

ENGINEERING & ROBOTS

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WHAT IS ENGINEERING?



Engineers are designers and problem solvers who use math and science.

Engineers are creative, hard working, passionate, and compassionate.

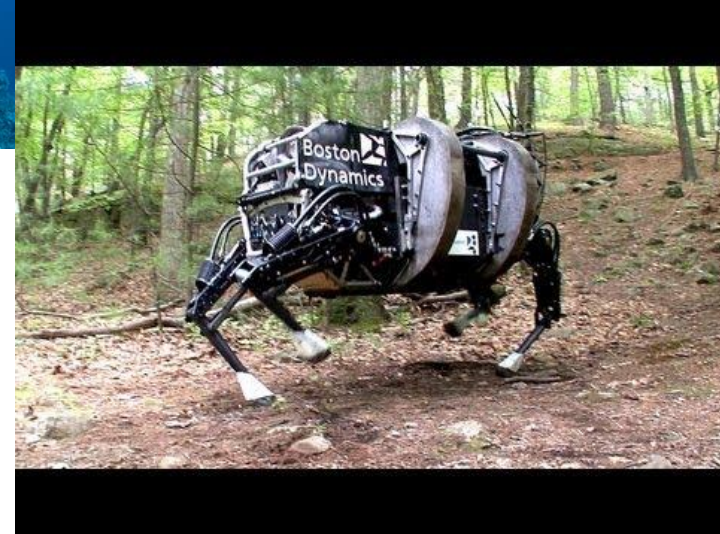
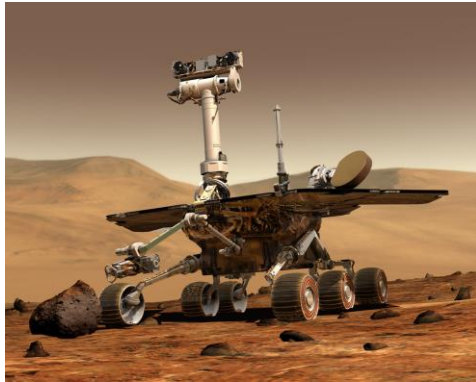
Engineers use their skills to help others.

WHAT ARE ROBOTS?



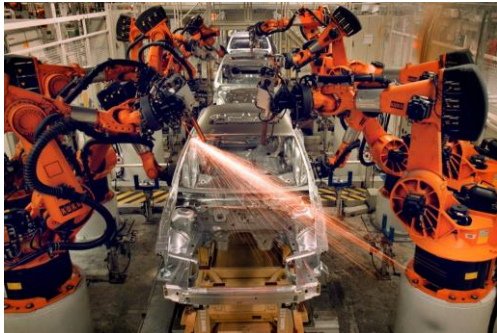
- ❖ People often think of robots as having a shape like a person
 - two legs, two arms, and a head
 - a humanoid
- ❖ But robots come in many forms
- ❖ Robots are any machine that does work on its own, automatically

ROBOTS ARE EVERYWHERE!



ADVANTAGES OF ROBOTS

How do they help us?



- ❖ Robots assist humans at work, home, etc.
- ❖ They also replace humans in performing repetitive and dangerous tasks which:
 - humans prefer not to do
 - humans are unable to do because of size limitations
 - take place in extreme environments

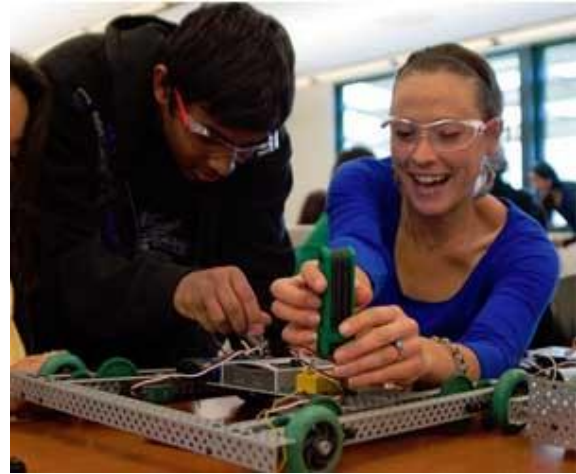
LEARNING OPPORTUNITIES IN ROBOTICS

❖ Creative problem solving

- allows us to be creative and challenging ourselves
- encourages us to learn more about science, technology and engineering

