

# YILIU (AIDEN) LI

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<https://github.com/yiliu-li> | <https://yiliu.space/>

## EDUCATION

### UNIVERSITY COLLEGE LONDON

09/2023 – Present

#### BSc Computer Science

- Intelligent System, Software Engineering, System Engineering, Computer Architecture and Concurrency, Logic, Intermediate Mathematics, Security
- Object-Oriented Programming, Principle of Programming, Algorithms, Theory of Computation, Introduction Mathematics, Discrete Mathematics, Engineering Challenge, Design and Professional Skills

## SKILLS

### Programming Languages

- Python, C, C++, Java, JavaScript, HTML, CSS, Haskell, SQL

### Development Tools

- CUDA, Arduino
- PyTorch, TensorFlow, NumPy, Matplotlib, Pandas
- React, Node.js
- Bash, Git

## EXPERIENCES

### Research Assistant

08/2024 – Present

#### UCL Computer Science Multi-Sensory Devices (MSD) Group

- Contributed to research on kinesthetic illusion through literature review, and experimental support.
- Assisted research on mid-air haptics through trial-based experimentation and material reading.
- Supported in preparing presentations and research summaries.
- **Supervisor:** Prof. Marianna Obrist

### Teaching Assistant

09/2024 – 01/2025

#### UCL ENGF0034 Design and Professional Skills I (Computer Science)

- Assisted in delivering course content and hands-on workshops for undergraduate Computer Science students, focusing on engineering applications of programming.
- Assisted students with programming in engineering, AI game autoplayer development, and debugging techniques.
- Provided support in understanding internet protocols and real-world networking applications.
- Supported students in developing practical programming projects, fostering a deeper understanding of Computer Science in engineering contexts.
- **Module Leader:** Prof. Martin Benning

## PROJECTS

### SightLink – UCL IXN Project

10/2024 – 03/2025

- Collaboration with Soundscape, Wheelchair Alliance, and Esri.
- Utilizing YOLO OBB for precise zebra crossing detection and geolocation from satellite imagery, optimized to enhance accessibility solutions for disabled individuals.
- **Project Page:** <http://students.cs.ucl.ac.uk/2024/group15/index.html>

### Bioreactor Development

10/2023 – 01/2024

- Designed a bioreactor for the manufacture and storage of BCG vaccine used in Uganda.
- Developed a web dashboard for real-time monitoring of the bioreactor using **React** and built a Wi-Fi IoT platform by integrating **ESP32**, **STM32**, and **Arduino**.

### CUDA Accelerated SDOT Kernel Development at UCR Supercomputing Lab

06/2023 – 08/2023

- A breakthrough was achieved in creating an innovative algorithm for computing SDOT by optimizing **GPU-accelerated** kernels, enhancing efficiency, and minimizing data movement through **CUDA** programming and innovative techniques.
- **Source code:** <https://github.com/yiliu-li/Optimized-Cuda-SDOT-Kernel-on-NVIDIA-Turing-GPUs>
- **Supervisor:** Prof. Zizhong (Jeffery) Chen

### Sleep Stage Detection Model using LSTM

04/2023 – 06/2023

- Developed a smart alarm app to address oversleeping issues, by automatically detecting user's sleep stage and alarm at their light sleep.
- Developed a sleep phase classification model using Long Short-Term Memory (LSTM), resulting in a high accuracy of sleep stage prediction.