

# Ting-Chih Chen

☎ (908) 381-4759 | ✉ [tingchih@vt.edu](mailto:tingchih@vt.edu) | 🏠 [ting-chih.github.io/](https://ting-chih.github.io/) | 🐙 [github.com/ting-chih](https://github.com/ting-chih) | 🔗 [linkedin.com/in/ting-chih-chen](https://linkedin.com/in/ting-chih-chen)

## Objective

A full-time research or engineering opportunity that will allow me to use my problem-solving skills and attention to detail to further develop my capabilities in the fields of CV and NLP in 2023/2024.

## Education

### Virginia Polytechnic Institute and State University

M.S. in Computer Science and Applications

- GPA: 3.78/4.0

Virginia, USA

2022 - Excepted Dec. 2023

### National Changhua University of Education

B.S. in Computer Science and Information Engineering

- GPA: 3.4/4.0

Changhua, Taiwan

2017 - 2019

## Publications

- Application of LSTM Neural Network in Stock Price Movement Forecasting with Technical Analysis Index  
Ting-Chih Chen and Chin-I Lee IAM2020

## Research Experience

### Virginia Polytechnic Institute and State University

Graduate Research Assistant

- Built up an instrumental video dataset and conducted research on inductive and abductive reasoning.
- Employed SOTA multimodal models to extract valuable insights from the dataset and induce knowledge from LLMs, resulting in an impressive Bert score F1 of 86.5%.

Virginia, USA

Summer 2022

### National Center for High-Performance Computing

Research Internship

- Built up a boat image dataset for research and explored YOLO2 extensively in object detection task, achieving an 82% mAP.

Taichung, Taiwan

Summer 2019

## University Projects

### Heterogeneous Graph Network for MP-Doc VQA

Multimodal Vision

- Handled multimodal data, and constructed knowledge graphs for multi-modal contexts to capture data relationships.
- Employing a GNN powered by T5, analyzed these graphs, resulting in a 53% accuracy.

Virginia, USA

Spring 2023

### Fine-Grained Image Captioning

Deep Learning

- Developed an image captioning system using ExpansionNet with the Flickr30K dataset
- Assessed the effectiveness of visual embeddings. The system achieved an impressive BLEU-1 score of 67.76%.

Virginia, USA

Spring 2023

### Attacking on Disrupting-Deepfakes

Security

- Designed an auto-encoder to eliminate disruptions in deepfakes, examining its transferability across various deepfake models.
- Validated that the perturbed images had no adverse effects on the performance of other deepfake models, resulting in an MSE score of 0.75.

Virginia, USA

Fall 2022

### News Category Prediction

Machine Learning

- Applied Naive Bayes with TF-IDF for news category prediction.
- Assessed the model's performance using F1 score, accuracy, and confusion matrix, achieving an 63% accuracy.

Virginia, USA

Spring 2022

## Teaching Experience

Graduate Teaching Assistant

- CS3114 Data Structures and Algorithms
- CS5024 Ethics and Professionalism in Computer Science

## Coursework

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Graduate & Undergraduate schools

- Mathematics: Linear Algebra, Probability
- Data Science: Data Mining, Data Analytics
- Security: Defending Against ML-powered Adversaries
- Artificial Intelligence: Machine Learning, Deep Learning, Computer Vision, Multimodal Vision

## Skills

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<b>Language Programming</b>	Python, Java, C/C++, JavaScript, HTML/CSS, PHP
<b>Scientific Packages</b>	PyTorch, Scikit-learn, Tensorflow, Hugging Face, OpenCV
<b>Platform</b>	AWS