# LU ZHANG

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#### **EDUCATION**

• Hanyang University, South Korea

Mar. 2021 - Aug. 2023

Master's Degree in Applied AI

Thesis: Detection and Measurement of Illicit Promotional Content on Chinese TikTok

• Dankook University, South Korea

Mar. 2019 - Feb. 2021

Bachelor's Degree in Software Science

GPA: 3.41/4.5

GPA: 3.95/4.5

Thesis: A Deep Learning-Based Method for Enhancing Instagram Influencer Advertising

• Cheju Halla University, South Korea (Joint Program with Hefei University, China) Sep. 2014 - Aug. 2017 Associate Degree in Computer Technology GPA: 3.57/4.5

## RESEARCH INTERESTS

Applied AI for Security&Privacy, Computational Social Science, Social Media Analysis&Measurement

#### RESEARCH EXPERIENCE

- Data Science for Social Good fellow June 2023 August 2023

  Data Science for Social Good fellowship at the University of Warwick, UK
- Research Assistant February 2021 August 2023 AI-Cybersecurity Lab at Hanyang University, South Korea

#### SELECTED PROJECTS

October 2023 - Present Investigation of 'Insult China' & Sinophobia-Related Content on Chinese Social Media

- Conducting a pilot study to analyze related phenomenon on Chinese social media
- Writing a systematic review of computer-supported technologies on related memes
- Built a crawler to scrape related contents on Chinese mainstream social platforms (Weibo, Douban, Tieba, Douyin)

June 2023 - September 2023 Identify Greenwashing Posts on Social Media [Poster] [Slides]

- 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

April 2022 - May 2023 Detect&Measure Illicit Promotion on Chinese Short Video Platforms [Slides]

- 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

August 2021 - March 2022 Deep Learning-Supported Tympanic Membrane Diagnosis

• 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

AutomationsCrawler, Pyspider, Scrapy, Selenium, PytestNatural LanguagesChinese (Native), English (C1), Korean (B2)

## **AWARDS**

• Fellowship Data Science for Social Good @ University of Warwick	2023
• 2nd Prize Three Minute Thesis (3MT®) Competition @ Hanyang University	2023
• Travel Grant DAAD (German Academic Exchange Service) Data Science Summer School @ Heidelber	g 2022
• Excellence Prize ERICA English Essay Contest @ Hanyang University	2022
• Distinction Prize ERICA English Essay Contest @ Hanyang University	2021
• 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

Updated: Friday15<sup>th</sup> December, 2023