Ting-Chih Chen

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Education

Virginia Polytechnic Institute and State University — *Virginia, USA*

M.S. in Computer Science and Applications — *2022 - Excepted Dec. 2023*

- GPA: 3.78/4.0

National Changhua University of Education — *Changhua, Taiwan*

B.S. in Computer Science and Information Engineering — *2017 - 2019*

Research Experience

Virginia Polytechnic Institute and State University — *Virginia, USA*

Graduate Research Assistant — *Summer 2022*

- Constructed a comprehensive wikiHow instrumental video dataset
- Conducted extensive research on the topic of inductive/abductive reasoning
- Utilized SOTA multi-modal models to analyze and extract valuable insights
- Employed advanced techniques to induce knowledge from LLMs

National Center for High-Performance Computing — *Taichung, Taiwan*

Research Internship — *Summer 2019*

- Developed a comprehensive dataset of boat images for research purposes
- Conducted in-depth research on YOLO2, focusing on object detection techniques

University Projects

Heterogeneous Graph Network for MP-Doc VQA — *Virginia, USA*

Multimodal Vision — *Spring 2023*

- Processed diverse multimodal data, including word text, OCR bounding box information, and document images
- Constructed both single-modality and multi-modality knowledge graphs to represent the underlying relationships in the data
- Implemented a GNN leveraging T5 to analyze and extract insights from the knowledge graphs

Fine-Grained Image Captioning — *Virginia, USA*

Deep Learning — *Spring 2023*

- Implemented an image captioning system using ExpansionNet on the Flicker30K dataset
- Explored and evaluated the performance of different visual embeddings, including ViT and Swin Transformer

Attacking on Disrupting-Deepfakes — *Virginia, USA*

Security — *Fall 2022*

- Developed an auto-encoder framework specifically designed to remove perturbations from disrupting deepfakes
- Investigated the transferability of the methodology by evaluating its effectiveness on multiple deepfake models
- Demonstrated that the perturbed images generated by the methodology did not impact the performance of other deepfake models

News Category Prediction — *Virginia, USA*

Machine Learning — *Spring 2022*

- Implemented the Naive Bayes with TF-IDF for the task of news category prediction
- Evaluated the performance of the model using metrics such as F1 score, accuracy, and confusion matrix

Skills

Language Programming Python, Java, C/C++, JavaScript, HTML/CSS, PHP

Scientific Packages PyTorch, Scikit-learn, Tensorflow, OpenCV

Platform AWS

Publications

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