Xingyu Chen

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EDUCATION

University of California San Diego (UCSD) Fall 2022 – Present
Ph.D. in Computer Science and Engineering
Advisor: Prof. Xinyu Zhang

University at Buffalo (UB), the State University of New York (SUNY) August 2018 – June 2021
B.S in Computer Science with Distinction Overall GPA: 3.69
Advisor: Prof. Wenyao Xu

EXPERIENCE

Research Intern, Microsoft Research Asia June 2023 – September 2023
Supervised by Prof. Lili Qiu

Researcher, Mobile, Emerging Technologies & Applications (META) Lab August 2021 – August 2022
University of Colorado Denver
Supervised by Prof. Zhengxiong Li

Research Assistant, Embedded Sensing and Computing (ESC) Group August 2018 – August 2021
University at Buffalo, SUNY
Supervised by Prof. Wenyao Xu

AWARDS

Best Student Paper Award, IEEE International Conference on Health Informatics (ICHI) 2022
IEEE COVID-19 Sensor Informatics Challenge
Runner-up Award (Second place), IEEE Healthcare Summit (IHS) 2021
Dean's List Fall 2018, Spring & Fall 2019, Spring 2020
Best Paper Award, SenSys'19 2019

PUBLICATIONS

[1] **Xingyu Chen**, Xinyu Zhang. "RF Genesis: Zero-Shot Generalization of mmWave Sensing through Simulation-Based Data Synthesis and Generative Diffusion Models", In: ***SenSys 2023*** **(Conference full paper)**.

[2] **Xingyu Chen***, Zhengxiong Li*, Baicheng Chen*, Yi Zhu, Chris Xiaoxuan Lu, Zhengyu Peng, Feng Lin. "MetaWave: Attacking mmWave Sensing with Meta-material-enhanced Tags", In: ***NDSS 2023*** (*Co-first author) **(Conference full paper)**.

[3] **Xingyu Chen***, Zhengxiong Li*, Srirangaraj Setlur, Wenyao Xu. "Exploring racial and gender disparities in voice biometrics", In: ***Scientific Reports*** (*Co-first author) **(Journal article)**.

[4] **Xingyu Chen**, Xinmin Fang, Wenchuan Wei, Wenyao Xu, Zhengxiong Li. "Poster: Exploring an Extensible Children Game Framework based on Augmented Reality Building Blocks", In: *ACM Conference on Embedded Networked Sensor Systems (**SenSys'21**)* **(Poster)**

[5] Xinmin Fang*, **Xingyu Chen***, Wenyao Xu, Zhengxiong Li. "Poster: Enhanced Virtual Reality: Exploring an Immersive and Realistic Virtual Reality Training for Nursing", In: *ACM Conference on Embedded Networked Sensor Systems (**SenSys'21**)* (*Co-first author) **(Poster)**

[6] **Xingyu Chen**, Chenhan Xu, Baicheng Chen, Zhengxiong Li, Wenyao Xu. "Poster: In-Ear Thermometer: Wearable Real-time Core Body Temperature Monitoring", In: *ACM Conference on Embedded Networked Sensor Systems (**SenSys'20**)* **(Poster)**

[7] Huining Li, **Xingyu Chen**, Xiaoye Qian, Huan Chen, Zhengxiong Li, Soumyadeep Bhattacharjee, Hanbin Zhang, Ming-chun Huang Wenyao Xu. "An Explainable COVID-19 Detection System based on Human Sounds", In: *The IEEE/ACM international conference on Connected Health: Applications, Systems and Engineering Technologies 2022(**CHASE'22**)* **(Conference full paper)**

[8] Zhengxiong Li, Baicheng Chen, **Xingyu Chen**, Chenhan Xu, Yuyang Chen, Feng Lin, Changzhi Li, Karthik Dantu, Kui Ren, Wenyao Xu. "Reliable Digital Forensics in the Air: Exploring an RF-based Drone Identification System", In: *The ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (**UbiComp'22**)* **(Conference full paper)**

[9] Zhengxiong Li, Baicheng Chen, **Xingyu Chen**, Huining Li, Chenhan Xu, Feng Lin, Chris Xiaoxuan Lu, Kui Ren, Wenyao Xu. "SpiralSpy: Exploring a Stealthy and Practical Covert Channel to Attack Air-gapped Computing Devices via mmWave Sensing", In: *The Network and Distributed System Security (**NDSS'22**) Symposium* **(Conference full paper)**

