

# Frank Xiang

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## Education

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### Academic Qualifications.....

- **University of Wisconsin–Madison** **Madison, US**  
*Undergraduate Student in Computer Science,* Jan 2025 - Present
- **The Hong Kong Polytechnic University** **Hong Kong**  
*Undergraduate Student in Computing and AI,* Sep 2023 - Dec 2024
- **HS Affiliated to Renmin University of China** **Beijing, China**  
*High school student,* Sep 2020 - Jul 2023

## Awards and Scholarship

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- HKSAR Government Scholarship 2024/25 (HKD 80,000) Dec 2024
- Gold Medal Winner (7th Place) in The 2024 ICPC Asia Nanjing Regional Contest Nov 3, 2024
- Gold Medal (10th Place) of AStar (The 19th Baidu Star Programming Competition) Dec 2023
- Silver Medal (12th Place) of The 2023 ICPC Asia Macau Regional Contest Nov 2023
- Represented Beijing A Team (3rd) at the 39th National Olympiad in Informatics (NOI 2022) Aug 2022
- Gold Medal Winner in Byte-Dance Byte Camp 2022 July 2022
- Gold Medal Winner in the 16th Asia and Pacific Informatics Olympiad (APIO 2022) May 29, 2022
- 2nd Place in Tsinghua University Programming Contest (THUPC) 2022 May 2022
- 1st Prize (Gold Medal) of the 39th National Olympiad in Informatics Winter Camp Jan 28, 2022
- 12th Place of 2021 Huawei ICPC Communication Routing Challenge Oct 2021
- Silver Medal Winner in the 38th National Olympiad in Informatics (NOI 2021) July 29, 2021
- Platinum Winner (1st place) in US OPEN of USA Computing Olympiad (USACO) Apr 2021

## Experience

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- **Undergraduate Research in Vector Database Management System** **PolyU, Hong Kong**  
*Supervised by Prof. Jieming Shi* Feb 2024 - Present
  - Focus on the Range Filter problem (Graph-Based KNN) of Vector Database
  - Try to utilize the theory of partition structure and persistent data structure to build a new nested algorithm
- **Organizer of Poly Competitive Programming Club** **PolyU, Hong Kong**  
*Student Assistant of COMP Programming Team* Jan 2024 - Present
  - Try to create a club for the PolyU Department of Computing, which is sustainable development
  - Built a Discord chat channel to give new members and pupils information and resources.
  - Created and assigned training sessions (Codeforces, QOJ, UCUP) to improve competitive programming skills.

### **Administrator of QOJ and Universal Cup**

- <https://qoj.ac/user/profile/MoRanSky>  
<https://contest.ucup.ac/user/profile/MoRanSky>

*Dec 2023 - Present*

- Use Tuack to transfer the problem's format of the competitive programming
- Manage problem system and upload problem data (UOJ - QOJ format)

### **SureFire UAV (unmanned aerial vehicle)**

- *Responsible for Computer Vision; Supervised by Prof. Qixin Wang*

**PolyU, Hong Kong**  
*Nov 2023 - May 2024*

- Try and compare different camera calibration algorithms (pinhole camera model, SFM, MVS, colmap) and point cloud registration algorithms (ICP, FMR, DGR).

### **Tencent Spark Challenge Week**

- *Computer Vision Direction*

**Tencent Headquarters, Beijing**  
*Aug 2023*

- Completed the gesture recognition program through model training (MobileFaceNets, ResNet) and actual testing (Using MediaPipe Landmark by Google) in Python.

## **Projects**

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### **Competitive Programming Template**

- *Source: <https://github.com/DMoRanSky/cp-template>*

*Feb, 2021 -*

It's designed and extracted from my 5000+ competitive programming problems submission and contains 3500+ lines using C++, which includes all mainstream knowledge.

### **Sixteen Kingdoms Card**

- *Runner up of the "Discovery Cup" Youth Programming Challenge*

**Beijing**  
*2017*

Independently developed a Landlord game using front-end language (HTML/JavaScript/CSS), which combines the historical themes of the Sixteen Kingdoms and contains 2000+ lines of code.

### **Split Machine**

- *Minecraft Plugin, source: <https://github.com/DMoRanSky/splitmachine>  
[https://gitee.com/moran\\_sky/SplitMachine](https://gitee.com/moran_sky/SplitMachine)*

*Jan, 2017*

A plug-in of Minecraft Server for dismantling items in the original environment was developed using Java language.

## **Technical and Personal skills**

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- **Programming Languages:** C++, Python, JavaScript, Java, HTML, CSS
- **Languages:** Chinese, English