Yitao Qiao

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Education

South China University of Technology — Guangzhou, China
Master's degree in Electronic Information — Sep. 2021-Jun. 2024
Main Courses: Pattern Recognition Principles (90), System Identification, Modeling and Simulation Technology (96), Optimization Methods (93) — Weighted Average Score: 88.52/100

South China University of Technology — Guangzhou, China
Bachelor's degree in Automation — Sep. 2017-Jun. 2021
Main Courses: Linear Algebra & Analytic Geometry (94), C++ Programming Language (87), Digital Electronics Technology (84), Principles of Automatic Control (86), Power Electronics Technology (90) — GPA: 3.57/4.0 (Top 16.7% in Class)

Publications

Normalized-Full-Palmar-Hand: Towards More Accurate Hand-Based Multimodal Biometrics
Journal: IEEE Transactions on Pattern Analysis and Machine Intelligence (CCF-A)
Author: Yitao Qiao*, Wenxiong Kang*, Dacan Luo, Junduan Huang.
Status: Published

Palm Vein Recognition under Unconstrained and Weak-cooperative Conditions
Journal: IEEE Transactions on Information Forensics and Security (CCF-A)
Author: Dacan Luo, **Yitao Qiao**, Di Xie, Shifeng Zhang, Wenxiong Kang.
Status: Published

LA3M: Linear Adaptive Additive Angular Margin Loss for Video-based Hand Gesture Authentication
Journal: International Journal of Computer Vision (CCF-A)
Author: Wenwei Song, Wenxiong Kang, Adams Wai-Kin Kong, Yufeng Zhang, **Yitao Qiao**.
Status: Published

Research Experiences

Biometrics & Intelligence Perception Lab (BIPLab), South China University of Technology — Jun. 2021-Present

- Proposed the "Normalized-Full-Palmar Hand" method, decoupling multiple hand biometric modalities, enabling comprehensive trait utilization for authentication;
- Designed and built a synchronous NIR and visible-light imaging device, enabling real-time dynamic hand positioning and clear multispectral imaging of multiple hand biometric traits.
- Released two open-access datasets (SCUT_NFPH_v1/v2), first providing pixel-level full hand images, semantic masks and normalized images of each trait, totaling 157,500 images.
- Introduced FPHandNet, a feature extraction and authentication network based on the Normalized-Full-Palmar-Hand method, that effectively extracts features from various hand biometric traits for authentication;
- Proposed a lightweight Hand Segmentation and Alignment Network (HSANet) capable of real-time segmentation of various hand regions under diverse imaging conditions.

Hangzhou Alibaba Cloud Feitian Information Technology Co., Ltd. — Jun. 2024-Jun. 2024

- Explored content safety assessment for large multimodal models, focusing on risk taxonomy and jailbreak evaluation, and assisted in developing a benchmark for safety evaluation.

Guangdong Airport Baiyun Information Technology Co., Ltd — July. 2021-Sep. 2023

- Constructed a vehicle statistics system for five categories of airport vehicles, leveraging multi-object tracking techniques to analyze traffic flow in designated airport zones.

Honours & Awards

National Scholarship for Graduate Students (Top 2 % nationwide funding)	2022
Outstanding Graduate in Professional Practice of South China University of Technology	2024
Bronze Award at the 7th China College Students' 'Internet+' Innovation and Entrepreneurship Competition	2021
The Third Prize Scholarship	2020
Endress + Hauser China Scholarship	2019
First Prize in the 13th Intelligent Control Design Competition at South China University of Technology	2018
The Second Prize Scholarship	2018

Others

- Professional Assets:
  - Deep Learning (PyTorch, ONNX, PaddlePaddle, NCNN), CV Pipelines (Segmentation, biometrics).
- English: IELTS 6.5 (≥ 6.0 in each band).
- Hobbies: Debating, public speaking, and traveling.