Isaac Xinyu **Jiang**

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Bio. I am currently a junior undergraduate Student at School of Future Technology, South China University of Technology, China, working with Prof. Qi Liu .

Research interests. My research focuses on computer vision, machine learning, and artificial intelligence, specifically aimed at advancing human-object interaction (HOI) understanding. I specialize in developing innovative algorithms for HOI detection, particularly in weakly supervised learning. My goal is to reduce annotation burdens while maintaining or improving performance. I'm also interested in leveraging cross-modal information like text-image models to enhance HOI detection accuracy. Ultimately, I aim to contribute to more efficient computer vision systems for understanding complex real-world scenes.).

🎓 Education

Sep 2021 – Jun 2025 (expected)	**Bachelor of Engineering**, *South China University of Technology* (SCUT), Guangzhou Majoring in Artificial Intelligence *Advisor : Prof. Qi Liu* GPA : 3.79/4.0

Main courses : Big Data and Data Mining Course Practicum **(4.0/4.0)**, Deep Learning and Computer Vision Course Design **(4.0/4.0)**, Digital Image Processing **(4.0/4.0)**, Machine Learning Course Design **(4.0/4.0)**, C++ Programming Foundations I & II **(4.0/4.0)**, Python Programming **(4.0/4.0)**, Artificial Intelligence and 3D Vision**(4.0/4.0)**, Linear Algebra and Analytical Geometry**(4.0/4.0)**, Calculus I & II **(4.0/4.0)**······

⚖ Honors & Awards

The Taihu Innovation Scholarship (**ranked 1/160 comprehensively**, ¥8,000, Wuxi city governments)
TCL Corporate Scholarships (**ranked 1/40 comprehensively** ¥20,000, TCL Technology)
SCUT School Scholarship (**ranked 1/40 comprehensively** ¥20,000, SCUT)
Asia and Pacific Mathematical Contest in Modeling (APMCM) – The Third Prize

📖 Publications

> **Xinyu Jiang***, Yuxiao Wang*, Qi Liu, "Weakly-HOI : Multi-Modal Knowledge Transfer and Instance Relation Mining in Weakly Supervised HOI Detection," in preparation.

> Yuxiao Wang, Zhenao Wei, **Xinyu Jiang**, Qi Liu, "FreeA : Human-object Interaction Detection using Free Annotation Labels," submitted to *IEEE Transactions on Image Processing*.

</> Research Experience

Present Aug 2022	**School of Future Technology, SCUT, Research Intern** > *Human-Object Interaction* advised by Prof. Qi Liu (IEEE Senior Member) . > HOI detection aims to recognize interactions between humans and objects in images. > Collaborating with mentors and senior students in our Human-Computer Interaction lab, I proposed a label-free training method for HOI models, applied for a patent, and authored a paper submitted to IEEE Transactions on Image Processing.
Present Jun 2023	**School of Future Technology, SCUT, National Key Project** > *Early Disease Detection* advised by Prof. Zhanpeng Jin > This is a nationally funded university innovation and entrepreneurship program. > We aim to provide a convenient, accurate, and user-friendly tool that utilizes children's gaze and facial features to aid in the early detection of signs of autism. Creating a mobile app for early autism detection, incorporating a gaze estimation model and an autism detection model based on gaze point distribution.
Present Mar 2024	**Shien-Ming Wu School of Intelligent Engineering, SCUT, Student Research Project** > *Natural Language Processing* advised by Prof. Ziqian Zeng > Themed "Research on Inference Optimization Techniques for Transformer Models" SRP project. > The goal of this project is to achieve a 5x acceleration on top of BERT with an accuracy loss of less than 1%.