

# LU ZHANG

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## EDUCATION

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- **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

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

## PROFESSIONAL EXPERIENCE

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- **Graduate 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

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- **Analyzing Patterns in Pro-China and Anti-China Propagation on Social Media** Aug 2024 - Present
  - Conducting a systematic analysis of interaction and propagation patterns in pro- and anti-China social media posts and users, revealing structural dynamics that inform strategies for managing polarized discourse online
- **AI-Supported Smart Aquaculture System** Dec 2023 - Aug 2024
  - Constructed a Siamese Neural Network-based pipeline to identify flounder individuals in fishing farms using CCTV cameras, achieving a 95% F1-score
  - 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 an ensemble 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 system
- **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

## AWARDS

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

## PUBLICATIONS

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- **Lu Zhang**, Sungbin Park, Zuobin Xiong, Junggab Son, and Yeonjoon Lee. “Understanding Illicit Promotional Contents on Short Video Platforms”, - To appear in *Tsinghua Science and Technology, 2024 (SCIE Q1, Impact Factor: 5.2)*
  - **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)*

## SERVICES&VOLUNTEERING

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- **Teaching Assistant** 2024  
CSC 4780 - Fundamentals of Data Science
  - **Reviewer** 2024  
The International AAAI Conference on Web and Social Media (ICWSM) ’25
  - **Member&Freshman Mentor** March 2019 - Jan 2021  
Dankook University International Student Association

## TECHNICAL SKILLS

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