❖ Fun, hands-on experience

- robotics provides us with interactive exercises for our hands and minds



Assistive Robots

Designed to help people

Can help people live independently, work, be happier



A LITTLE ABOUT US

Bryan

- ❖ University of Iowa
- ❖ Electrical Engineering
 - Computer Science
- ❖ Hobbies and interests:
 - Going to the gym, reading, good coffee

Meng

- ❖ University of Wisconsin-Stout
- ❖ Computer Engineering
 - Computer Science, Mathematics, Biomedical Instrumentation
- ❖ Hobbies and interests:
 - Fishing, Hiking, Cars, and Computers

OUR PROJECT

iRobot Guide

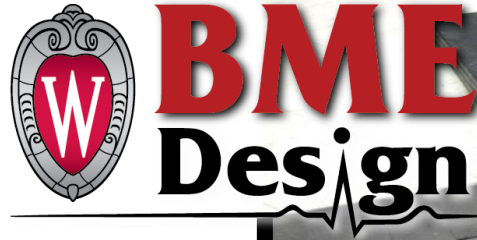
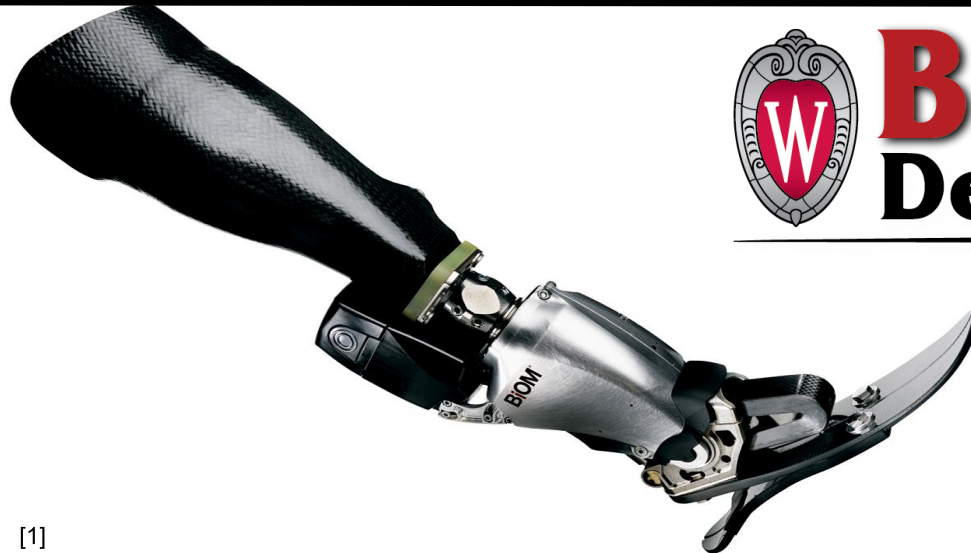
- ❖ a robot that will guide a blind person inside an unfamiliar building
- ❖ navigate rooms and hallways
- ❖ detect objects and obstacles
- ❖ wireless communication with smartphone



Jason

Biomedical Engineering
Biomechanics

- Prosthetic Design
- Gait Analysis



[3]

[1]

Jason

Wheelchair Navigation



Vanessa

Where?

Colorado Springs, CO

Marquette University



What?

Mechanical Engineering



Why?

Hands on

Application of favorite subjects



Vanessa

What is a tremor?

