ZHAOYU LIU

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Johns Hopkins University

EDUCATION

The Johns Hopkins University *August 2023 - July 2025(expected)*
Masters Student, Biomedical Engineering Overall GPA: 3.90/4.0
Whiting School of Engineering, Biomedical Engineering

Chinese University of Hong Kong *September 2019 - July 2023*
Undergraduate, Bachelor of Biomedical Engineering Overall GPA: 3.72/4.0
Faculty of Engineering, Department of Biomedical Engineering First Honor

ETH Zürich (Eidgenössische Technische Hochschule Zürich) *February 2022 - September 2022*
Term Exchange
Faculty of Engineering, Department of Information Technology and Electronic Technology

Highschool Affiliated to Shannxi Normal University *2016-2019*
Higher Secondary Education

RESEARCH EXPERIENCE

Chinese University of Hong Kong Hong Kong, China
Department of Biomedical Engineering, Group led by Prof. DUAN Liting *March 2020 - March 2021*

· Student Helper
· Cultured relevant skills, including cell culture, transfection, amplification, Southern blot, Western blot, imaging, etc, and relevant knowledge, including optogenetics.

Chinese University of Hong Kong Hong Kong, China
Department of Biomedical Engineering, Group led by Prof. Raymond Tong *May 2021 - August 2021*

· Summer Research Student
· Acquired knowledge related to the basic flow of EEG signal processing, knowledge related to deep learning and machine learning, Riemannian-based classifier, connectivity and etc.
· Conducted an EEG signal experiment comparing Chinese listening/reading and English listening/reading on words and sentences and language understanding as a group.

Chinese University of Hong Kong Hong Kong, China
Department of Biomedical Engineering, Group led by Prof. GAO Zhaoli *September 2021 - December 2021*

· Student Helper
· Participated in fabricating the sweat sensor and built a MATLAB program for collecting heart rate data from a device.

UZH, Clinic for child and adolescent psychiatry and psychotherapy Zürich, Switzerland
Developmental Neuroimaging, Group led by Prof. Silvia Brem *June 2022 - Sept 2022*

· Intern
· Explored EEG and fMRI processing.
· Identified a negative correlation between dyslexia classification accuracy with Riemannian Classifier and the reading abilities of the subjects.

Chinese University of Hong Kong   Hong Kong, China
Department of Biomedical Engineering, Group led by Prof. Raymond Tong   *September 2022 - April 2023*

· Final Year Project Student
· Developed a Virtual Reality system for stroke rehabilitation with Unity3D and Oculus Quest 2.
· The project was awarded of the Silver Award of 48th Geneva International Exhibition of Inventions.

Johns Hopkins University   Baltimore, MD, USA
Department of Chemical and Biomolecular Engineering, Group led by Prof. David H. Gracias September 2023 - Current

· Working on fabricating and designing foldable microelectrode arrays for organoids.
· Working on 3D mapping of cardiac organoids.

PUBLICATIONS

Jan, H.*, **Zhaoyu, L.***, Tommaso, S.*,& Pietro, P*. (2022). A Trainable Sequence that Learns and Recognizes Two-Input Sequence Patterns. *TENCON 2022*, November 2022.

* Indicates equal contribution

Yang, Yaqi; **Liu, Zhaoyu**; Wong, Brian W.L.; Huo, Shuting; Wang, Jie; Lee, Tan; Hoeft, Fumiko; Maurer, Urs. Screening for Developmental Dyslexia in Hong Kong Chinese Children Using Resting- and Task-State EEG with Convolutional Neural Networks. *Under review at Human Brain Mapping.*

PRESENTATIONS

Presenter: Zhaoyu Liu. Jan, H.*, **Zhaoyu, L.***, Tommaso, S.*,& Pietro, P*. (2022). A Trainable Sequence that Learns and Recognizes Two-Input Sequence Patterns. *TENCON 2022*, November 2022.

* Indicates equal contribution

HONORS AND AWARDS

1. Received **Academic Excellence Scholarship for Non-local Fee-paying Students 2022/23** at the Chinese University of Hong Kong, on **June, 2023**

2. Received **Silver Award** in 48th Geneva International Exhibition of Inventions for my final year project, on **May, 2023**

3. Received **Chung Chi College Departmental Prize Biomedical Engineering** at the Chinese University of Hong Kong, on **March, 2023**

4. Received **BME Outstanding Achievement Scholarship 2021-22** at the Chinese University of Hong Kong, on **Aug, 2022**

5. Received **Yasumoto Int'l. Exchange Scholarship.(NL)** at the Chinese University of Hong Kong, on **Aug, 2021**

6.Selected as **Dean's List, 2020-2021** at the Chinese University of Hong Kong, Faculty of Engineering, on **July, 2021**

7. Received **Class of 1977 Fortieth Graduation Anniversary Scholarship** at the Chinese University of Hong Kong, Chung Chi College, on **April, 2021**

8. Received **Chung Chi College Class Scholarship** at the Chinese University of Hong Kong, Chung Chi College, on **Oct, 2020**

9. Selected as **Dean's List, 2020-2021** at the Chinese University of Hong Kong, Faculty of Engineering, on **Jan, 2020**

RELEVANT COURSES

1. At CUHK
Separately in the transcript.
2. At ETH Zürich
Neural Systems
Neuromorphic Engineering
Semiconductors
Optics and Photonics
3. Others
Machine learning by Andrew Ng
Deeplearning by Andrew Ng
Probability and Statistics
Python Programming

SKILLS

Programming skills:
Python, C, Matlab, HTML and JavaScript, LaTex, Unity (C#)

Electrical Engineering:
Cadence Virtuoso
Micro-fabrication and Photo-lithography

Biomedical Engineering skills:
EEG and fMRI signal processing
Biology knowledge exposure (Physiology, Ethology, etc.)
Deeplearning and Principle of statistics
Cell Culture and related techniques

Extracurricular:
Public Speaking, Swimming, Table Tennis.

Languages:
Chinese (Native), English (C1, IELTS: 7.5).

MISCELLANEOUS

I love traveling, trekking, hiking, singing, playing sports, playing video games, and thinking about psychology-related phenomena.
Past President of Chung Chi College Toastmasters Club

last updated on 2024, August 4th