

# Ni-Ching ‘Monica’ Lin

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## Research Interests

Assistive Robots, Haptics, Autonomous Navigation, Marine Robotics, and Virtual/Augmented Reality.

## Education and Professional Experiences:

**Graduate Student**, Institute of Electrical and Control Engineering National Chiao Tung University (NCTU), Taiwan 09/2016 – 01/2019

Advisor: Prof. Hsueh-Cheng Nick Wang

**Visiting Student**, University of Massachusetts at Boston, USA 02/2018 – 04/2018

Advisors: Prof. Lap-Fai Yu and Prof. Marc Pomplun

**Intern Student**, In.Sight Company & Università degli Studi di Palermo, Italy 06/2017 – 07/2017

Advisor: Prof. Laura Giarre

**Visiting Student**, University of Massachusetts at Boston, USA 02/2016 – 06/2016

Advisors: Prof. Lap-Fai Yu and Prof. Marc Pomplun

**Undergraduate Student**, Department of Electrical Engineering, Tamkang University (TKU). GPA: 3.89/4.00, Ranking: 3/67. 09/2012 – 01/2016

Advisor: Prof. Ching-Chang Wong

## Publications and Projects:

### *Journal Paper:*

- [J1] H. Huang, N.-C. Lin, L. Barrett, D. Springer, H.-C. Wang, M. Pomplun, & L.-F. Yu (2017). Automatic Optimization of Wayfinding Design. *IEEE transactions on visualization and computer graphics (TVCG)*.

### *Conference Presentations:*

- [C1] T.-K. Chuang\*, N.-C. Lin\*, J.-S. Chen, C.-H. Hung, Y.-W. Huang, C.-C. Teng, H. Huang, L.-F. Yu, L. Giarre, & H.-C. Wang. Deep Trail Following Robotic Guide Dog in Pedestrian Environments for People Who Are Blind and Visually Impaired - Learning from Virtual and Real Worlds. *IEEE International Conference on Robotics and Automation* (to appear in ICRA 2018).  
\*T.-K. Chuang and N.-C. Lin contributed equally to this work.
- [C2] H. Huang, N.-C. Lin, L. Barrett, D. Springer, H.-C. Wang, M. Pomplun, & L. F. Yu. Analyzing visual attention via virtual environments. Virtual Reality meets Physical Reality: Modelling and Simulating Virtual Humans and Environments. *In SIGGRAPH ASIA 2016*.

## ***Projects:***

### **Maritime Robotx Challenge**

- **Join 2018 RobotX Competition**, The challenge is about developing and using autonomous maritime systems on autonomous surface vehicle platforms and sensors held in December 2018 in Hawaii.
- **WAM-V Integration Lead**, Building up the on- and off-board system for WAM-V (a competition required unmanned surface vehicle), including adding propulsion system, batteries, computation units, and sensors.

### **Duckietown @ NCTU, Education and Research Platform for Autonomous Vehicles**

- **Teaching Assistant**, Creative Software Project, Department of Electrical and Computer Engineering, NCTU, Taiwan, 09/2016 – 01/2017.
- **Lab Assistant and Organizing Staff**, Tutorial in the IEEE International Robotic Computing Conference. 05/2017

### **Robotic Manipulator End Effector**

- Develop a robot gripper for grasping and sucking objects in warehouse automation scenarios.
- In charge of designing mechanism, circuits, and programming of the grippers in HIWIN Contest 2015, and International Robot Hands-on Competition 2014 and 2015.

## **Honor and Awards:**

<b>5th Place</b> , 2018 RobotX Challenge. (\$4,000 USD)	12/2018
<b>Best Single Day Performance</b> , 2018 RobotX Challenge. (\$2,000 USD)	12/2018
<b>Pilot Overseas Internships</b> , Ministry of Education, Taiwan. (\$10,000 USD).	06/2017
<b>First Place Award</b> , HIWIN Intelligence Robot Implementations Contest, Taiwan (\$13,000 USD)	07/2015
<b>Honorable Mention</b> , International Robot Hands-on Competition & Symposium, Taiwan	2014
<b>Honorable Mention</b> , International Robot Hands-on Competition & Symposium, Taiwan	2015
<b>Da Yu Award</b> , College of Engineering Tamkang University (Top 3%)	05/2015

## **Technical Skills:**

**Programming language:** Python, C/C++, C#, HTML

**Middleware:** Robot Operating System (ROS)

**Sensors and Hardware:** Google Tango device, Raspberry Pi, Arduino, Haptic device

**Software:** Arduino, Solidwork, Altium Designer, Unity3D