

INGRID HAGEN-KEITH

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I am an empathetic artist-engineer with a passion for experiential design and soft-goods. I create physical artifacts and experiences that enable people to connect with each other, their environments, and ideas. I love to learn and empower others with my immersive and exchange-prompting work.

Education

Olin College of Engineering

Needham, MA

May 2015

BS in Mechanical Engineering (GPA 3.59). Courses include: Mechanical Prototyping & Design, Failure Analysis and Prevention, User Oriented Design, Systems Analysis, Assistive and Adaptive Technology, and Drawing.

Work Experience

Ministry of Supply R&D Intern

Boston, MA

June 2015–August 2015

Designed and built lightbox, automated washer and dryer, and abrasion tester. Targeted customer values of durability and comfort in apparatuses. Focused on ease-of-use, serviceability, and complete documentation in execution.

GnuBio R&D Intern

Cambridge, MA

May 2014–August 2014

Tested various microfluidic and macrofluidic devices to inform future thermodynamic designs of device. Designed, tested and implemented a system in a manufacturing process that reduced part production time by 40%.

Research, Prototyping with a Laser Cutter

Olin College

Jan 2013–May 2014

Explored and documented advanced prototyping techniques with a laser cutter and presented at New York City's World Maker Faire in 2013 (team of 4). Topics include: 3D geometries and compliant mechanisms and exotic materials.

Projects



Examination of ethical garment manufacturing

2014–2015, with professor

Analyzed the performance and social ramifications of ethical garment manufacturing domestically and overseas. Publishing in progress.



Direct Injection Prototype

2014–2015, team of 4

Collaborated with AGCO to create an improved direct injection system for boom sprayers. Involves high competency in fluids and mechanical design.



Wearable Sculpture

Spring 2015, solo

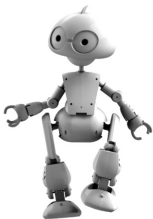
Explored concept of identity through working dynamic wearable sculpture with a telescoping carbon fiber sleeve. Sewed the accompanying dress and painted with thermochromic paint.



My Zone Chair

Fall 2015, team of 4

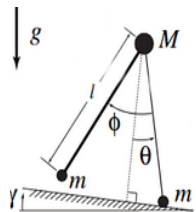
Collaborated with a local school to create a chair to empower and comfort children with sensory processing issues in the classroom. Needed to be low-cost, easy to fabricate, and friendly.



Jimmy F Intel Robot

Fall 2013, team of 4

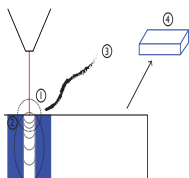
Honed drawing package and factor of safety skills by designing robust 3D-printed bipedal walking robot. Was responsible for design of knees and 2-degree of freedom ankles.



Passive Dynamic Walker Simulation

Fall 2013, team of 2

Created a MATLAB simulation of a passive dynamic walker on varying slopes to determine stability and maximum strides with accuracy.



Laser Processing of Thermoplastic

Fall 2013, team of 3

Analyzed thermal and structural properties of thermoplastics during laser processing to determine the degradation mechanism.



Urban Surf Park

Spring 2013, team of 5

Designed an open, urban surf center for Northeastern winter surfers after determining their values and needs through a series of co-designs and user visits.

Other Skills

Mechanical Design and Analysis: SolidWorks and Autodesk Inventor CAD, FEA and PDM Packages, mechanical drawings, Impact and Mechanical Systems, SEM

Fabrication: Mill, Lathe, CNC Router, Laser Cutter, MakerBot, basic machine tools, sewing machines

Programming & Modeling: Python, LaTeX, HTML/CSS, SQL, Arduino, C++, C#, Visual Basic, git, MATLAB, COMSOL

Software: Microsoft Suite, Adobe Suite, Final Cut Pro, OfficeWriter