Shicheng Wen

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Education

University of California, Davis **Sep 2024 – Present**
Ph.D Student in Computer Science *Davis, California, U.S.*

- *Advisor: Dr. Dongyu Liu* @ VIA Lab
- GPA: 4.00/4.00
- Data Visualization by Multimodal LLMs

University of Southern California **Jun 2022 – May 2024**
Master of Science in Computer Science *Los Angeles, California, U.S.*

- GPA: 4.00/4.00
- Relevant Coursework: Multimodal Learning, Natural Language Processing, Database Systems, Scientific Computing

Michigan State University **Aug 2016 – Dec 2020**
Bachelor of Science in Computer Science | Second Major in Mathematics *East Lansing, Michigan, U.S.*

- GPA: 3.75/4.00
- Relevant Coursework: Machine Learning, Linear Algebra, Discrete Mathematics, Statistics and Probability

Publications

- **MIDDAG: Where Does Our News Go? Investigating Information Diffusion via Community-Level Information Pathways** (AAAI 2024)
- **MEGACOIN: Enhancing Medium-Grained Color Perception for Vision-Language Models** (Submitted to CVPR 2025)

Research Experience

University of Southern California Information Sciences Institute **Mar 2023 – Aug 2024**
Student Research Assistant, Advisor: Dr. Xuezhe Ma *Los Angeles, California, U.S.*

- **Community-level News Reaction Prediction on Reddit**: Collected data of news reactions on Reddit related to COVID-19 and fine-tuned BART for reaction prediction. Designed human evaluation via MTurk.
- **Benchmark for Spurious Correlation and Instruction Tuning in Color and Environment**: Using data from CIFAR10, TinyImangeNet, and ImangeNet and re-annotated for foreground, background, and environment groups. Used for augmenting and benchmarking VLMs, and benchmarking for domain generalization tasks.

Selected Projects

Modality-Agnostic Fusion for Emotion Recognition - GitHub

- Explored unified encoder for multimodality emotion recognition. Using pre-trained unimodality models like BERT, HuBERT, and MARLIN, and aligned with a shared encoder using early fusion, gated fusion, and late fusion.

Low-Resource Data-to-Text Generation via Cycle Training - GitHub

- Conducted a reproduction study on a data2text generation language model, focusing on fine-tuning the T5 model via cycle training in low-resource and unsupervised settings.

Black-box AI-Generated Text Detection via Contrastive Learning - GitHub

- Utilized GPT-2, GPT-3 and Llama to generate human-AI text pairs datasets from Wiki Plots, CNN Daily Mails, and other sources. Fine-tuned a RoBERTa-based model with adapters along with the triplet loss for effective black-box AI-generated text detection.

Work Experience

Beijing Yan Ruan Jing Chuang Technology Co. (YSUSoft) **Mar 2021 – Mar 2022**
Algorithm Engineer *Beijing, China*

- Developed an automated verification interface utilizing PaddleOCR to extract information from ID card photos.
- Built an action recognition system for surveillance in digital villages, identifying dangerous human group actions, using the Baidu AI interface.
- Developed and tested automatically generating WebAPP structure in the smart city data management platform.

Quicken Loans **Aug 2020 – Dec 2020**
Back-end Developer Internship (Remote) *East Lansing, Michigan, U.S.*

- Developed Rally OKR(Objectives and Key Results), a bespoke enterprise management system for Quicken Loans, featuring shepherd grading, peer comments, Excel export capabilities, and quarterly evaluations.
- Implemented the OKR status tracking system using RESTful API in the ASP.NET Core framework, designed the database schema, and stored OKR data in AWS RDS and file data in AWS S3.

Michigan State University College of Engineering **Aug 2019 – Dec 2019**
Teaching Assistant of Algorithmic Thinking/Programming *East Lansing, Michigan, U.S.*

- Course instruction, organization of lab hour, held office hours.

Technical Skills

Languages: Python, C++, C#, C, Java, JavaScript, HTML
Frameworks/Libraries: Pytorch, TensorFlow, HuggingFace, Scikit-Learn, NLTK, ASP.NET, Django, React, D3
Databases: MySQL, SQLite, Oracle, SQL Server, MongoDB
Operating Systems: Linux, Windows, MacOS
Others: LaTeX, Unity, UnrealEngine