[10] Chenhan Xu, Huining Li, Zhengxiong Li, **Xingyu Chen**, Aditya Singh Rathore, Hanbin Zhang, Kun Wang, Wenyao Xu "The Visual Accelerometer: A High-fidelity Optic-to-Inertial Transformation Framework for Wearable Health Computing", In: *the IEEE International Conference on Health Informatics 2022 **ICHI*** **(Conference paper)** [Best student paper award]

[11] Huining Li, Huan Chen, Chenhan Xu, Anarghya Das, **Xingyu Chen**, Zhengxiong Li, Jian Xiao, Ming-Chun Huang, Wenyao Xu "Privacy computing using deep compression learning techniques for neural decoding", In: ***Smart Health*** **(Journal paper IF = 2.71)**

[12] Chenhan Xu, Huining Li, Zhengxiong Li, Hanbin Zhang, Aditya Singh Rathore, **Xingyu Chen**, Kun Wang, MING-CHUN Huang, Wenyao Xu. "CardiacWave: A mmWave-based Scheme of Non-Contact and High-Definition Heart Activity Computing", In: *ACM Conference on Pervasive and Ubiquitous Computing (**UbiComp'21**)* **(Conference full paper)**

[13] Baicheng Chen, Zhengxiong Li, Huining Li, **Xingyu Chen**, Chenhan Xu, Wenyao Xu. "ThermoWave: A New Paradigm of Wireless Passive Temperature Monitoring via mmWave Sensing", In: *ACM International Conference on Mobile Computing and Networking (**MobiCom'20**)* **(Conference full paper)**

[14] Hanbin Zhang, Gabriel Guo, Emery Comstock, Baicheng Chen, **Xingyu Chen**, Matthew Stafford, Lora Cavuoto, Jeanne Langan, Wenyao Xu. "RehabPhone: A Software-Defined Tool using 3D Printing and Smartphones for Personalized Home-based Rehabilitation", In: *ACM International Conference on Mobile Systems, Applications, and Services (**MobiSys'20**)* **(Conference full paper)**

[15] Zhengxiong Li, Baicheng Chen, Zhuolin Yang, Huining Li, Chenhan Xu, **Xingyu Chen**, Kun Wang, Wenyao Xu. "FerroTag: A Paper-based mmWave-Scannable Tagging Infrastructure", In: *ACM International Conference on Mobile Computing and Networking (**SenSys'19**)* **(Conference full paper)** [Best paper award]

SERVICES

Artifact Evaluation Committee, 5th International SenSys/BuildSys Workshop on Data — Sept-2022

Volunteer Judge, CoorsTek Denver Metro Regional Science and Engineering Fair — Feb-2022

Teaching Assistant, University of Colorado Denver

- CSCI 4771/5771 Introduction to Mobile Computing. — Fall-2021
- CSCI 4773/5773 Introduction to Emerging System Security. — Spring-2022

Presenter, University at Buffalo CSE Open House Event Project Demo — 2018, 2019

COMMERCIAL PRODUCTS

Unity - Steam Networking Framework (Unity, C#) — 2017

One of the first few solutions of Steam multiplayer networking for Unity Engine. It was developed entirely by me solely. It is a low-level networking framework to connect Unity Component System and Steam P2P network services. It is used by commercial games such us RUSSIA BATTLEGROUNDS, a battle royale game that supports up to 32 players at the same time.

Spark Dimension (Unity, C#) — 2014

A 3D sandbox video game developed entirely by me solely when I was 14 years old. This game sold a total of about 8,000 copies worldwide on Steam, with a total profit of about $15,000. This game was covered by numerous gaming media such as *ali213.com, indienova, SteamCN, and Baidu Baike*.

REFEREES

Prof. Xinyu Zhang
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University of California San Diego

Prof. Wenyao Xu
Email: wenyaoxu@buffalo.edu
Professor, Associate Department Chair
University at Buffalo

Prof. Zhengxiong Li
Email: zhengxiong.li@ucdenver.edu
Assistant Professor
University of Colorado Denver