

# Xiaodan (Stella) Jia

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46-4107, 43 Vassar Street, Cambridge, MA, 02139

## EDUCATION

### Massachusetts Institute of Technology (MIT)

Master of Science in Mechanical Engineering

Cambridge, MA, US

GPA: 4.5/5.0 09/2012

Relevant courses: Product Design and Development, Product Design, Manufacturing Processes, Advanced Computer Vision

### Harbin Institute of Technology (HIT)

Bachelor of Science and Engineering in Automation, Graduated with Honors and best thesis award

Harbin, Heilongjiang, China

GPA: 89.8/100 07/2010

## EXPERIENCE

### MIT, Perceptual Science Group, Lump Detection with Tactile Sensors

Research Assistant

Cambridge, MA

04/2012 – present

The sensor built in the lab can provide detailed tactile information of contacting surfaces. It can be used to assist doctors in lump examination. It can also help surgeons during tele-surgery where direct touch information is absent.

- Fabricated 120 samples, each one with different parameters to test and analyze the sensitivity of elastomeric sensors
- Conducted both human psychological experiments and elastomeric sensor experiments with different samples
- Compared performances between human and elastomeric sensors to show sensors outperform human in similar tasks

### MIT, Perceptual Science Group, Tactile Perception of Materials Using an Elastomeric Sensing System

Research Assistant

Cambridge, MA

09/2010 – present

- Extracted tactile information from elastomeric sensing system to equip robots with human-like tactile sensation
- Reconstructed 3D models of contacting surfaces using photometric stereo algorithm to obtain surface geometry
- Experimented with optics to improve illumination, hence to improve precision and resolution of system
- Conducted chemical experiments to fabricate elastomer and membrane on the elastomer

### MIT, Perceptual Science Group, Human Tactile and Visual study in material perception (Funded by Google)

Research Assistant

Cambridge, MA

09/2011 – present

- Prepared experimental stimuli, set up lighting environment and took photographs of fabrics
- Designed 6 human psychophysical experiments to study correlations between human tactile and visual perception
- Results presented at Vision Science Society Annual Meeting with 1,300+ attendees

### MIT, Mobile Autonomous Systems Laboratory (MASLAB), Robotic Competitions

Team Member, three rounds winner in the final competition

Cambridge, MA

01/2012 – 02/2012

- Designed robot to gather and subsequently launch balls in a maze-like environment
- Manufactured robot using laser cutter and lathe, improved stability of robot by adjusting ball collecting mechanisms

### MIT, Advanced Computer Vision, Wearable Face Detection – Assistive Technology for the Blind

Team Member

Cambridge, MA

09/2011 – 12/2011

- Designed and conducted online Mechanical Turk experiments testing people's reaction towards wearable camera with the goal of determining social impact of wearable devices in social interaction for blind people

### MIT, Manufacturing Processes, Race Car Manufacturing

Team Member, third prize in the final Race Car Competition

Cambridge, MA

09/2010 – 12/2010

- Manufactured wheels with injection molding, cover with thermoforming, bumpers with waterjet and shafts with lathe

## Activities

### Mechanical Engineering, Course 2.003 Dynamics and Control I (147 sophomore students)

Teaching Assistant

Cambridge, MA

09/2012 – present

### Northeast Asian Economic forum, Young Leadership Training Program

Young Leadership Fellow

Hainan, China

08/2012 – 09/2012

### Graduate Association of Mechanical Engineering (GAME) MIT, Student Lunch Seminar

Seminar Chair

Cambridge, MA

03/2012 – present

- Organized seminars, invited speakers, arranged venue, catering and logistics for 7 seminars per semester

### Ashdown House at MIT, Photo Contest

Organizer

Cambridge, MA

03/2012

- Provided catering and logistics for 80+ attendees, arranged venue and managed a live voting session

### Ashdown House at MIT, Chinese-Themed Cultural Dinner

Organizer

Cambridge, MA

11/2011

- Publicized event, invited Asian performance team and arranged Chinese cuisine catering and logistics for 100+ attendees

### Liu Sifeng Crazy English Camp in Northeastern China, Crazy English Camp (700+ attendees)

Teaching Assistant (10/2006 – 10/2007), Coach (10/2007 – 10/2008)

Heilongjiang Province, China

## Personal

**Skills:** MATLAB • Manual lathe • Laser cutter • Waterjet • Thermoforming • Crowd Sourcing via Amazon Mechanical Turk

**Languages:** English, Mandarin (Native)

**Interests:** Ballroom dance • Handcrafts • Glass mosaic