

# Fan Zheyu

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## Education:

The university of Hong Kong (Sept. 2021 – June. 2025(expected))

- Bachelor of engineering (Major in computer science, advised by Prof. Ruibang LUO)
- **Junior year GPA (transcript): 4.12/4.3**    **cGPA (transcript): 3.70/4.3**    **cGPA (WES): 3.79/4.0**

## Selected Research Experience:

- **Supervised by Prof. Heng JI @ UIUC BLENDER LAB** (summer 2024 – present)  
**Co-supervised by Dr. Yanchao Yang @ HKU IDS**  
✚ **Mentors: Jiateng LIU, Yuji ZHANG, Dr. Yi R. (May) FUNG @ HKUST, Dr. Manling LI @ Northwestern University**
  - Worked on exciting topics on more efficient dynamic video representation in videoLLMs.
  - Designed and innovated novel methods to do temporal visual search (key frame selection) in videos using GPT-series based tool calling agent, multi-turn conversation reasoning, etc., and explored its potential impact to several baseline videoLLMs in both training and inference stage.
- **Supervised by Dr. Chao HUANG @ HKU IDS** (summer 2023)
  - Discussed and appreciated the strong expressive power of graph neuron network, specifically in the realm of recommender systems, and the integration of LLM into graph learning.
  - Experiment results suggested that the prior knowledge stored in the LLM could serve as an augmentation to existing user profile and interaction data and boost the recommender's performance.
- **Supervised by Cobi XU (Founder & CEO at A.I. Phoenix Technology Co., Ltd), Dr. Lixin Cheng** (July 2023 – present)
  - Using labeled (type of infection) gene related historical medical data, we explore suitable techniques and network design for a series of experiments. Aimed at final publication in *bioinformatics*. This is a corporation with Shenzhen People's Hospital and is the 'follow-up work' of the published work *bvnGPS*.
  - Deepened insight of a broad range of bioinformatics and AI related tasks and machine learning techniques like hyper-graph neural network, graph learning, PCA, random forests, etc. Gained communication skills.

## Work Experience:

- **Development department intern, Pinnet Technologies** (July 2022)
  - Designed algorithms and programs for managing the data provided of all the equipment of the company from the database.
  - Improved self-learning skills, SQL programming knowledge, enhanced python programming skills as well as teamwork and communication skills.
- **Research Assistant, HKU school of humanity** (March. 2023 – July.2023)
  - Offered by Dr. Peter J. Cobb, University of Hong Kong. Designed and developed software for camera controlling automation, file managing, and basic database management for the project. (GitHub: <https://github.com/LordUky/APSAP-undergraduate-research> )

- Participated in archeology research project in Armenia in person and had a fantastic time.
- **AI Engineer, A.I. Phoenix Technology Company Limited** (July.2023-August.2023)
  - Explored and developed state of the art Graph learning and Graph Neural Networks related algorithms, and involved with other more engineering-related skillsets and topics including Data Preprocessing and Cleaning, Data Analysis, etc.
  - Enhanced PyTorch proficiency, deepened AI insight, and improved communication skills.

#### On-going Publications:

[1] (On-going) **Towards On-demand Dynamic Temporal Visual Search in VideoLLMs**

Zheyu Fan, Jiateng Liu, Yuji Zhang, Yi Ren Fung, Manling Li, Yanchao Yang †, Heng Ji †

[2] (On-going) **Hyper-graph Neuron Network for Diagnosing Acute Bacterial and Viral Infection**

Zheyu Fan\*, Yuxuan Chen\*, Hoshing Yuen\*, Chonghan Qin, Zhouming Xu, Lixin Cheng †

#### Prizes and Awards:

- **Undergraduate Research Fellowship Program Award** 2024.07  
For the HKU Undergraduate Research Fellowship Program
- **Second Prize (ranked 3<sup>rd</sup>)** 2023.12  
The 12th "Win in Guangzhou" Guangdong-Hong Kong-Macao Greater Bay Area College Student Entrepreneurship Competition Finals
- **Second Prize** 2023.06  
RoboMaster 2023 University Championship Regional Competition (International)
- **Third Prize** 2023.06  
RoboMaster 2023 University Championship Final Tournament
- **Third Prize** 2020.10  
National Olympic in Chemistry in Hubei province organized by Chinese Chemical Society

#### Skills:

- **Computer:** Linux, Python, C++, Java, R, machine learning, deep learning, computer vision, multimodal AI, bioinformatics, quantum computing, SolidWorks, Word, Excel, PowerPoint
- **Language:** Mandarin (native), English (IELTS: 8), Cantonese (basic)
- **Hobbies:** 🎻 Violin (Grade 10), 🛩️ RC fixed-wing aircraft model (self-learned)

#### Extra-Curricular Activities:

- **Core member of Robomaster HKU-Herkules Team** (September 2021 – August 2023)
  - Senior member of the Dart and the Hero team as well as the research section, managed or participated in the design, development, and reimbursement process.
  - Improved personal manipulative ability related to 3D-printing, waterjet-cutting, SolidWorks, physical model building, developed communication, corporation, and time management skills.