Yu Chien **Hou**

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Education

National Taiwan University (NTU) *Taipei, Taiwan*

B.S. in Material Science and Engineering *Sep. 2019 - PRESENT*

- **Overall GPA: 4.0/4.3**
- **Accepted into Carnegie Mellon University's Electrical and Computer Engineering M.S. Program**
- 1st Place Dean's List Award: Recognition of outstanding academic performance in 2nd semester of junior year
- 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 - Aug. 2022*

- Proposed and simulated pressure gradient effects on the ion implanter vacuum system to solve the batch yield loss issue
- Expected to reduce fab manufacturing cost by 100,000 USD per year by decreasing flawed wafer lots
- Elected as the first TSMC Campus Ambassador

Research Experience

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

Undergraduate Researcher *Feb.2023 - PRESENT*

- Currently developing a machine learning project that utilizes ViT models and attention mechanisms to aid 3D robot assembling tasks
- Studied reinforcement learning algorithms to train agents to act optimally

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

Undergraduate Researcher *Sep.2021 - PRESENT*

- Cooperated with TSMC to develop cutting-edge ALD technology for the 2nm process
- Invented and studied different effects of traditional ALD process modifications
- Variations include: Atomic Layer Annealing, Atomic Layer Bombardment, Atomic Layer Etching, Atomic Layer Nucleation Engineering

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**, Given to TSMC campus ambassadors elected by HR managers

Academic Projects

Hotel Booking Service

Machine Learning Project *Jan. 2021*

- Constructed a machine learning model that predicts the daily revenue for a hotel booking company from the data of reservation
- Discussed and analyzed different approaches, including logistic regression, random forest, and neural network

Pacman's Revenge

Mini Game Project *Dec. 2022*

- Designed and implemented a game mimicking the concept of Pacman using Jack programming language
- Coded the interface, game mechanism, figures from scratch

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
English Proficiency	108 in TOEFL iBT