



# Jiatao Yan

RESEARCHER INTERN

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AI Postgraduate Student with Computer Vision & Medical AI Experience

## Education

### Sussex Artificial Intelligence Institute, Zhejiang Gongshang University

Hangzhou, China

MASTER IN ARTIFICIAL INTELLIGENCE AND ADAPTIVE SYSTEM

Sept 2024 – Present

- Research Focus: Embodied Intelligence, Robotics
- Core Courses: Intelligence in Animals and Machines, Intelligent Systems Techniques, Image Processing, Machine Learning
- Supervisors: Assistant Professor Peter Wijeratne (University of Sussex) and Professor Xie Mande (Zhejiang Gongshang University)
- Expected Graduation: March 2026

### Wenzhou Business College

Wenzhou, China

BACHELOR IN COMPUTER SCIENCE AND TECHNOLOGY

Sept 2019 – June 2023

- GPA: 3.41/5.0 (84.7/100)
- Relevant Coursework: Data Structures and Algorithms, Python Programming, Data Analysis
- Undergraduate Thesis: "Smoking behavior detection based on deep learning and skeletal framework"

## Research Experience

### Wenzhou Medical University First Affiliated Hospital - Hepato-Pancreato-biliary Surgery

Wenzhou, China

Laboratory

RESEARCH INTERN

Sept 2022 – Jan 2023

- Participated in developing medical image preprocessing software for clinical applications, contributing to software copyright registration
- Assisted in designing deep learning models for leukemia diagnosis based on tongue image analysis
- Helped create machine learning algorithms for exosome feature analysis in hepatocellular carcinoma research
- Collaborated with medical professionals to validate the effectiveness of developed algorithms and systems

### National Innovation Training Project

Wenzhou Business College

STUDENT TEAM LEADER

June 2022 – June 2023

- Participated in research on enhancing YOLO architecture with attention mechanisms for real-time object detection
- Studied the application of self-attention module and its impact on detection accuracy
- Worked with a team of 4 students, learning about technical development and experimental validation
- Contributed to the project's intellectual property outcomes, including patent applications and software copyrights

## Publications

### Machine Learning Identifies Exosome Features Related to Hepatocellular Carcinoma

PUBLISHED IN FRONTIERS IN CELL AND DEVELOPMENTAL BIOLOGY (IMPACT FACTOR: 6.0)

Sept 2022

- Authors: Kai Zhu, Qiqi Tao, **Jiatao Yan**, Zhichao Lang, Ximiao Li, Yifei Li, Congcong Fan, Zhengping Yu
- DOI: 10.3389/fcell.2022.1020415
- Co-first author (third position): Developed machine learning algorithms for exosome feature analysis and classification in hepatocellular carcinoma research

### Multi-omics and Machine Learning-driven CD8+ T Cell Heterogeneity Score for Prognosis

Dec 2024

PUBLISHED IN MOLECULAR THERAPY NUCLEIC ACIDS (IMPACT FACTOR: 6.4)

- Authors: Di He, Zhan Yang, Tian Zhang, Yaxian Luo, Lianjie Peng, **Jiatao Yan**, Tao Qiu, Jingyu Zhang, Luying Qin, Zhichao Liu, Xiaoting Zhang, Lining Lin, Mouyuan Sun
- DOI: 10.1016/j.omtn.2024.102413
- Contribution: Helped implement various machine learning algorithms for key gene identification in HNSCC research

### Using Multiomics and Machine Learning: Insights into Improving the Outcomes of Clear Cell Renal Cell Carcinoma via the SRD5A3-AS1/hsa-let-7e-5p/RRM2 Axis

June 2025

PUBLISHED IN ACS OMEGA (IMPACT FACTOR: 3.7)

- Authors: Mouyuan Sun, Zhan Yang, Yaxian Luo, Luying Qin, Lianjie Peng, Chaoran Pan, **Jiatao Yan**, Tao Qiu, Yan Zhang
- DOI: 10.1021/acsomega.5c01337
- Contribution: Implemented machine learning algorithms for identifying SRD5A3-AS1/hsa-let-7e-5p/RRM2 important features

## Manuscripts in Preparation

### YOLOv11-LCDFS: Enhanced Smoking Detection With Low-light Enhancement

IN REVISION

- Authors: **Jiatao Yan**, Zhuzikai Zheng, Zhengtan Yang, Hao Jiang, Peichen Wang, Fangjun Kuang, Siyang Zhang
- First author: Working on a YOLO-based architecture with integrated low-light enhancement capabilities, specialized loss functions, attention mechanisms, and optimized upsampling techniques for improved detection in challenging lighting conditions

### Deep Learning Model for Survival Prediction of Localized Upper Tract Urothelial Carcinoma Based on Multi-Phase CT Images and Clinical Data

IN REVISION

- Authors: Kai Zhu, Binwei Lin, **Jiatao Yan**, Honghui Zhu, Wei Chen, Xin Yao, Fengyan You, Yue Pan, Feng Wang, Peng Xia, Yiping Li, Lianguo Chen, Zhixian Yu, Shouliang Miao, Xiaomin Gao
- Co-first author (third position): Designed and implemented the deep learning architecture for analyzing multi-phase CT images and integrating imaging features with clinical data

## Patents & Intellectual Property

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2023	<b>Patent Application</b> , Smoking Behavior Recognition Camera and Determination Method	No: 202310277784.1
2022	<b>Software Copyright</b> , Medical Image Computing Software	2022SR0252378
2022	<b>Software Copyright</b> , Human Skeleton Recognition Software	2022SR1258998
2022	<b>Software Copyright</b> , Cigarette Recognition Software	2022SR1277520
2022	<b>Software Copyright</b> , Smoking Behavior Detection Software	2022SR1277521

## Academic Achievements

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Ongoing	<b>Ranked 161st/890 (Top 19%)</b> , Yale/UNC-CH - Geophysical Waveform Inversion	Kaggle Global Competition
June 2025	<b>Ranked 335rd/1175 (Top 29%)</b> , BYU - Locating Bacterial Flagellar Motors 2025	Kaggle Global Competition
June 2025	<b>Ranked 178th/4316 (Top 5%)</b> , Predict Calorie Expenditure Competition	Kaggle Global Competition
May 2025	<b>Bronze Medal (Ranked 143rd/1516, Top 10%)</b> , Stanford RNA 3D Folding Competition	Kaggle Global Competition
May 2025	<b>Ranked 188th/3683 (Top 4%)</b> , Predict Podcast Listening Time Competition	Kaggle Global Competition
Sept 2022	<b>Ranked 442nd/1174 (Top 38%)</b> , HuBMAP + HPA Competition	Kaggle Global Competition
May 2023	<b>Bronze Medal</b> , 18th Challenge Cup College Student Competition	Zhejiang Province
Dec 2021	<b>Provincial Excellent Award</b> , 4th National "Chuanzhi Cup" IT Skills Competition	Zhejiang Province
April 2024	<b>3rd Prize</b> , 2023 Wenzhou Computer Society Student Member Innovation and Entrepreneurship Award	Wenzhou