

# Easton Yi HUANG

Personal Web: [www.eastonhy.com](http://www.eastonhy.com) ◇ Phone/Wechat: 18041101930

Email: [eastonhwang@gmail.com](mailto:eastonhwang@gmail.com) & [easton.hy@rutgers.edu](mailto:easton.hy@rutgers.edu)

## EDUCATION

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### **Ph.D. in Mechanical & Aerospace Engineering**

Rutgers University–New Brunswick, School of Engineering

*Aug. 2024 - Present*

### **M.Sc. in Mechanical Engineering**

National University of Singapore, College of Design and Engineering

*Aug. 2022 - Jan. 2024*

### **B.Eng. in Mechanical Design & Manufacturing and Their Automation**

Dalian University of Technology, School of Mechanical Engineering

*Sep. 2018 - Jul. 2021*

NUS Suzhou Research Institute

*Sep. 2021 - Jul. 2022*

## RESEARCH EXPERIENCE

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### **NextG-Enabled Manufacturing of the Future (NextGEM)**

Rutgers, New Brunswick, USA

**Instructor: Prof. Jingang Yi & Prof. Yuebin Guo**

*2024 - Present*

- Keywords: Physics-Informed Machine Learning; Digital Twins; Manufacturing.

### **Digital Twins Integrated Finite Element Analysis**

NUS, Singapore

**Instructor: Prof. Andrew Yeh Ching Nee & Prof. Ong Soh Khim**

*2022 - 2024*

- Keywords: Digital Twins; Structural Health Monitoring; Finite Element Analysis; Machine Learning; Surrogate Model.

### **Intelligent Machine Vision for Surface Condition Inspection**

NUSRI, Soochow, China

**Instructor: Prof. Wen Feng Lu**

*2021 - 2022*

- Keywords: Machine Vision; Defect Detection; Deep Learning; Denoising.

### **Development of Height-adjustable Small Stool**

DUT, Dalian, China

**Undergraduate Innovation and Entrepreneurship Training Program**

*2021 - 2022*

**Instructor: Dr. Tieli Zhu**

- Keywords: Structural Design and Optimization.

### **Material Damage Modeling based on Multi-sensor Data**

DUT, Dalian, China

**Undergraduate Innovation and Entrepreneurship Training Program at national level**

*2020 - 2021*

**Instructor: Prof. Wei Liu**

- Keywords: Drilling of CFRP; Multisensor Measurement; Machine Learning.

## COURSE PROJECTS

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- **Dynamics for Biped Robot Walking**

Module Name: Analytical Dynamics

- **Spatio-temporal Prediction based on Data-driven Machine Learning: Earthquakes Case**

Module Name: Data-Driven Engineering and Machine Learning

- **Predicting Additive Manufacturing Parameters based on Acoustic Analysis**

Module Name: Engineering Acoustics

- **Calculate and Optimize the Carbon Emissions of Product**

Module Name: Sustainable Product Design & Manufacturing

- **Structural Design and Analysis of Quadruped Walking Robot**

Module Name: Mechanical Design 1 Course Design

- **Gear Reducer Design and Optimization**

Module Name: Mechanical Design 2 Course Design

## OTHER EXPERIENCE

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- **Teaching Assistant, Course: 14:650:401–Dynamic Systems and Controls (Fall 2025)**  
2025-2026, Rutgers University, Advisor: Prof. Annalisa Scacchioli
- **Graduate Assistant**  
2024-2025, Rutgers University, Advisor: Prof. Jingang Yi
- **China Robotics and Artificial Intelligence Competition**  
Smart Agriculture Contest, Instructors: Dr. Feilong Wang & Prof. Shenglan Liu
- **Kaggle Competition**  
UW-Madison GI Tract Image Segmentation (UWMGI)
- **Dalian University of Technology Varsity Self-Reliance Society**  
Vice President (Junior), Office Manager (Sophomore), Outreach Officer (Freshman)

## AWARDS

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- Raisler Fellowship from Rutgers University.
- Dongguan Entrepreneur Scholarship in 2024.
- First Prize in China Robotics and Artificial Intelligence Competition.
- Learning Excellence Award in DUT.
- Honorary title of Outstanding Officer of Dalian University of Technology Self-Reliance Society.

## PUBLICATIONS

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- C1. **Y. Huang**, F. Han, J. Yi. “Data-Efficient Learning-Based Estimation of Region of Attractions for Nonlinear Dynamic Systems,” in *Proc. IEEE Int. Conf. Autom. Sci. Eng. (CASE)*, 2025, Los Angeles, CA, USA.
- C2. **Y. Huang**, F. Han, T. Zheng, L. Hu, J. Yi, Y. Guo. “Physics-Informed Machine Learning-Based Chattering Prediction in Milling Process,” in *Proc. Amer. Control Conf. (ACC)*, 2025, Denver, CO, USA.
- C3. **Y. Huang**. “Intelligent Machine Vision for Detection of Steel Surface Defects with Deep Learning,” in *Proc. IEEE Int. Conf. Smart Internet Things (SmartIoT)*, 2023, Xining, China.

## PAPER REVIEW

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| • American Control Conference   | 2025 |
| • IEEE International Conference on Automation Science and Engineering | 2025 |
| • IEEE International Conference on Intelligent Transportation Systems | 2025 |