PENGFEI ZHOU

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SUMMARY

A second-year graduate student majoring in Artificial Intelligence, Institute of Computing Science, Chinese Academy of Sciences, with rich experience in computer vision and multimedia processing and analysis. 9 papers have been published (5 as first author), and several more are under review in top-tier conferences&journals. Invited reviewer of well-known conferences&journals and co-organizer of a conference. Looking for Ph.D. positions in 2024 Fall.

EDUCATION

M.E., Artificial intelligence, Advised by Shuqiang Jiang and Weiqing Min   Graduating Jun 2024
Chinese Academy of Sciences, Beijing, China   **National Scholarship (4/297)**
Institute of Computing Technology   3.62 GPA

B.E., Internet of Things Engineering, Advised by Cong Bai   Graduated Jun 2021
Zhejiang University of Technology, Hangzhou, China   **National Scholarship (3/525)**
College of Computer Science and Technology   3.40 GPA

PUBLICATIONS & PATENTS

Published & Accepted (Representative)

- **Pengfei Zhou**, Weiqing Min, Yang Zhang, Jiajun Song, Ying Jin, and Shuqiang Jiang. SeeDS: Semantic Separable Diffusion Synthesizer for Zero-Shot Food Detection, ACM International Conference on Multimedia, 2023
- **Pengfei Zhou**, Kaining Ying, Zhenhua Wang, Dongyan Guo, and Cong Bai. Self-Supervised Enhancement for Named Entity Disambiguation via Multimodal Graph Convolution, IEEE Transactions on Neural Networks and Learning Systems (Q1, IF=10.4), 2022
- **Pengfei Zhou**, Cong Bai, Jie Xia, and Shengyong Chen, CMRDF: A Real-Time Food Alerting System Based on Multimodal Data, IEEE Internet of Things Journal (Q1, IF=10.6), 2022
- **Pengfei Zhou**, Cong Bai, Kaining Ying, Jie Xia, and Lixin Huang, RWMF: A Real-World Multimodal Foodlog Database, International Conference on Pattern Recognition, 2021
- Zhiwei Zha, **Pengfei Zhou**, and Cong Bai. Exploring Implicit and Explicit Relations with Dual Relation-Aware Network for Image Captioning, International Conference on Multimedia Modeling, 2022

Under Review & Submitted

- **Pengfei Zhou**, Weiqing Min, Jiajun Song, Yang Zhang, and Shuqiang Jiang. Knowledge-Enhanced Features Synthesizer for Real-World Zero-Shot Food Detection, IEEE Transactions on Image Processing, 2023
- **Pengfei Zhou**, Weiqing Min, Chunlin Liu, Tao Liu, Tianhao Li, Shuhuan Mei, and Shuqiang Jiang. Large-Scale Open-World Food Detection, International Journal of Computer Vision, 2023
- Weiqing Min, **Pengfei Zhou**, Leyi Xu, Tao Liu, Tianhao Li, Mingyu Huang, Ying Jin, Yifan Yi, Min Wen, Shuqiang Jiang and Ramesh Jain. From Plate to Production: Artificial Intelligence in Modern Consumer-Driven Food Systems, Proceedings of the IEEE (Q1, IF=20.6), 2023
- Qinshi Zhang, Latisha Besariani, Suifang Zhou, **Pengfei Zhou**, Jussi Holopainen, and RAY LC. Eternagram: Probing Player Attitudes Towards Climate Change Using a ChatGPT-driven Text-based Adventure, ACM Conference on Human Factors in Computing Systems, 2023

RESEARCH EXPERIENCE

Institute of Computer Vision, Zhejiang University of Technology, Hangzhou, China   Mar 2019 – Jun 2021
Research Assistant Worked with Cong Bai and Shengyong Chen

- Researched on multimodal retrieval in the National Natural Science Fund project (No. 61976192)
- Led a project funded by Undergraduate Innovation Entrepreneurship Training Program
- Won second place in LMRT of ImageCLEFlifelog2019 Competition (as team leader)
- Authored 5 academic papers, 3 Chinese patents and a software copyright (granted)

Hangzhou Xiao Bin Technology Co. LTD, Hangzhou, China   Jan 2020 – Sep 2021
Co-founder, CTO

- Led the smart home system research and development team
- Developed the visual recognition system of the smart bin (classification accuracy is higher than 99%)
- Won 10+ prizes in competitions including First Prize in National Undergraduate IoT Design Contest, and Silver Award in International "Internet Plus" College Student Innovation and Entrepreneurship Competition in Zhejiang

School of Creative Media, City University of Hong Kong, Hongkong, China   May 2023 – Sep 2023
Summer Program Student Worked with RAY LC

- Researched the field of Human-Computer Interaction (HCI) to learn how to apply LLMs and AIGC into human-AI interaction applications
- Participated in the development processes of a serious game on climate change, recruitment, surveys and interviews, coding and analysis of results, and writing of the paper
- A related paper has been submitted to CHI 2024

State Key Laboratory of CAD&CG, Zhejiang University, Hangzhou, China   Jun 2023 – Present
Visiting Student Working with Chunhua Shen and Hao Chen

- Researching on multimodal large language models
- Applying large language models on open-set scenarios

PROJECTS

Online Illegal Tobacco Information Monitoring System   Jul 2021 – Mar 2022
Led a team of 3 to develop illegal information monitoring system for Jiaxing Tobacco Monopoly Administration

- Developed an online monitoring system for illegal tobacco sales information based on the entity recognition model
- The project was transformed into a practical application by the Tobacco Monopoly Administration
- Published a relevant paper in IEEE TNNLS, and authorized three software copyrights (granted)

Visual Food Detection System   Apr 2022 – Present
Leading a team of 8 to develop food detection systems at Institute of Intelligent Computing Technology, Suzhou, CAS

- Developed the detection algorithm with accuracy higher than 98% in the real-world scene
- Realizing the transformation of unmanned, intelligent and precise nutrition for multiple canteens and restaurants
- Authorized a Chinese patent and submitted several related papers to ICCV 2023, ACM MM 2023 and IEEE TPAMI

MAJOR HONORS & AWARDS

Graduate National Scholarship   Ministry of Education of the People's Republic of China   Oct 2023
Undergraduate National Scholarship   Ministry of Education of the People's Republic of China   Dec 2020
E-Funds Fellowship   Institute of Computing Technology, Chinese Academy of Sciences   Jan 2023
Zhejiang Provincial Outstanding Graduate   Zhejiang Provincial Department of Education   Jun 2021
Outstanding and Honorary Student in colleges, ZJUT S&T Award   Zhejiang University of Technology, etc. 2020 - 2021
Second Prize of National Service Outsourcing Competition (Team Leader)   Aug 2020

ACADEMIC ACTIVITIES

Reviewer: IEEE TNNLS, IEEE TMM, ACM MM 2023, ICMR 2023, ICME 2023, ICME 2022, and ICPR 2022
Co-organizer: China Multimedia 2023 Conference (1K+ attendees)

OTHER ACTIVITIES

Campus ambassador: Tencent Holdings Limited Co.Ltd
Volunteer service: Alibaba Cloud Computing Conference 2018 (1M+ attendees)
Other interests: Changed major (studied civil engineering at Institute of Architectural Engineering, ZJUT)

SKILLS

Language: English (**7.0** out of 9 Band in IELTS), Chinese
Programming: Python (Pytorch) , C++, C, MATLAB

RESEARCH INTERESTS

Current: Working on computer vision (zero-shot detection) and multimedia content analysis (food computing)
Interesed in: AI-enabled health applications, open-vocabulary detection, and multimodal large language models