Chao-Jung Lai

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Education

University of California, San Diego   Sep 2024 - present
MS in Computer Science

National Taiwan University   Sep 2018 - Dec 2023
BSc double-major in Computer Science and Mechanical Engineering
- GPA 4.15/4.3 (Rank top 2%)

University of Toronto   2023 Fall
Exchange Student
- GPA 4/4

Research Experience

Dynamic Graphics Project Lab, University of Toronto   May 2023 - Sep 2024
Advisors: Prof. Tovi Grossman, Dr. Ludwig Sidenmark, and Dr. Mauricio Sousa   Toronto, Canada
- Developed a context-aware adaptation system for XR selection techniques, significantly improving selection efficiency in dynamic XR environments with positive user preference (first-author paper under review)
- Implemented the system in Unity (C#) with multi-objective optimization and computer vision libraries

HCI Lab, National Taiwan University   Sep 2021 - Jan 2023
Advisors: Prof. Mike Y Chen   Taipei, Taiwan
- Developed an air propulsion jet-based haptic device for VR sports applications, integrating perceptual understanding and sports physics with a microcontroller system for portability
- Built a 4-DOF apparatus that directs precise airflow to the human palm, advancing the understanding of tactile perception and its application in contactless haptic devices

Publications

c1 **AirRacket: Perceptual Design of Ungrounded, Directional Force Feedback to Improve Virtual Racket Sports Experiences.** Ching-Yi Tsai, I-Lun Tsai, <u>Chao-Jung Lai</u>, Derrek Chow, Lauren Wei, Lung-Pan Cheng, Mike Y Chen. ACM Conference on Human Factors in Computing Systems (CHI), 2022
    Best Paper Award

c2 **AirCharge: Amplifying Ungrounded Impact Force by Accumulating Air Propulsion Momentum.** Po-Yu Chen, Ching-Yi Tsai, Wei-Hsin Wang, <u>Chao-Jung Lai</u>, Chia-An Fan, Shih-Chin Lin, Chia-Chen Chi, Mike Y Chen. 36th Annual ACM Symposium on User Interface Software and Technology (UIST), 2023

Awards and Honors

ACM CHI Best Paper Award (top 1%)	*ACM CHI*, 2022
Academic Achievement Awards (top 5%) × **5**	*National Taiwan University*, 2018-2023
Undergraduate Research Fellowship - NTD 68000	*Ministry of Science and Technology, Taiwan*, 2023
Study in Canada Scholarships - CAD 10200	*EduCanada, Global Affairs Canada*, 2023

Activities and Services

Departmental Student Association   2019–2021
- Led the department of art and promotion
- Organized high school summer and elementary school winter camps
- Coordinated over ten departmental events that engaged several hundred participants

FRC Robotics Study Club   2018–2020
- Co-founded the First Robotics Competition (FRC) club in NTU
- Provided mentor training and empowered high school students to build their competition robot

Skills

Programming Languages	C, C++, C#, Java, Python, JavaScript, Verilog, Bash scripting
Tools	PyTorch, Numpy, OpenCV, MERN Stack, Matlab, Unity, Jira, Azure, Jenkins, DataDog
Languages	English (Fluent, TOEFL 105), Mandarin (Native)