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 or submitted to top-tier 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 Shuqiang Jiang and Weiqing Min — Graduating Jun 2024
Chinese Academy of Sciences, Beijing, China — **E-Funds Fellowship**
Institute of Computing Technology — 3.62 GPA

B.E., Internet of Things Engineering, Advised by Cong Bai and Xinggang Fan — Graduated Jun 2021
Zhejiang University of Technology, Hangzhou, China — **National Scholarship**
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=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

Chinese Invention Patents

- **Pengfei Zhou**, and Cong Bai. A Cross-Modal Image Retrieval Method for Lifelogging, CN110750663B, 2021
- Cong Bai, and **Pengfei Zhou**. A Cross-Modal Retrieval Method based on Graph Convolutional Neural Network, CN111598214B, 2023
- **Pengfei Zhou**, and Cong Bai. A Real-Time Diet Health Monitoring Method for Diabetic Patients based on Multimodal Data, 202010254493.7, 2020
- Weiqing Min, Chunlin Liu, **Pengfei Zhou**, Tao Liu, and Shuqiang Jiang. The Invention Discloses A Food Detection System, A Model Training Method and A Food Detection Method, 2022116988701, 2022

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)
- Leaded a project funded by Undergraduate Innovation Entrepreneurship Training Program
- Won the second place in LMRT of ImageCLEFlifelog2019 Competition (as team leader)
- Authored 5 academic papers, 3 Chinese patents and a software copyrights (granted)

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

- Leaded 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 Jun 2023 – Present
Visiting Student Worked 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

Leaded 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)
Interesed in: AI-enabled health applications, AIGC and large language models