Chi Zhang

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Summary: Ph.D. Candidate in Computer Science with 5+ years of research experience in AI and machine learning. Skilled in developing and optimizing **Deep Learning (DL)** , **Computer Vision (CV)**, and **Natural Language Processing (NLP)** systems using PyTorch, TensorFlow, and Hugging Face. Experienced in image dataset analysis, model evaluation, and interdisciplinary collaboration.

Education

University of South Florida — Tampa, FL
PhD in Bellini College of AI, Cybersecurity, and Computing; GPA: 3.61/4.0 — Expected May 2027

Relevant Courses: Algorithms, Statistical Methods, Cryptography Theory & Practice, Operating System

Xidian University — Xi'an, Shaanxi, China
Master of Engineering in Computer Science and Technology; GPA: 86/100 — June 2022

Xidian University — Xi'an, Shaanxi, China
Bachelor of Engineering in Intelligence Science and Technology; GPA: 3.6/4.0 — June 2019

Relevant Courses: Data Structure, Signal Processing, Pattern Recognition, Machine Learning, Random Signal Analysis

Selected Publications

C. Zhang, et al., *Guardians and Offenders: A Survey on Harmful Content Generation and Safety Mitigation of LLMs,* arXiv:2508.05775, 2025.

X. Xu, **C. Zhang**, and R. Sankar *PPANet: Post-Position Encoding Attention for Imbalanced Lung Sound Classification* , IEEE EMBC 2025 Oral.

Wang, S., Zhao, D., **C. Zhang**, et al. *Cluster Alignment with Target Knowledge Mining for Unsupervised Domain Adaptation Semantic Segmentation* , IEEE TIP, 2022.

Research Projects

Safe Text-to-Image Generation — Tampa, FL
CSA Lab Research Assistant — May 2024 - Present
Advisor: Professor Dr. Zhuo Lu, Professor Dr. Yao Liu — University of South Florida

- Representation-based Safe T2I Diffusion Model Implementation
  - Developed an end-to-end diffusion with safety filters and conditioning modules for text-to-image generation.
  - Achieving NSFW alarm rate approaching 99% and false positive 80% lower than the Stability v1.4 baseline.

LLM-based Analysis of Urgent Care Satisfaction — Tampa, FL
Research Assistant (Part-time) — Apr 2025 - Jun 2025
Colaborator: Dr. Lingyao Li — University of South Florida

- Google Review Analysis
  - Designed and implemented an LLM-based Aspect-Based Sentiment Analysis pipeline using GPT-4o-mini to analyze 150K+ Google Maps reviews across 1,200 healthcare facilities.
  - Applied statistical modeling and geospatial analysis to identify determinants of patient satisfaction; published findings demonstrating interpersonal and operational factors as key drivers.
  - Developed scalable Python data pipelines for text preprocessing, feature engineering, and regression modeling with reproducible evaluation metrics (Precision/Recall/F1 > 0.80).

Unsupervised Domain Adaptation for Semantic Segmentation — Xi'an, Shaanxi, China
Research Assistant — Oct 2020 - May 2022
Advisor: Professor Dr. Shuang Wang — Xidian University

- Transfer Learning for semantic segmentation with deep learning
  - Introduced a feature alignment method is proposed to perform semantic segmentation on the Cityscapes dataset with models that learn on synthetic datasets.
  - Proposed a clustering method is introduced to explore the structural information in feature space. Then we design a contrast loss function to align the feature distribution between domains, which mitigates the negative transferring and ceases the domain gap. Achieved state-of-the-art results (mIoU 51.7) on GTA5 $\rightarrow$ Cityscapes.

Skills

Programming Languages: Python, C/C++, LaTeX, Bash
Frameworks: PyTorch, TensorFlow, JAX, HuggingFace
Software and Tools: Git, Cursor, CodeX, Docker, Visual Studio Code
Platforms: Linux, MacOS