# YILIU LI | AIDEN

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## EDUCATION

**08/2021 – 06/2023**

**SHANGHAI GUANGHUA QIDI COLLEGE | HIGH SCHOOL**

- MATHEMATICS
- FURTHER MATHEMATICS
- COMPUTER SCIENCE
- PHYSICS

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## LANGUAGES & SKILLS

### Languages

- Native in Chinese (Mandarin, Cantonese and Hakka)
- Fluent in English
- Beginner in Spanish

### Skills

- Python
- C++
- CUDA
- High Performance Computing Algorithm
- HTML, CSS, JavaScript
- Use of Adobe PS, CAD, Adobe AI, etc.
- Use of Adobe PR, FCPX, Adobe AE, DaVinci, iMovie, etc.
- Use of GarageBand, Logic Pro, Mainstage, etc.
- Video Editing, Picture Editing, Music Editing

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## PERSONAL STATEMENT

I graduated from high school in June 2023 and have received acceptance offers from both the University of Hong Kong (HKU) and University College London (UCL). In the field of computer science, I've acquired a strong grasp of fundamental computer theory and consistently excelled in related examinations.

Since a young age, I've possessed a comprehensive understanding of the underlying principles of various electronic devices. I frequently undertake the design and construction of small products aimed at enhancing my

daily life, and I've even taken on tasks such as repairing and assembling mobile phones and computers on occasions. I maintain a keen interest in staying abreast of the latest developments in electronic products, regularly studying the specifications and features of different items. Furthermore, I possess proficient communication skills and exhibit an outgoing personality.

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## EXTRA-CURRICULAR EXPERIENCES

**05/2023 –**

**Projects in developing an App using LSTM DL model**

- Developing "CosyWake", an innovative wearable app for addressing oversleeping issues. Researched and integrated a sleep phase classification model using the Machine Learning Long Short-Term Memory (LSTM) technique.
- Implemented data feature extraction and analysis for accurate detection of light sleep phase. Created a user-friendly interface for Apple WatchOS using SwiftUI and MVVM architecture.

**06/2023 – 08/2023**

**Research in High-Performance Computing at UCR Supercomputing Lab**

- With a focus on optimizing GPU-accelerated kernels, I made a remarkable breakthrough in creating the fastest algorithm for computing SDOT. By leveraging CUDA programming and innovative techniques, I successfully enhanced kernel efficiency and minimized data movement.
- The project of my SDOT Kernel can be found at: https://github.com/yiliu-li/Optimized-Cuda-SDOT-Kernel-on-NVIDIA-Turing-GPUs

**05/2022 – 07/2022**

**Projects in designing and assembling a Fingerbot**

- Refraining from touching public facilities is one of a key to epidemic prevention and control. To address it, I made an automatic fingerbot, a wireless tiny mechanical arm that can operate a switch or button without any physical touch to the switch, with a sensor to detect a "pressing down" gesture.
- I wrote the programme to the chip by Arduino, a C++-based coding platform that encloses plenty of Internet of Things (IoT)-related libraries.
- To tune the parameters for gesture detection, I collected the rate of variation in the data sampled by the sensor while constantly repeating the gesture.
- On my campus, the installation of the fingerbot on the button of the lifts has allowed the use of the lifts without any touch.

**12/2021 – 04/2022**

**Projects in designing and assembling an external water-cooled radiator for laptops**

- I was inspired to make a water-cooled kit that pumps water from the tank into the copperplate that is placed under the laptop to bring out the heat from the copperplate given by the bottom surface of the laptop.
- I designed a 3D printed enclosure with techniques of mortise-tenon connection by using CAD, a circuit board and the waterway.
- After assembling it, I tried to run a stress test programme to test the efficiency of the facility, and I found that the CPU temperature had successfully lowered.

**05/2021 – 08/2022**

**Projects in Building the Intelligent Housing System**

- Designed the alignment of each device.
- Assembled and installed every device.
- Wrote the instruction for automatic operations.
- Tested and debugged the whole housing system.

**09/2019 – 09/2019**

**2019 Huawei Developer Conference**

- Attended lectures about software and system development
- Participated in the Codelab activity and enjoyed the application development in Harmony OS.

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