

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 analysis. 9 papers have been published (5 as first author), and several more are presently under review for publication in top-tier conferences and journals. 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 Weiqing Min and Shuqiang Jiang Chinese Academy of Sciences, Beijing, China Institute of Computing Technology	Graduating Jun 2024 E-Funds Fellowship 3.62 GPA
B.E., Internet of Things Engineering, Advised by Cong Bai Zhejiang University of Technology, Hangzhou, China College of Computer Science and Technology	Graduated Jun 2021 National Scholarship 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=14.2), 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. Synthesizing Knowledge-Enhanced Features 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**, Yifan Yi, Leyi Xu, Min Wen, Tianhao Li, Ying Jin, Mingyu Huang, and Shuqiang Jiang. Artificial Intelligence-Enabled Food Systems, Proceedings of the IEEE (Q1, IF=20.6), 2023

RESEARCH EXPERIENCE

Institute of Computer Vision, Zhejiang University of Technology, Hangzhou, China Research Assistant Worked with Cong Bai and Shengyong Chen	Mar 2019 – Jun 2021
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- Researched on multimodal retrieval in the National Natural Science Fund project (No. 61976192)
- Leded a project funded by Undergraduate Innovation Entrepreneurship Training Program
- Won the second place in LMRT of ImageCLEFlog2019 Competition (as team leader)
- Authored 5 academic papers, 3 Chinese patents and a software copyrights (granted)

Hangzhou Xiao Bin Technology Co. LTD, Hangzhou, China Co-founder, CTO	Jan 2020 – Sep 2021
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- Leded the smart home system research and development team
- Developed the visual recognition system of smart bin (classification accuracy is higher than 99%)

- Won 10+ prizes of competitions including First Prize of National Undergraduate IoT Design Contest, and Silver Award of International "Internet Plus" College Student Innovation and Entrepreneurship Competition in Zhejiang

State Key Laboratory of CAD&CG, Zhejiang University, Hangzhou, China
Visiting Student Worked with Chunhua Shen and Hao Chen

Jun 2023 – Present

- 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 three to develop illegal information monitoring system for Jiaxing Tobacco Monopoly Administration

- Developed an online monitoring system for illegal tobacco sales information based on 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 eight to develop food detection systems at Institute of Intelligent Computing Technology 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

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 (cross-modal retrieval)

Interested in: AI-enabled health applications, AIGC and large language models