# LI–YEN HUANG

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## EDUCATION

**National Taiwan University, Taipei, Taiwan** February 2014 – January 2016
Completed 18 credits towards a Master of Science in Mechanical Engineering (GPA: 4.22/4.30)

**National Taiwan University, Taipei, Taiwan** September 2009 – January 2014
Bachelor of Science in Mechanical Engineering (GPA: 89.37/100)
Relevant courses: General Psychology, Social Psychology, Computer Programming, Engineering Graphics, Application of CAD System, Computer-aided Engineering Drawing, Mechanism Design

## CONTINUING EDUCATION

**Algorithms, Part I**, Princeton University (Coursera)
**Introduction to User Experience Principles and Processes**, University of Michigan (Coursera)
**Understanding User Needs**, University of Michigan (Coursera)
**Web Design for Everybody: Basics of Web Development & Coding**, University of Michigan (Coursera)

## WORK EXPERIENCE

**Motion Planning Team, Syntec Technology Co., Ltd.** January 2021 – December 2021
*Senior Research Developer* *Hsinchu, Taiwan*

- Communicated with product engineers and software architects and offered comprehensive solutions for both parties.
- Developed robust software for CNC machines with a minimum expected life cycle of 10+ years.
- Validated the core components of the software shared by a wide variety of manufacturing machines.

**CAD/CAM Team, Syntec Technology Co., Ltd.** June 2019 – December 2020
*Senior Product Engineer* *Hsinchu, Taiwan*

- Developed a turn-milling Computer-Aided Design and Manufacturing (CAD/CAM) system from the ground up.
- Designed a user flow to produce tool paths for turn-milling machines.
- Conducted an extensive user survey from potential customers to optimize the portfolio of the final product.
- Integrated a machining engine and 3D libraries with a user interface.

**Laser Marking Team, Syntec Technology Co., Ltd.** May 2016 – May 2019
*Product Engineer* *Hsinchu, Taiwan*

- Developed a new algorithm to eliminate the workspace limitations of a laser marking system.
- Designed a user interface on both PCs and embedded systems.
- Developed and maintained a laser marking CAD/CAM software.

## RESEARCH EXPERIENCE

**Robot Gripper Design** February 2014 – January 2016
*Research Assistant* *Taipei, Taiwan*

- Researched robot grippers to install multiple sensors for bin picking.
- Improved a self-compliant robot gripper with tactile sensors to grasp different geometric objects.
- Designed and integrated a custom-made robot gripper with an off-the-shelf industrial robot arm.

**Spring Balancing Mechanism Design** February 2013 – November 2013
*Undergraduate Independent Researcher* *Taipei, Taiwan*

- Surveyed a self-balancing spring planar mechanical structure.
- Analyzed and optimized parameters for a self-balanced surgical inspection light.

**Remote-controlled Ball-shooting Robot** February 2012 – June 2012
*Course Project in Machine Design Theory* *Taipei, Taiwan*

- Designed and assembled a remote-controlled robot for a ball-shooting challenge in a complex environment.
- Produced technical drawings and built prototypes of different modules of the robot.

## PUBLICATIONS

- L. Y. Huang et al, "A manipulator with a depth sensor and an underactuated and tactile gripper for identifying and grasping the objects in various shapes and sizes," International Federation for the Promotion of Mechanism and Machine Science World Congress (IFToMM), Oct. 2015, Taipei, Taiwan.
- L. Y. Huang (second author) et al, "An underactuated and compliant gripper with multi-sensor feedback," in Proc. The Chinese Society of Mechanical Engineers Annual Meeting, Dec. 2014, Taichung, Taiwan, 02295.
- L. Y. Huang (second author) et al, "Design and implementation of an underactuated and sensor-rich gripper," in Proc. International Conference on Advanced Robotics and Intelligent Systems (ARIS), Jun. 2014, Taipei, Taiwan, pp29.

## VOLUNTEER EXPERIENCE

- **Robot Summer Camp for Elementary School Students**, Syntec Technology Co., Ltd. August 2018
- **Summer Camp for Elementary School Students**, Taiwan Campus Crusade for Christ July 2011
- **Summer Camp for Elementary School Students**, Taiwan Campus Crusade for Christ July 2010

## AWARDS

- **First Prize, Best Conference Paper Award, International Conference on Advanced Robotics and Intelligent Systems (ARIS), Jun. 2014, Taipei, Taiwan**
- **Academic Excellence Award * 3 (for top 5% students in class each semester)**

## SKILLS

- **Applications:** Solidworks, AutoCAD, Siemens NX (UG), Microsoft Office
- **Programming Languages:** C#, C++, Python, JavaScript, HTML5, CSS3, MATLAB
- **Languages:** Mandarin Chinese: native speaker, English: proficient (TOEFL:106/120)