Naomi Yi-Ting Chen

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github.com/NYTCEE

Education

National Taipei University of Technology (NTUT) Sept. 2022 – June 2026

Bachelor of Science in Electronic Engineering Taipei, Taiwan

- Overall GPA: 3.71 / 4.0
- Last 60 GPA: 3.99 / 4.0
- Met graduation criteria one year early (end of junior year), deferred early graduation to pursue advanced studies and hands-on learning
- **Related Course:** Digital Logic Design, Object-Oriented Programming, Computer Organization, Data Structure and Algorithm, Application Software Design, FPGA System Design, VLSI Design, Machine Learning, Tool Introduction in Semiconductor (Hands-on equipment training at TSMC)

Publication

Chen, Naomi Yi-Ting, et al. "Leveraging SCNet-ResNet-50 and MEC-CNN for Efficient Instance Segmentation and Object Detection." ***2025 IEEE Gaming, Entertainment, and Media Conference (GEM)*****. IEEE, 2025.**

https://ieeexplore.ieee.org/document/11155254

- First author, received Presentation Award in the Neuromorphic Computing and AI Circuit Design session
- Achieved 60% memory reduction and accelerated processing speed by designing a hybrid architecture that combines deep learning with hardware acceleration, enhancing real-time vision system performance

Research Experience

City Science Lab @ Taipei Tech, a cooperation with MIT Media Lab Jan. 2025 – June 2025

Undergraduate Researcher *(Robotics)* Taipei, Taiwan

- Engineered high-level control systems for the Unitree Go2 and TurtleBot3 using ROS2, enabling autonomous navigation and motion coordination
- Implemented SLAM, AprilTag-based tracking, and computer vision with OpenCV, alongside developing and tuning path-tracking algorithms for localization and trajectory control
- Contributed to the lab's Lerobot project through data collection for robot learning, supported mechanical design in Fusion 360 for Boston Dynamics' Spot robot, and analyzed critical control hardware for the replication of the MIT Mini Cheetah

Digital Integrated Circuit Design Lab, NTUT July 2024 – Oct. 2025

Undergraduate Researcher *(Digital IC Design)* Taipei, Taiwan

- Implemented SCNet-ResNet-50 on the MMDetection framework and designed a hardware MEC accelerator, reducing convolution latency and memory usage without accuracy degradation
- Completed the full digital IC design flow (RTL, synthesis, DFT, APR, DRC/LVS, tape-out) and verified chip functionality using the Advantest 93000 PS1600, confirming correct operation and hardware integrity
- Fabricated a digital chip using the TSMC $0.18\mu\mathrm{m}$ 1P6M process, measuring $1.079 \times 1.079\ \mathrm{mm}^2$ with a $0.346 \times 0.346\ \mathrm{mm}^2$ core area, packaged in CQFJ84

Teaching Experience

Circuit Theory Teaching Assistant Sept. 2025 – Present

Electronic Engineering Department, NTUT Taipei, Taiwan

- Facilitated three EMI (English as a Medium of Instruction) courses for 170 students, supporting instructors in content delivery, bilingual communication, and answering questions on Circuit Theory
- Managed all course assessments, including grading quizzes, group papers, midterms, and finals

Awards

Third Place of International PBL Competition, Osaka Institute of Technology — Sept. 2025

- Collaborative International Robotics Competition, involving cross-cultural teamwork with students from Japan, China, Thailand, and Taiwan
- Engineered and deployed a competitive autonomous vehicle utilizing an Arduino-based control system integrated with a Pixy camera for image processing and an ultrasonic sensor for reliable navigation

Presentation Award, IEEE GEM — July 2025

Second Place of Circuit Design Competition, Electronic Engineering Department — Dec. 2024

- Developed "Variable DC Power Supply for Vehicles," utilizing AI/ML techniques to ensure highly stable and efficient voltage regulation under fluctuating automotive battery input, competing among 24 teams

First Place & Best Mechanism Design of Robot Competition, Robotics Club — Mar. 2024

Academic Excellence Award, National Taipei University of Technology — 2022, 2023, 2024

- Awarded for 3 consecutive years, in recognition for top grades in academics, conduct, and physical education, with no disciplinary actions or absences

Certifications

Certificate of the Sakura Science Club, Japan Science and Technology Agency — 2025

Certified Color Planning Manager, Ministry of Economic Affairs of Taiwan — 2024

International Lifeguard Certification, Chinese Taipei Water Life Saving Association — 2020

CPR & AED Certification, Chinese Taipei Water Life Saving Association — 2020

Skills

Programming Languages

- C, C++, Verilog, Python, Java, JavaScript, Kotlin, HTML, CSS, p5.js, C#, SQL

EDA Tools

- Cadence : Virtuoso, Innovus, NC-Sim
- Synopsys : VCS, Verdi, Design Compiler & Design Vision, TetraMAX, Laker, HSPICE

Engineering Tools

- Linux, FPGA, ROS2, AprilTag, Android Studio, Git, OpenCV, PyTorch, MMdetection, Fusion 360, NodeRED

Extracurricular Activities

Chair of the Legal Affairs Committee — June 2025 - Present

Student Senate, Student Association, NTUT — Taipei, Taiwan

- Revised student representative qualifications by removing transcript requirements and allowing freshmen to run, expanding participation in student governance
- Presided over legislative sessions to draft and amend student regulations, ensuring procedural rigor and compliance with bylaws

Vice President of the Student Senate — June 2025 - Present

Student Association, NTUT — Taipei, Taiwan

- Reformed the university's English Exemption Policy, doubling the application opportunities by directly addressing student feedback during meetings with the chancellor and Academic Affairs officials
- Represented the student body in eight major university committees, contributing to high-level administrative and academic decision-making
- Oversaw inter-committee coordination and led fiscal reviews of Executive Committee projects, ensuring transparent budgeting and performance accountability for student union funds

Mobility Living Lab: AI on Wheels Hackathon, City Science Lab @ Taipei Tech — Sept. 2023

Member of the Kendo Club — Sept. 2025 - Present

Member of the Robotics Club, Programming Club — Sept. 2022 - Sept. 2024