Yu Chien **Hou**

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Education

Carnegie Mellon University (CMU) *Pittsburgh, PA*

M.S. in Electrical and Computer Engineering / M.S. in Engineering and Technology Innovation Management *Dec. 2025*

- Accepted into Carnegie Mellon University's dual degree M.S. program

National Taiwan University (NTU) *Taipei, Taiwan*

B.S. in Material Science and Engineering *Jun. 2023*

- **Overall GPA: 4.0/4.3**
- Selected Courses: Algorithms, Data Structures, Machine Learning, Machine Learning Techniques, Computer Vision, Web App Programming, Computer Programming, Discrete Mathematics, Engineering Mathematics, Intro to Computer Engineering, Semiconductor Engineering

Work Experience

Taiwan Semiconductor Manufacturing Company (TSMC) *Hsinchu, Taiwan*

Process Engineer Intern *Jul. 2022 - Sep. 2022*

- Conducted in-depth analysis and simulations on the impact of pressure gradient to address ion implanter batch yield loss
- Aimed to reduce fab manufacturing cost by 100,000 USD per year by mitigating flawed wafer lots
- Developed skills in problem-solving, teamwork, and information organization throughout the process

Research Experience

NTU Robot Learning Lab, Prof. Shao-Hua Sun *Taipei, Taiwan*

Undergraduate Researcher *Feb. 2023 - Jul. 2023*

- Formulated a machine learning project leveraging ViT models and attention mechanisms to enhance 3D robot assembling tasks
- Delved into the study of reinforcement learning algorithms to train agents for optimal decision-making

NTU Atomic Layer Engineering Lab, Prof. Miin-Jang Chen *Taipei, Taiwan*

Undergraduate Researcher *Sep. 2021 - Jul. 2023*

- Collaborated with TSMC in advancing Atomic Layer Deposition (ALD) technology for the cutting-edge 2nm process
- Pioneered and investigated various modifications to the traditional ALD process

Honors & Awards

2022 **Dean's List Award**, Award to students with top 5% GPA in a given semester

2022 **TSMC Research Assistant Scholarship**, Award to students with exceptional research experience

2022 **TSMC Outstanding Project Award**, Award to the best projects among all TSMC interns

2022 **TSMC Campus Ambassador Award**, Award to TSMC campus ambassadors elected by HR managers

Academic Projects

Ganzin Pupil Tracking

Final Project of Computer Vision (2023 Spring) *Jun. 2023*

- Integrated traditional computer vision techniques with machine learning methodologies to accomplish precise pupil segmentation
- Attained an impressive 95% overall segmentation accuracy (top 4)

Hotel Booking Service

Final Project of Machine Learning (2020 Fall) *Jan. 2021*

- Constructed a robust machine learning model that utilizes reservation data for predicting daily revenue in a hotel booking company
- Explored and critically analyzed diverse approaches, including logistic regression, random forest, and neural networks

Skills

Programming	C, C++, Python, HTML, Javascript, Shell script, Matlab
Toolkits/Libraries	Pytorch, Tensorflow, OpenCV, React, Numpy, Pandas
Areas of Specialization	Deep Learning, Reinforcement Learning, Semiconductor Engineering
Languages	English, Mandarin