.002 – Circuits and Electronics | **2015 – 2017** |
| Lab Assistant, MIT 6.004 – Computation Structures | **Fall 2016** |

**Extracurricular**

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|---|---|
| Mentor, MIT EEECS Graduate Application Assistance Program | **2020 – present** |
| Tutor, ESL Program for MIT Facilities Department Employees | **2019 – present** |
| Teacher, MIT Educational Studies Program | **2013 – present** |
| Mentor, Cientifico Latino Graduate Student Mentorship Initiative | **2018 – 2020** |
| Mentor, Society of Women Engineers Alumni Mentorship Program | **2018 – 2020** |
| Mentor, MIT Office of Minority Education, Laureates and Leaders Program | **2018 – 2020** |
| Mentor, MIT Women in Electrical Engineering and Computer Science | **2018 – 2020** |
| Mentor and Library Machine Master, MIT MakerWorkshop | **2017 – 2020** |
| Tutor, InstaEDU / Chegg Tutors | **2014 – 2017** |
| Mentor, Girls Who Code | **2015** |
| Mentor, Society of Women Engineers | **2014** |

## Professional Service

**Conference Service**

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|---|---|
| Local Arrangements Chair, ACM Symposium on Computational Fabrication | **2018** |

**External Paper Reviewer**

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|---|---|
| International Journal of Robotics Research (IJRR) | **2019** |
| IEEE International Conference on Intelligent Robots and Systems (IROS) | **2019** |
| IEEE Robotics and Automation Letters (RA-L) | **2019** |
| First Monday | **2020** |
| IEEE International Conference on Soft Robotics (Robosoft) | **2018 – 2020** |
| IEEE International Conference on Robotics and Automation (ICRA) | **2019 – 2020** |

**Invited Speaker**

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|---|---|
| University of Copenhagen SURF@DAWN – Speaker, "Embodied Inteliigence" | **July 2020** |
| Consumer Electronics Expo – Panelist, "Robots Save the Land" | **Jan. 2020** |
| Designed Education – Speaker, "Introduction to Robotics" | **July 2018** |
| Georgia FIRST Robotics: Peachtree Regional – Guest Speaker | **Mar. 2017** |

**Professional Societies:** IEEE, SWE

## Research Students Supervised

**Masters Students**

| | |
|---|---|
| Jeana Choi | **2020 – present** |

**Undergraduate Students**

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|---|---|
| Valerie Chen | **2019 – present** |

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|---|---|
| Gregory Xie | **2019 – present** |
| Sofia Leon | **2019 – 2020** |
| Joaquin Giraldo-Laguna | **2020** |
| Hannah Adams | **2019** |
| Felipe Barscevicius [C.6] | **2019** |
| Andromeda Teevens | **2019** |
| Sabina Tontici | **2019** |
| Chetan Sharma [C.2] | **2017 – 2019** |
| Shiloh Curtis | **2018 – 2019** |
| Joseph Jerkins | **2018 – 2019** |
| Jacob Miske [C.5] | **2018 – 2019** |
| Jonathan Tagoe | **2018 – 2019** |
| Aidan Fay | **2018** |
| Dani Gonzalez | **2018** |
| Antares McCoy-Villaneda | **2018** |
| Nathaniel Huffman | **2018** |
| Luis Trueba [C.4] | **2018** |
| John Whitehead | **2018** |

## Leadership Experience

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|---|---|
| Treasurer, MIT Sporting Clays Association | **2018 – present** |
| President and Founder, Free Fossils MIT | **2014 – present** |
| Chair, MIT Undergrad. Association: Student-Administration Collaboration Committee | **2015 – 2017** |
| Member, MIT Medlinks | **2013 – 2017** |
| Captain, Lead Coder, and Founder, Westminster Robotics Teams | **2010 – 2013** |

## Other Employment

**Toyota Research Institute** **Summer 2017**
*Robotics Research Intern with Dr. Russ Tedrake*

**MIT Computer Science & Artifical Intelligence Lab., Distributed Robotics Group** **2016 – 2017**
*Undergraduate Researcher with Dr. Daniela Rus*

**MIT Dept. of Mechanical Engineering, Mechanosynthesis Group** **2014 – 2017**
*Undergraduate Researcher with Dr. John Hart*

**Apple** **Summer 2016**
*iPad Hardware Systems Integration, Electrical Engineering Intern*

**Square** **Summer 2015**
*Electrical Engineering Intern*

**MIT Media Lab, Biomechatronics Group** **2015**
*Undergraduate Researcher with Dr. Hugh Herr*

**Coursera** **Summer 2014**
*Software Engineering Intern*

**Georgia Institute of Technology, Department of Mechanical Engineering** **2011 – 2013**
*Research Intern with Dr. Michael Leamy*

**Emory University, Department of Pharmacology** **2011 – 2013**
*Research Intern with Dr. Jennifer Hurst-Kennedy*

**Westminster Schools** **2010 – 2013**
*Research Intern with Dr. Chris Harrow and Dr. Shaffiq Welji*

## Side Projects

**2.72 – Elements of Machine Design** **2016**

Desktop lathe that maintained 50 micron precision even after being dropped. Won first place for highest accuracy

**MIT Mobile Autonomous Systems Laboratory** **2016**

Cube-stacking autonomous robot. Won first place, best software, best wiki and "most likely to be staff" award

**MakeMIT** **2014**

Guitar-playing robot that uses solenoids to strum and a rack-and-pinion setup to fret. Won first place.