Mengzhan 'Jhan' Liufu

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Education

- University of Chicago, BS, Computer Science; BA, Economics; BA, Physics
  @ Chicago IL, 60637, Sept 2021 ~ Present
- The Affiliated High School of SCNU, High School Diploma
  @ Guangzhou GD, China, Aug 2018 ~ June 2021
- Tungwha Middle School, Middle School Diploma
  @ Dongguan GD, China, Sept 2015 ~ June 2018

Research interests

Brain computer interface, system neuroscience; machine learning, data science, edge computing, embedded systems; wearable and implantable devices, bioelectronics, optogenetics.

Publications

1. **M. Liufu**, Z. Leveroni, S. Shridhar, N. Zhou, J. Yu#. (2024) "Optimizing real-time phase detection in diverse rhythmic biological signals for phase-specific neurostimulation." ***bioRxiv***. doi: https://doi.org/10.1101/2024.08.24.609522

2. **M. Liufu**, Z. Leveroni, S. Shridhar, N. Zhou, J. Yu#. (2024) "Evaluation and signal feature informed optimization of phase detection algorithms." Society for Neuroscience annual meeting, Chicago IL (poster)

3. J. Xu*, C. Yang*, **M. Liufu***, S. Chang, J. Chen, F. Lu, A. Hadjiosif, A. Haith, X. Deng, J. Chen#. (2023) "Effects of different feedback conditions on sensorimotor adaptation revealed in a mirror reversal paradigm." ***Journal of Behavioral and Brain Science***. doi: 10.4236/jbbs.2023.137009, *equal contributors

4. X. Deng, C. Yang, J. Xu, **M. Liufu**, Z. Li, J. Chen#. (2023) "Bridging event-related potentials with behavioral studies in motor learning." ***Frontiers in Integrative Neuroscience***. doi: https://doi.org/10.3389/fnint.2023.1161918

5. X. Deng*, **M. Liufu***, J. Chen#. (2022) "Understanding implicit and explicit sensorimotor learning through neural dynamics." *Frontiers in Computational Neuroscience*. doi: https://doi.org/10.3389/fncom.2022.960569, *equal contributors

6. H. Luo*, **M. Liufu***, D. Li. "Intelligent online food delivery system: a dynamic model to generate delivery strategy and tip advice." ***arXiv***. link: https://arxiv.org/abs/2002.01713, *equal contributors

Honors & Awards

Fellowship in application of machine learning and artificial intelligence in biological and health sciences
@ Biological Sciences Division, Research Computing Center, University of Chicago • June 2024

The Training Program in Theory and Computation for Next Generation Neuroscientists
@ Grossman Center for Quantitative Biology and Human Behavior, University of Chicago • November 2023

Quad Faculty Research Grant
@ University of Chicago • October 2023

Quad Summer Undergraduate Research Scholar
@ University of Chicago • May 2023

Jeff Metcalf Fellowship
@ University of Chicago • October 2022

Data Science Institute Summer Research Scholar
@ Data Science Institute, University of Chicago • July 2022

2021-2022 Dean's List
@ University of Chicago • September 2022

Professional experiences

- Research intern
@ Henry Hoffmann's lab, Department of Computer Science, University of Chicago
February 2024 ~ Present
link: https://people.cs.uchicago.edu/~hankhoffmann/

- Research intern
@ Yanjing Li's lab, Department of Computer Science, University of Chicago
December 2023 ~ May 2024
link: https://tianlab.uchicago.edu/

- Research intern
@ Bozhi Tian's lab, Department of Chemistry, University of Chicago
August 2023 ~ Present
link: https://people.cs.uchicago.edu/~yanjingl/

- Research intern
@ Peter Maurer's lab, Pritzker School of Molecular Engineering, University of Chicago
August 2023 ~ March 2024
link: https://maurer-lab.com/

- Research intern
@ Jai Yu's lab, Institute for Mind and Biology, University of Chicago

October 2021 ~ Present
link: https://voices.uchicago.edu/jaiyu/

- Data science intern
@ HealthyPAI
October 2022 ~ December 2022

- Visiting student
@ Juan Chen's lab, School of Psychology, South China Normal University
March 2021 ~ September 2021
link: https://psy.scnu.edu.cn/english/facultymember/teachers/juan%20chen/

- Engineering intern
@ Fangjong Chen's lab, School of Communications, South China University of Technology
June 2019 ~ Oct 2019

Skills
- Programming: Python, MATLAB, Java, C, C#, Rust, SQL, TypedRacket. Familiar with Windows and Linux OS
- Data science and machine learning: pytorch, tensorflow; numpy, scipy, scikit-learn, pandas; anaconda, jupyter notebook, Google Colab
- Engineering: CAD with SolidWorks; Embedded systems with FPGA, hls4ml , Arduino, stm32, MSP430FR5994 (NI); circuit welding, basic 3D printing, basic lithography

Media
- Github personal page: https://github.com/JohnLauFoo
- LinkedIn personal page: https://www.linkedin.com/in/jhan-liufu-97178122b/
- Personal website: https://jhanliufu.github.io/

References
Dr. Henry Hoffmann, hankhoffmann@cs.uchicago.edu
Dr. Jai Yu, jauyu@uchicago.edu
Dr. Bozhi Tian, btian@uchicago.edu