

YU-SZU WEI

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EDUCATIONS

- **National Tsing Hua University (NTHU)**, Hsinchu, Taiwan 2021-Present
M.S. in Information Systems and Applications (ISA)
Thesis Topic: Privacy-Preserving Filter for 6DoF HMDs
Advisor: Cheng-Hsin Hsu
- **National Central University (NCU)**, Taoyuan, Taiwan 2016-2020
B.S. in Information Management (IM)
- **Taipei First Girls High School (TFG)**, Taipei, Taiwan 2013-2016

PUBLICATIONS

- [1] Yu-Szu Wei, Xing Wei, Xing-Yi Zheng, Cheng-Hsin Hsu, and Chenyang Yang. "A 6DoF VR Dataset of 3D Virtual World for Privacy-Preserving Approach and Utility-Privacy Tradeoff", in *Proc. of ACM Multimedia Systems Conference (MMSys '23)*, June 7–10, 2023, Vancouver, Canada, Dataset Track.
- [2] Yu-Szu Wei, Xing-Yi Zheng, Yuan-Chun Sun, Chun-Ying Huang, and Cheng-Hsin Hsu. "Privacy-Perserving Filter for 6DoF HMDs", in *preparation for submission to ACM Multimedia Conference (MM'23)*, Ottawa, Canada, October 29, 2023.

EXPERIENCE AND PROJECTS

- **Networking and Multimedia Systems Lab, NTHU (Research Assistant)** April 2021 - Present
Virtual Reality (VR) is gaining popularity due to the immersive user experience it offers. The developers are interested in the behaviors of their HMD users. Although there are quite a few existing datasets collecting users' movements in 360-degree videos, the datasets from the 3D virtual world, which require 6DoF (Degree-of-Freedom) data, i.e., x, y, z, yaw, roll, and pitch, are very few. To fill up the gap, I designed a collecting procedure to *collect a dataset of users exploring 3D virtual scenes*. With more and more people joining metaverses via VR, the data from the VR sensors, such as HMDs and controllers, may be used for less benign purposes, hence inducing privacy issues. The dataset also includes *privacy-sensitive sensor data*, such as videos of the users playing VR in the physical world, for the purpose to study the privacy issues in VR. *This is the first dataset for 6DoF HMDs shedding light on the privacy issues in VR*. This work was accepted by *MMSys'21 main conference's dataset track*. With the dataset, we want to develop a *privacy-preserving system for VR applications*, providing a filter to protect users' data based on a privacy guarantee while retaining the data utility, and a QoE function to quantify the overall system quality.
- **Senior Project in Information Management** 2019
We developed Bitter, a chatbot implemented on Line to provide information about the promotions of different credit cards, and the interest rates of the ten most popular banks in Taiwan. The user can simply ask for the information he/she wants from Bitter, and the chatbot then processes what the user says and get the answer from the database to reply to the user. Bitter has won the InnoServe Awards in 2019.