Ting-Chih Chen

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Objective

I am seeking a full-time research or engineering opportunity that will enable me to utilize my problem-solving skills and attention to detail in the fields of CV, NLP, and software engineer.

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*
- GPA: 3.4/4.0

Publications

- **MetaSumPerceiver: Multimodal Multi-Document Evidence Summarizer for Fact-Checking**   EACL2024
  Ting-Chih Chen, Chia-Wei Tang and Chris Thomas   Submission

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

Research Experience

Virginia Polytechnic Institute and State University   *Virginia, USA*
Vision lab   *Present*
- Developed a multimodal claim generation method and a multiclass classification on news articles.
- Built up an evidence summarization model to assist fact-checkers in distinguishing the truthfulness of claims.

Work Experience

Virginia Polytechnic Institute and State University   *Virginia, USA*
Graduate Research Assistant   *Summer 2022*
- 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%.

National Center for High-Performance Computing   *Taichung, Taiwan*
Research Internship   *Summer 2019*
- Built up a boat image dataset for research and explored YOLO2 extensively in object detection task, achieving an 82% mAP.

University Projects

Heterogeneous Graph Network for MP-Doc VQA   *Virginia, USA*
Multimodal Vision   *Spring 2023*
- Handled multimodal data, and constructed knowledge graphs for multimodal contexts to capture data relationships.
- Employing a GNN powered by T5, analyzed these graphs, resulting in a 53% accuracy.

Fine-Grained Image Captioning   *Virginia, USA*
Deep Learning   *Spring 2023*
- Developed an image captioning system using ExpansionNet with the Flicker30K dataset
- Assessed the effectiveness of visual embeddings. The system achieved an impressive BLEU-1 score of 67.76%.

Removing Perturbation from Noise Image   *Virginia, USA*
Security   *Fall 2022*
- 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.

News Category Prediction   *Virginia, USA*

Machine Learning   *Spring 2022*

- 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.

Teaching Experience

Virginia Polytechnic Institute and State University   *Virginia, USA*

Graduate Teaching Assistant

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

Coursework

Graduate & Undergraduate Courses

- 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

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