Po Yun Cheng

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Taipei, Taiwan

Education

2022–26[*]   **B.S. in Computer Science and Information Engineering**,
National Taiwan University (GPA 3.5/4.3)

- Exchanged to University of California, Merced at spring 2025.
- Relevant courses: Data Structure and Algorithm, Algorithm Design and Analysis, Computer Network, Machine Learning, Software Engineering Design, Deep Learning, Advanced Human-Computer Interaction.

Research Experience

Feb. 2025– Present   **Undergraduate Research Assistant**,
Software Engineering Lab, National Taiwan University,
(Advisor: Prof. Jonathan Lee)

- Developed an automatic labeling method for source code and contextual documents to improve the RAG pipeline for intelligent code review.
- Conducted research on decomposing Java applications into microservices architecture.
- Identified performance bottlenecks and applied refactoring techniques, reducing the execution time of a key method by 50%.

Jun. 2024– Oct. 2024   **Undergraduate Research Assistant**,
Human-Computer Interaction Lab, National Taiwan University,
(Advisor: Prof. Mike Y. Chen)

- Contributed to VR user experience research, aiming to enhance viewing range and comfort in reclined postures through a hardware-assisted device.
- Designed and conducted a user study; developed automated data collection program that reduced average session time by 33%.
- Analyzed and visualized experimental data for statistical reporting and insights.

Publications

1. Wu, E.-H., **Cheng, Po-Yun**, Hsu, C.-W., Han, C. H., Lee, P. C., Fan, C.-A., Kuo, Y. C., Hu, K.-J., Chen, Y. & Chen, M. Y. *HeadTurner: Enhancing Viewing Range and Comfort of using Virtual and Mixed-Reality Headsets while Lying Down via Assisted Shoulder and Head Actuation* in *Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems* (Association for Computing Machinery, 2025). ISBN: 9798400713941. https://doi.org/10.1145/3706598.3714214.

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[*]Expected.

Projects

2025   Gesture Recognition with GTCN, research project (PyTorch, Deep Learning)
- Designed Convolutional Neural Network architectures for spatial and temporal feature extraction from hand skeleton data for gesture recognition.
- Implemented a full training, optimization, and evaluation pipeline using PyTorch and Optuna; analyzed model performance across architectural variants and hyperparameter configurations.

2025   Gesture Desktop Control System, research project (PySide6, MediaPipe, Data Analysis)
- Developed a gesture-based pointer control system using MediaPipe to investigate human-computer interaction factors in mid-air input techniques.
- Conducted pilot data analysis to assess the reliability and robustness of the gesture recognition algorithms.
- Developed a desktop application using PySide6 to support user evaluation studies.

2025   Data Center Manager, course project (React, Flask, Docker, GCP)
- Collaborated with four teammates to design and implement a web-based data center management application.
- Integrated frontend and backend components using Git submodules; utilized Docker Compose to manage testing and production configurations, enabling a streamlined CI/CD workflow.

2024   Supbloc, hackthon project (Node.js, Blockchain)
- Led a team of four to win 2nd place at XueDAO Connect Hackathon by developing a decentralized supply chain tracking system to enhance transparency.
- Designed a hybrid storage architecture using IPFS and blockchain to reduce on-chain data size, lowering gas costs by approximately 90%.

Skills

Programming	Python, Java, TypeScript/JavaScript, HTML, CSS
Full-Stack	React, Tailwind CSS, Node.js, Flask, Google Cloud Platform
ML / Data	PyTorch, Pandas, Matplotlib, Optuna
Tools	Git, Linux, Docker, Figma
Languages	Mandarin (native), English (TOEFL 99), Japanese (JLPT N4)

Extracurricular

2024	Attended Harvard World Model United Nations as a delegate of the NTU MUN Society.
2023–24	Served in the public relations department of the NTU Magic Club for a year.

Last updated: December 19, 2025