LU ZHANG

+82 1034679527 https://anhzhang1994.github.io/ zhanglu1913@gmail.com

EDUCATION

- **Georgia State University, USA** Aug 2024 - Present
  PhD student in Computer Science
- **Hanyang University, South Korea** 2023
  Master's Degree in Applied AI
  Thesis: Detection and Measurement of Illicit Promotional Content on Chinese TikTok
- **Dankook University, South Korea** 2021
  Bachelor's Degree in Software Science
  Thesis: A Deep Learning-Based Method for Enhancing Instagram Influencer Advertising

RESEARCH INTERESTS

AI for Online Safety, Computational Social Science, Social Media Analysis

PROFESSIONAL EXPERIENCE

- **Teaching Assistant** Aug 2024 - Present
  Dept. of Computer Science at Georgia State University, USA
- **AI Specialist** Jan 2024 - Aug 2024
  Research Team at Globit Co., Ltd, South Korea
- **Data Science for Social Good fellow** Jun 2023 - Aug 2023
  Data Science for Social Good fellowship at the University of Warwick, UK
- **Research Assistant** Feb 2021 - Aug 2023
  AI·Cybersecurity Lab at Hanyang University, South Korea

SELECTED PROJECTS

- **AI-Supported Smart Aquaculture System** Dec 2023 - Aug 2024
  - Constructed a deep learning-based pipeline to identify flounder individuals in fishing farms using CCTV cameras and enabling re-identification from consumers' side with a phone camera, achieving a 95% F1-score (Diffusion Model for water removal and Siamese Neural Network for re-identification)
  - Visualized the geographic and weather data. Developed a machine learning-based system for salinity percentage prediction of ocean fish farms with sensors' data, geographic data, and weather data.
  - Developed a machine learning-based time series data forecasting pipeline to forecast fish weight growth with weather data and fish farm historical records
  - Developed an optimal fish feed quantity calculation algorithm
- **Identify Greenwashing Posts on Social Media** [Poster] Jun 2023 - Sep 2023
  - Constructed a pipeline for preprocessing, training, experimentation, and inference based on the data provided by stakeholders
  - Made image and text classifiers to identify Green Messaging (F1-score: 0.79 and 0.83) of posts on mainstream social media platforms
  - Calculated the potential of companies engaging in Greenwashing
- **Detect&Measure Illicit Promotion on Chinese Short Video Platforms** [Slides] Apr 2022 - May 2023
  - Crawled 100k+ posts with meta data from Chinese TikTok
  - Case study of illicit content

- Qualitative analysis with creating a qualitative codebook and conducting expert interviews for ascertaining illicit jargon characteristics and data labeling strategies
- Built a hybrid mechanism to detect (F1-score = 0.90), measure, and mitigate posts with Illicit Promotional Content on Chinese TikTok

- **Deep Learning-Supported Tympanic Membrane Diagnosis** Aug 2021 - Mar 2022
  - Conducted preliminary research and pilot study; discussed with physicians from Korea University Ansan Hospital to clarify particular tasks and feature selection
  - Segmented the boundary of eardrum images with U-Net
  - Classified eardrum images by 3 diseases with EfficientNet

TECHNICAL SKILLS

Programming Languages	Python, Shell Script, JavaScript
Tools	Git, Docker, LaTeX, Tableau, Weights&Biases, MySQL, CSS, HTML
AI-Related Frameworks	Pandas, Numpy, PyTorch, OpenCV, Scikit-learn, Hugging Face, NLTK, Gensim, SpaCy, AutoML, Matplotlib, Seaborn...
Automations	Crawler, Pyspider, Scrapy, Selenium, Pytest, PyAutoGUI
Natural Languages	Chinese (Native), English (C1), Korean (B2)

AWARDS

Fellowship	Data Science for Social Good @ University of Warwick	2023
Travel Grant	DAAD (German Academic Exchange Service) Data Science Summer School @ Heidelberg	2022
Fellowship	Brain Korea 21 (BK21) program for Leading Universities and Students	2021

PUBLICATIONS

- **Lu Zhang**, et al. Understanding Illicit Promotional Content on Chinese TikTok, *In Submission*
- **Lu Zhang**, Yeonjoon Lee. Detection Techniques for Chinese Jargon: A Survey, *The Korean Institutes of Communications and Information Sciences (KICS) Winter Conference 2023*
- **Lu Zhang**, Yeonjoon Lee. Stealthy and Seductive: A Survey on Online Illicit Promotion, *Conference on Information Security and Cryptography-Summer 2022 (CISC-S'22)*
- **Lu Zhang**, Hoon Ji, Yeonjoon Lee. A Survey on Deep Learning-based Eardrum Segmentation, *2022 International Conference on Electronics, Information, and Communication (ICEIC 2022)*

VOLUNTEERING

- **Member&Freshman Mentor** March 2019 - Jan 2021
  Dankook University International Student Association