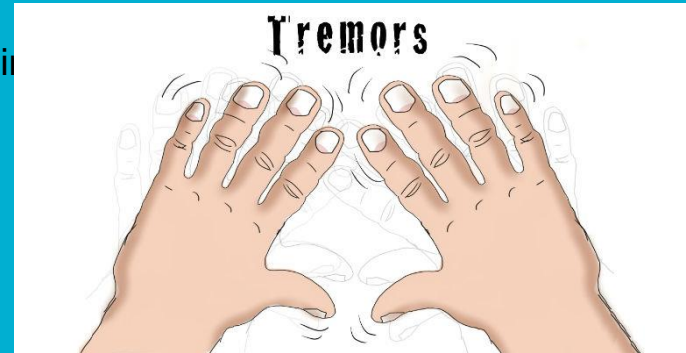
Unintentional, rhythmic muscle movement that commonly affects the hands, arms face, voice, trunk and legs

What is a urinary catheter?

Thin, flexible rubber tube placed in your body to drain

Who is affected?

Elderly, stroke, multiple sclerosis

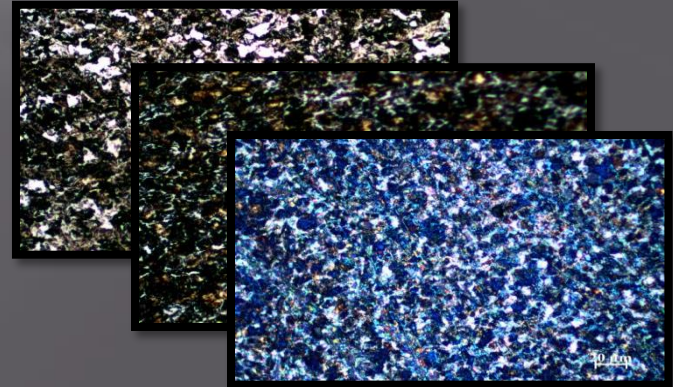




UNIVERSITY OF WISCONSIN-MILWAUKEE, MILWAUKEE, WI
BACHELORS IN MECHANICAL ENGINEERING (EXPECTED DATE OF MAY 2017)
DUAL DEGREE PROGRAM
CARROLL UNIVERSITY, WAUKESHA, WI
BACHELORS OF APPLIED SCIENCE (B.A.SC.), APPLIED PHYSICS
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About me

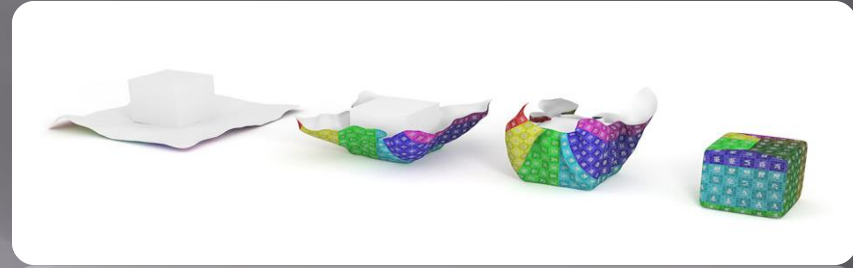


REU in Robotics

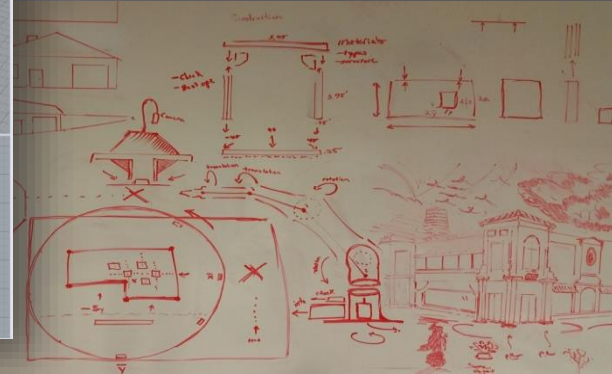
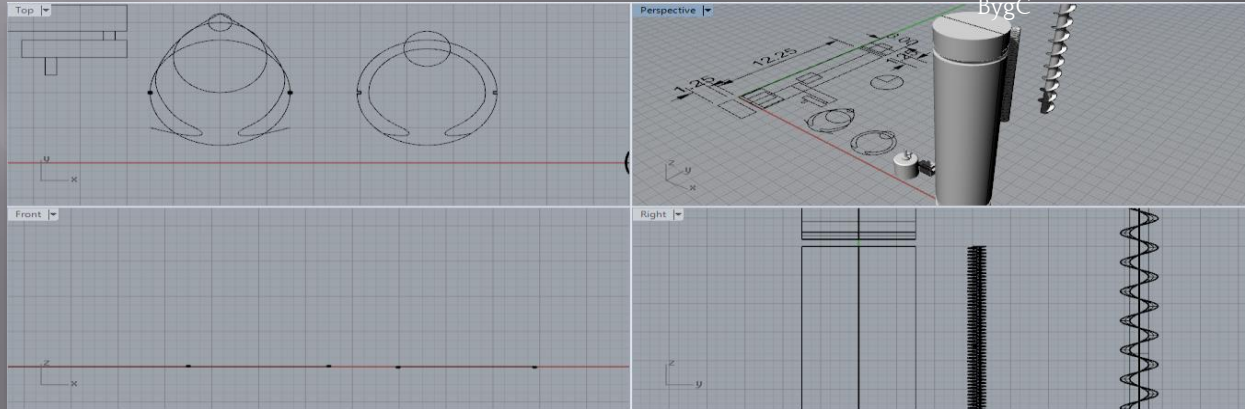
□ Cocktail Napkin Sketch

