

John W. Romanishin

• 387 Main Street #2 • Medford, MA 02155 • <http://web.mit.edu/johnrom/www/design/> • johnrom@csail.mit.edu •

EDUCATION

Massachusetts Institute of Technology - Cambridge, MA

- B.S. in Engineering as Recommended by the Department of Mechanical Engineering: *GPA 4.2/5.0* 06-2012
- Relevant coursework: Precision Machine Design, Elements of Mechanical Design, Robotics: Science and Systems, Dynamics and Controls, Measurement and Instrumentation, Thermal and Fluids Engineering

EXPERIENCE

- Distributed Robotics Laboratory at MIT* – Research Engineer 08-2012 - Present
- Led development of a new self-reconfigurable modular robotics system called M-blocks, which promises to be simpler and more capable than similar systems.
 - Designed a novel robotic end-effector which can hold and rotate a diverse range of objects using elastic bands in order to simplify the assembly of furniture by a team of mobile robots.
 - Analyzed and created robot designs produced using a foldable electronics embedded rapid prototype fabrication method funded by a National Science Foundation grant.
- Peter J. Eloranta Summer Undergraduate Research Fellowship* - Summer Research Fellow 06-2012 - 09-2012
- Self-directed summer research in the Distributed Robotics Laboratory at MIT to prototype and test a new type of modular robot that can self-reconfigures through pivoting.
 - Investigated novel methods to implement inertial actuation for modular robots.
- Vishwa Robotics* - Robotics Engineering Consultant 07-2011 - 10-2012
- Applied my knowledge of mechanical design to improve the frame and gearbox for a DARPA funded drone landing gear project modeled after the claws of a hawk.
 - Designed and experimentally validated a novel continuously variable automatic pulley-based transmission to actuate an experimental flexible exoskeleton system.
- Technical University Berlin* - Engineering Intern 06-2010 - 08-2010
- Worked with an international team to design and build a low-cost eye-tracking device
- Vehicle Design Summit* - Mechanical Engineer 06-2010 - 10-2011
- Full time during summer 2011: building the frame and components for VDS's electric car.
 - Independent study during spring 2010: responsible for helping with the design and construction of the carbon-fiber composite body for the VDS car.

PUBLICATIONS and PATENTS

- IROS: "M-Blocks: Momentum-driven, Magnetic Modular Robots" (first author) 11-2013
- Patent 61/808,783 (submitted): "Modular Angular-Momentum Driven Magnetically Connected Robots" 09-2013
- ICRA: "IkeaBot: An Autonomous Multi-robot Coordinated Furniture Assembly System" (contributing author) 06-2013
- B.S. Thesis: "Development of a Robotic Torque Application Gripper for Automated Furniture Assembly" 06-2012

ACTIVITIES

- MIT cycling team: racer in road, track, cyclo-cross, and mountain (captain in 2011) 2007 – 2012
- Through-hiked the Appalachian Trail 2009
- Bike and Build America: bicycled cross-country for charity from Boston, MA to Vancouver, BC 2008
- Bicycle-camping trip from Portland, OR to Norman, OK 2008

AWARDS

- Best Automation Paper Award finalist at ICRA 2013 for Paper "IkeaBot: An Autonomous Multi-robot [...]" 2013
- Best mechanical design award in MIT's 6.370 MASLAB contest 2012
- Third place in MIT's Mechanical Engineering 2.007 robotic design contest 2010
- Robert C. Byrd Scholar 2007
- Eagle Scout with BSA Troop 241 of Norman, Oklahoma 2006

SKILLS

Computer: Proficient with *Solidworks* and *Omax Layout*, Familiar with *Matlab*, *Python*, *C++*, *HTML*, and *LaTeX*
Mechanical Fabrication: 2.5 axis CNC milling, water-jet machining, laser-cutting, 3d printing, and extensive filing