

# Frank Xiang

☎ (+852) 51023326 • ✉ moransky@outlook.com

## Education

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### Academic Qualifications.....

- **The Hong Kong Polytechnic University** **Hong Kong**  
*Undergraduate Student in Computing and AI,* *2023 - Present*
- **University of Cambridge** **United Kingdom**  
*Exchange Student in Pembroke College,* *Jul 2024 - Aug 2024*
- **HS Affiliated to Renmin University of China** **Beijing**  
*High School Student,* *2020 - 2023*

## Awards

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- Gold Medal (10th Place) of AStar (The 19th Baidu Star Programming Competition) in Dec 2023
- Silver Medal (11th Place) of The 2023 ICPC Asia Macau Regional Contest in Nov 2023
- Represented Beijing A Team (3rd) at the 39th National Olympiad in Informatics (NOI 2022) in Aug, 2022
- Gold Medal Winner in Byte-Dance Byte Camp 2022 in July 2022
- Gold Medal Winner in the 16th Asia and Pacific Informatics Olympiad (APIO 2022) in May 29, 2022
- 2nd Place in Tsinghua University Programming Contest (THUPC) 2022 in May, 2022
- 1st Prize (Gold Medal) of the 39th National Olympiad in Informatics Winter Camp in Jan. 28, 2022
- 12th Place of 2021 Huawei ICPC Communication Routing Challenge in Oct 2021
- Silver Medal Winner in the 38th National Olympiad in Informatics (NOI 2021) in July 29, 2021
- Platinum Winner (1st place) in US OPEN of USA Computing Olympiad (USACO) in Apr. 2021

## Experience

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- **Undergraduate Research in Database System (Management of Data)** **PolyU, Hong Kong**  
*Supervised by Prof. SHI Jieming* *Feb 2024 - Present*
  - Do a survey and experiment on the existing exact KNN (K-Nearest Neighbors) algorithm (mainly focusing on huge dimensions like LiteHST)
  - Try to design a new data structure that can embed points into and have a high performance.
- **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. WANG Qixin*

**PolyU, Hong Kong**

Nov 2023 - Present

- Try and compare different camera calibration algorithms (pinhole camera model, SFM) and point cloud registration algorithms (ICP, FMR, DGR).
- Read and analyze CVPR'23 Best Student Paper: 3D Registration with Maximal Cliques.

### **Tencent Spark Challenge Week**

**Tencent Headquarters, Beijing**

- *Computer Vision Direction*

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**

**Beijing**

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

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