

# Résumé

Elliott Donlon

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## Education

**Massachusetts Institute of Technology**  
2018 - 2020 M.S. in Mechanical Engineering

**Olin College**  
2010 - 2014 B.S. in Engineering: Systems  
Cumulative 3.68 GPA  
Recipient of 4-year, 50% Olin Merit Scholarship

**Punahou School**  
Graduated: June 2010  
Honors Diploma, 3.8 GPA

## Skills

**Software:** SolidWorks, Onshape, DipTrace, GitHub.

**Fabrication:** 3-D Printers, mill, lathe, drills, saws, MIG welding, sheet metal tools, water jet, laser cutter, metal and polymer casting.

**Laboratory:** FTIR, TGA, DSC, DMA, Various Mechanical Testers, various programmable furnaces, optical and SE microscopy, recrystallization, vacuum filtration, chromatography, photolithography.

## Experience

2018 - Current	<b>Domestic Water Usage and Sanitation Systems in Indian Villages</b> <ul style="list-style-type: none"><li>•Working with Professor Amos Winter to understand domestic water usage and sanitation in Indian Villages. These systems have largely been considered separately in the past.</li></ul>
2016 - 2018	<b>Reactive Gripper Development</b> <ul style="list-style-type: none"><li>•Designed and built robot fingers with integrated sensing and reactive actuation.</li><li>•Created a high-fidelity tactile sensor building on prior work of collaborators.</li><li>•Co-authored successful 75k seed funding proposal with Lab PI Alberto Rodriguez.</li></ul>
2015 - 2018	<b>Design and Fabrication for MIT's Manipulations and Mechanisms Lab</b> <ul style="list-style-type: none"><li>•Designed and built many robotic manipulation research platforms for data collection.</li><li>•Led the design, fabrication and system integration of the Team MIT robot for the Amazon Picking Challenge where we placed 2nd out of ~30 teams in 2015, 3rd and 4th in 2016, and 1st in the 2017 Stowing task.</li></ul>
2013 - 2014	<b>Improving Fabrication of Microfluidic Chips – Senior Capstone Project</b> <ul style="list-style-type: none"><li>•Created a new fabrication work-flow for microfluidic devices.</li><li>•Designed a machine to rapidly hot-emboss micro-features onto plastic substrate.</li></ul>
Fall 2013	<b>Jimmy-M – Mechanical Design Course Project</b> <ul style="list-style-type: none"><li>•Designed an expressive, open-source humanoid robot for 3-D printing.</li><li>•Attained walking, turning and four independent motions with only 4 high-performance Servos to keep price of the 2-ft humanoid below \$500</li></ul>

## Activities and Outreach

Fall 2017-Current	<b>MIT MakerWorkshop Mentor</b> <ul style="list-style-type: none"><li>•Trained shop users and run the shop as volunteer staff; <i>Advanced Hand Tools</i> Machine Master: Organized trainings, maintained machines and established use protocol.</li></ul>
Dec 2014 - Mar 2015	<b>Glass Workshop Volunteer Work at Entre Amigos – San Pancho, Nayarit, Mexico</b> <ul style="list-style-type: none"><li>•Designed a glass kiln utilizing only toasters and other available scrap materials.</li><li>•Empowered Mexican artists to supplement their income with new glass-making skills, a newly-acquired hot process and new products utilizing recycled material.</li></ul>
2013-2014	<b>3-D Printing Czar– Creating a 3-D Printing Lab at Olin College</b> <ul style="list-style-type: none"><li>•Led a team in the creation of a free-for-student-use 3-D print space at Olin College.</li><li>•Modified budget desktop 3-D printing technologies to experiment with new materials, material recycling and print optimization.</li></ul>

## Awards and Honors

2018	MIT Tata Center Research Fellow
2018	NSF Graduate Research Fellow
2016	Most Potential for Impact* award at MIT ESI's Annual Hackathon for Climate Change

## Publications

1. Donlon, E., Dong, S., Liu, M., Li, J., Adelson, E., & Rodriguez, A. (2018). GelSlim: A High-Resolution, Compact, Robust, and Calibrated Tactile-sensing Finger. In International Conference on Intelligent Robots and Systems. article. **(Amazon Research Awards Best Manipulation Paper Finalist)**
  2. Zeng, A., Song, S., Yu, K., Donlon, E., Hogan, F. R., Bauza, M., ... Rodriguez, A. (2018). Robotic Pick-and-Place of Novel Objects in Clutter with Multi-Affordance Grasping and Cross-Domain Image Matching. *In The International Conference on Robotics and Automation*. **(Amazon Research Awards Best Systems Paper)**
  3. Fazeli, N., Donlon, E., Drumwright, E., & Rodriguez, A. (2017). Empirical Evaluation of Common Contact Models for Planar Impact. *In The International Conference on Robotics and Automation* (pp. 3418–3425).
  4. Ross, C., Donlon, E., Kessler, A., Lee, C., Xiang, H., Jaffe, C. C., & Bloch, B. N. (2015). Patient and Structure Specific Quality Assurance Phantom Insert for Radiation Therapy of Prostate Cancer. *Journal of Medical Devices*, 9(2), 20938. <http://doi.org/10.1115/1.4030146>
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