Connor McCann

7 Winchelsea Lane
Lincoln, MA 01773
(339) 223-5178
connor.mccann@yale.edu
www.connor-mccann.com

Education

2014–2018 **Yale University**, New Haven, CT.
B.S. Mechanical Engineering (ABET Accredited), GPA: 3.82/4.00 (Updated: December 2016)

2010–2014 **Concord Academy**, Concord, MA.
GPA: 3.93/4.00, SAT Scores: 800 Critical Reading, 800 Mathematics, 770 Writing

Research & Industry Experience

June 2015 to present **GRAB Lab, Aaron Dollar**, *Yale University*, New Haven, CT.
Current: developing a novel Stewart platform-based robotic hand for dexterous 6-DOF, in-hand manipulation. Previous: designed a reconfigurable truss system for rapid assembly of lightweight, high-rigidity structures assembled by a robotic manipulator to form arbitrary 3D geometries.

Summer 2016 **Ekso Bionics**, Richmond, CA.
Designed a cycle-testing apparatus to cycle the company's industrial zeroG Arm system through its full range of motion and simulate real-world loading scenarios.

Summer 2014 **Robot Locomotion Group, Russ Tedrake**, *Massachusetts Institute of Technology*, Cambridge, MA.
Developed a computer model of a robotic bird for motion planning and simulation based on accurate anatomical dimensions and physical properties from live birds.

Summer 2013 **Surgical Navigation and Robotics Lab, Nobuhiko Hata**, *Harvard Medical School, Brigham and Women's Hospital*, Boston, MA.
Developed a proof-of-concept medical device prototype to optically measure the insertion depth of a biopsy needle using an optical sensor during robotic, MRI-guided surgeries.

Summer 2012 **Xu Lab, Qiaobing Xu**, *Tufts University, Biomedical Engineering*, Medford, MA.
Designed a three-dimensional perfusion bioreactor for ex-vivo liver tissue drug delivery screening.

Academic Project Experience

Fall 2016 **ENAS 778: Variable-Stiffness Soft-Robotic Precision Grasper**.
For this graduate-level Advanced Robotic Mechanisms course, developed a novel, variable-stiffness, soft-robotic grasper based on an agonist/antagonist air chamber design.

Fall 2016 **MENG 404: Novel Sternotomy Saw Guide System**.
In Yale's Medical Device Design and Innovation course, designed a sternotomy saw guide to reduce patient complications and facilitate improved healing by ensuring an accurate midline incision.

Technical Skills

CAD Solidworks, Finite-Element Analysis, PDM, CAMWorks, Topology Optimization

Programming Matlab, C, Python, Arduino, LaTeX

Fabrication 3D printing, laser cutting, milling, lathing, CNC milling, soft-robotic fabrication

Publications

[3] Z. Xu, C. McCann, and A. M. Dollar. "Reconfigurable Modular Chain: a Reversible Material for Folding 3D Lattice Structures." ASME Journal of Mechanisms and Robotics (JMR), 2017 (IN PRESS).

[2] Z. Xu, C. McCann, and A. M. Dollar. "Design of a Reconfigurable Modular Chain for Folding 3D Lattice Structures." ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference (IDETC/CIE), 2016.

[1] K. Palmer, D. Alelyunas, C. McCann, K. Yoshimitsu, T. Kato, S. Song, N. Hata. "Development and evaluation of optical needle depth sensor for percutaneous diagnosis and therapies." SPIE Medical Imaging, 2014.