Yuehan Zhang

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Education Background

Sichuan University(985)   09/2023-06/2027
- Bachelor of Cyber Science and Engineering
- GPA: 3.89/4.0, Ranking: Top 5%

Research Experience

Team Leader, Multimodal Domain Adaptation for Few-Shot Web Attack Detection   09/2024-On going

- Designed and implemented an encrypted traffic intrusion detection system based on multimodal learning, which aligns HTTP plaintext traffic with encrypted traffic statistical features to achieve efficient detection of HTTP traffic.
- Combined RNN and BERT models, using multimodal contrastive learning to learn the relationship between traffic features and semantic information, addressing the limitations of traditional methods in capturing semantic information.
- Through pre-training and fine-tuning strategies, we address the challenges of data scarcity and cross-domain adaptability in Web attack detection.
- Accountable for coding and experiments, including experimental design, execution, and detailed analysis, and I am currently drafting the paper.
- Tools: Wireshark, Python

Team Leader, Vision Transformer-Based Lake Drowning Detection and UAV Rescue System   09/2024-On going

- Designed and implemented a real-time drowning detection system for lake environments using behavioral analysis and UAV coordination, achieving 95% accuracy with <200ms latency.
- Applie a spatiotemporal ViT model to analyze sequential frames (30-frame clips) for abnormal motion patterns, improving AUC by 5% compared to CNN baselines.
- Integrated multi-level detection: YOLOv5-based head presence tracking, posture anomaly classification, and ViT-driven behavior analysis.
- Responsible for writing the code, the proposal of the paper idea and the participation in the experimental design were also taken on.
- Tools: PyTorch, YOLOv8, OpenCV

Honors and Awards

- Third Prize, 15th National College Student Mathematics Competition, Sichuan Division   09/2024
- Second prize, 5th MathorCup Mathematical Application Challenge - Big Data Competition   12/2024
- Honorable Mention, The Mathematical Contest in Modeling (MCM)   05/2025

Skills

- Program Skills: Python, Java, C
- Language Skills: Chinese (mother tongue), English (professional, TOEFL: 93)