

Ting-Chih Chen

Taiwan | 📞 0923-60-0216 | ✉️ tingchih@vt.edu | 🌐 Tingchih | 🎧 tingchihc | 🌐 Personal Website

About Me

Experienced ML Engineer with a strong background in AI research and development, specializing in AI agents and multimodal learning. Demonstrated expertise in designing and implementing algorithms—such as vision-language-action models—to enhance reasoning multimodal information. Skilled in building scalable, and fault-tolerant AI systems, with a focus on optimizing model performance.

Education

Virginia Tech

M.Sc in Computer Science and Applications

Blacksburg, VA

Jan. 2022 – Dec. 2023

National Changhua University of Education

B.Sc in Computer Science and Information Engineering

Changhua, TW

Sep. 2015 – June 2019

Experience

Contract ML Engineer

Ret[AI]ling Data | 🔗

Mar. 2025 – Present

New Taipei City, TW

- Built a retail recommender system with **CLIP** and **Ollama** to improve product relevance in shopping malls. 🔗
- Engineered a RAG-based chatbot using **LangChain** for tourist support, enabling contextual understanding.
- Designed a customer data platform using **RAG**, **FastAPI**, and **MongoDB** for user behavioral analytics.
- Authored standardized API design docs to streamline the deployment and scaling of ML-powered services.
- Developed a multi-agent customer service using **Semantic Kernel**, enabling task coordination. 🔗

AI/ML Research Assistant

Virginia Tech

Mar. 2022 – Feb. 2025

Blacksburg, VA

- Developed an evidence summarization model with **LLaMA2** and **DeBERTaV3**, achieving **48.6%** accuracy. 🔗
- Engineered a video dataset for inductive and abductive reasoning, leading data collection and ETL pipelines.
- Developed a multimodal news claim generator using **AMRBART**. 🔗

Research Engineer Intern

National Center for High-Performance Computing

May 2019 – Aug. 2019

Taichung, TW

- Collaborated on ETL pipelines, data warehousing, and architecture, reducing processing time by **20%**.
- Contributed in designing the highly secured dataset for the object detection task.
- Implemented **YOLOv3** for the object detection task, achieving **82%** mAP.

Projects



When Trust is a Factor | 🔗

Mar. 2022 – Feb. 2025

- Engineered the multimodal data into a **knowledge graph** format using **NetworkX**, **AMR** and **penman**.
- Developed a multimodal summarization model using **RLHF** and **PPO** for fact-checking task.
- Developed a fine-grained inconsistency detector for multimodal multi-document information.

Publications

- Tang, C.-W., Chen, T.-C., Nguyen, K. A., Mehrab, K. S., Ishmam, A. M., & Thomas, C. M3D: MultiModal MultiDocument Fine-Grained Inconsistency Detection. In Proceedings of the **2024 Conference on Empirical Methods in Natural Language Processing (EMNLP)**, November 12-16, 2024, Miami, USA (pp. 22270–22293). 📄
- Chen, T.-C., Tang, C.-W., & Thomas, C. MetaSumPerceiver: Multimodal Multi-Document Evidence Summarization for Fact-Checking. In Proceedings of the 62nd **Annual Meeting of the Association for Computational Linguistics (ACL)**, August 11–16, 2024, Bangkok, Thailand (pp. 8742–8757). 📄

- Chen, T.-C.. Multimodal Multi-Document Evidence Summarization For Fact-Checking. **Master's thesis**, December 1, 2023, Virginia Tech. 
- Chen, T.-C., & Lee, C.-I. Application of LSTM Neural Network in Stock Price Movement Forecasting with Technical Analysis Index. In Proceedings of the 17th **International Conference on Innovation and Management (IAM)**, February 4-7, 2020, Sapporo, Japan (pp. 85-92). 

Awards

National Center for High-Performance Computing <i>Research Intern Award</i>	Taichung, TW <i>Aug. 2019</i>
National Changhua University of Education <i>Senior Project Award</i>	Changhua, TW <i>Jun. 2019</i>

Academic Service

Reviewer

- ACL Student Research Workshop (SRW) 2025.
- ACM Transactions on Intelligent Systems and Technology (TIST) 2024.

Teaching

CS5024 Ethics and Professionalism in CS <i>Teaching Assistant</i>	Blacksburg, VA <i>Jan. 2023 - May 2019</i>
CS3114 Data Structures and Algorithms <i>Teaching Assistant</i>	Blacksburg, VA <i>Aug. 2022 - Dec. 2022</i>

Skills

- **Languages:** Python, Java, C, C++, Javascript, HTML, CSS, php
- **Technologies:** PyTorch, Scikit-learn, Tensorflow, Hugging Face, OpenCV
- **Databases:** MongoDB, Redis, MySQL
- **Platforms:** AWS, GCP

References

Chris Thomas <i>CS Assistant Professor @ Virginia Tech</i>	<i>Blacksburg, VA</i>
<ul style="list-style-type: none"> • Email: chris@cs.vt.edu • Website: https://people.cs.vt.edu/chris/ • Relationship: Master's advisor 	
Ismini Lourentzou <i>iSchool Assistant Professor @ UIUC</i>	<i>Champaign, IL</i>
<ul style="list-style-type: none"> • Email: lourent2@illinois.edu • Website: https://ischool.illinois.edu/people/ismini-lourentzou • Relationship: Member of Master's thesis committee 	