Kimberly Long Loken, AIA, LEED AP, IDEC
Assistant Professor / Game Design / UW-Stout School of Art and
Design

Different types of motors prototyping



https://www.google.com/search?q=cinder+c%2B%2B&biw=784&bih=771&source=lnms&tbm=isch&sa=X&sqi=2&ved=0ahUKEwjPm_rWpvzNAhXl24MKHeOYAUIQ_AUBygC



Haiming Lou

Electrical Engineering at North Dakota State University

Robotics stuff



Erin Louwagie

Mechanical Engineering at University of
Minnesota

Society of Women Engineers (SWE)

Play French Horn in a woodwind quintet

Love to read!!!



Robert Muñoz

School: University of North Dakota

Degree: Mechanical Engineering

Concentration: Design

School Involvement: ASME, CEM Mentor, and Intramural Hockey

Why do I like Engineering?

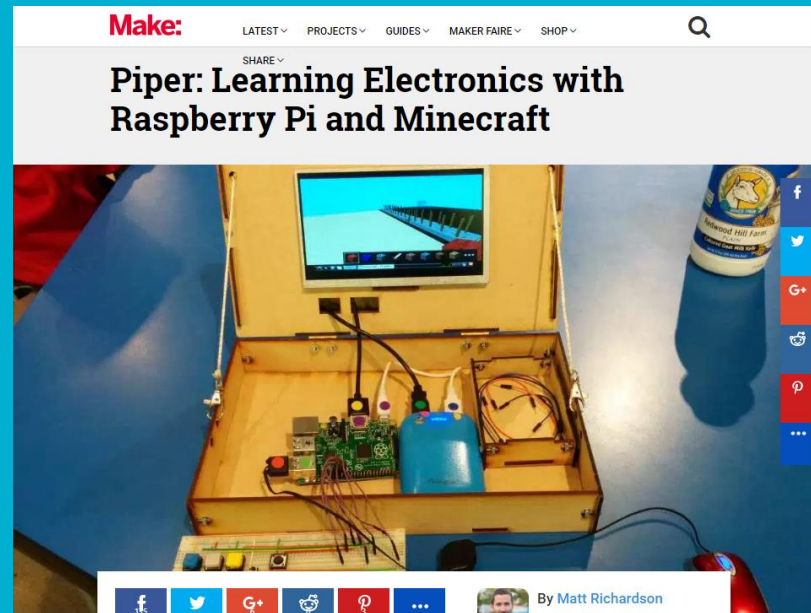


Meal Assist Robot



What We Recommend to You!

- > Start thinking about what you like to do
- > learn some skills / find a creative friend
- > Engineer \neq nerd ^.^
- > think about ...
math/science/critical thinking.
... and have fun!



<http://makezine.com/2014/12/01/piper-learning-electronics-with-raspberry-pi-and-minecraft/>

THANK YOU