

Yu An Su

✉ yuansu@andrew.cmu.edu  [linkedin.com/in/yu-an-su](https://www.linkedin.com/in/yu-an-su)  <https://yuansu.dev/>

Education

Carnegie Mellon University, School of Computer Science
Master of Science in Computer Vision

Pittsburgh, PA
(Expected) Aug 2025 - Dec 2026

National Taiwan University of Science and Technology (NTUST)
Bachelor of Science in Computer Science and Information Engineering

Taipei, Taiwan
Sep 2019 - Jun 2023

Publications

- [1] Wei-Hsin Yeh, **Yu-An Su**, Chih-Ning Chen, Yi-Hsueh Lin, Calvin Ku, WENHSIN CHIU, Min-Chun Hu, Lun-Wei Ku. "CoachMe: Decoding Sport Elements with a Reference-Based Coaching Instruction Generation Model". *Proceedings of the 63rd Annual Meeting of the Association for Computational Linguistics*, 2025
- [2] **Yu-An Su**, Wei-Hsin Yeh, Yi-Hsueh Lin, Chih-Ning Chen, Calvin Ku, Min-Chun Hu, WENHSIN CHIU, and Lun-Wei Ku. "How can an AI model coach intense sport?". *AAAI Conference Educational Video*, 2025
- [3] Jian-Jia Weng, Calvin Ku, Jo Chien Wang, Chih-Jen Cheng, Tica Lin, **Yu-An Su**, Tsung-Hsun Tsai, You-Yi Lin, Hung-Kuo Chu, Min-Chun Hu, and Lun-Wei Ku. "Bridging Coaching Knowledge and AI Feedback to Enhance Motor Learning in Basketball Shooting Mechanics Through a Knowledge-Based SOP Framework". *Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems*, 2025
- [4] Wei-Hsin Yeh, Pei Hsin Lin, **Yu-An Su**, Wen Hsiang Cheng, and Lun-Wei Ku. "MAAIG: Motion Analysis and Instruction Generation". *Proceedings of the 5th ACM International Conference on Multimedia in Asia Workshops*, 2023
(Co-first author, Oral Presenter)

Research Experience

Natural Language Processing and Sentiment Analysis Lab, Academia Sinica

Research Assistant

Taipei, Taiwan
Mar 2023 - Feb 2025

Project: National Science and Technology Council's (NSTC's) Precise Sports Research Project

- Proposed a framework for human pose analysis and description generation, achieving a BLEU-4 score of 24.3 and BERTScore of 45.1, outperforming existing baselines on HumanML3D dataset
- Utilized latent embedding to compare human poses of learners and athletes, resulting in the first framework in the world to generate instructions for sport guidance

Project: Taiwan VLM

- Orchestrated a data pipeline to preprocess 50M online and closed source documents, including 3B word tokens
- Developed large-scale vision-language model for Mandarin applications by aligning ViT visual encodings with Llama3 (70B), leveraging tensor parallelism for distributed training

Work Experience

Institute of Information Science, Academia Sinica (Taiwan's National Academy)

Research Assistant

Taipei, Taiwan
Mar 2023 - Feb 2025

Precise Sport Educating System

- Architected a data collection platform leveraging LINE webhook, Vue, MongoDB, Node.js, and Docker
- Streamlined data preparation process to automatically track main character, perform bounding box cropping, align with reference, and calculate skeleton-based similarity
- Built human evaluation platform for post verification of proposed model with React, Node.js, and Docker

International Games System & NTUST (industry-academia collaboration)

Research and Development Intern

Taipei, Taiwan
Sep 2022 - Feb 2023

- Developed automated web game validation framework using OpenCV for image recognition and game logic verification

Trend Micro

Research and Development Intern

Taipei, Taiwan
Jul 2022 - Aug 2022

- Developed KQL queries to extract hardware performance metrics from Azure Cloud
- Integrated GitHub Actions and Docker image to automatically deploy testing code

Yu An Su

✉ yuansu@andrew.cmu.edu  [linkedin.com/in/yu-an-su](https://www.linkedin.com/in/yu-an-su)  <https://yuansu.dev/>

Awards & Grants

Academic Excellence Award, NTUST

Fall 2022, Spring 2023

- Received for academic excellence, ranking 3rd and 1st among 103 students in the last 2 semesters

Teaching Experience

Chang Gung University, *Advanced Natural Language Processing*

New Taipei, Taiwan

Teaching Assistant

Mar 2024 & Oct 2024

- Conducted lab classes on BERT, guiding participants in developing sentiment analysis models on their own datasets and instructed students on their final projects
- Lectured concept of RAG implemented with LangChain and Llama (served locally with ollama), direct lab class on detailed implementation.
- Designed interactive visualization of contrastive learning for embedding models to help understanding

MediaTek (Taiwan's No. 2 semiconductor supplier), *Natural Language Processing*

HsinChu, Taiwan

Laboratory Instructor

Mar 2024

- Delivered lab and lecture on LLaMA, explaining concepts and applications of RMSNorm, Rotary Embedding, and KV cache
- Prepared interactable Rotary Embedding and lab exercises to enhance student understanding

Selected Course Projects

Virtual Room Reservation Assistant, *Software Engineering*

Sep 2021 - Dec 2021

- Built a website for room reservation with React, Redux, JWT, and Golang
- Integrated Google Authentication for website login and pushing notifications via Gmail and Google Calendar API

NachOS, *Operating System*

Sep 2021 - Dec 2021

- Designed a resource-limited system based on NachOS
- Implemented scheduling policies (RR, FCFS, Priority, SJF) and memory swapping (LRU, FIFO, Random)

Compiler, *Compiler Design*

Mar 2022 - Jun 2022

- Engineered lexical analysis with Lex to tokenize and parse customized syntax
- Leveraged Yacc to create a parser and link parsed code into functions
- Produced Java code using Java Runtime Environment and Java Bytecode Assembly

Information Retrieval Competition, *Information Retrieval*

Sep 2022 - Dec 2022

- Coded expectation-maximization and probabilistic latent semantic analysis from scratch as probability-based methods, fine-tuned BERT as embedding-based retrieval

Relevant Skills

Languages: Python, C, C++, Go, javascript, SQL, KQL, Shell, TeX

Frameworks: React, Vue, Node.js, Flask, Pytorch, OpenCV, Megatron, Ollama, LangChain, FastAPI

Others: GNU/Linux, Git, MongoDB, Postgres, Slurm, Docker, Azure, AWS, GCP

Leadership & Extracurricular Activities

Member, Student Association of Computer Science Department, NTUST

Sep 2020 - Jun 2021

- Led coordination of social evening with 8 other universities and assisted in organizing several other events
- Volunteered in "Return to Home" initiative, providing educational support to children and assistance to elderly residents in remote communities