

# Xingyu Chen

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EDUCATION	<b>University of California San Diego (UCSD)</b> Ph.D. in Computer Science and Engineering Advisor: Prof. Xinyu Zhang <b>University at Buffalo (UB), the State University of New York (SUNY)</b> B.S in Computer Science with Distinction Advisor: Prof. Wenyao Xu	Fall 2022 – Present August 2018 – June 2021 Overall GPA: 3.69
EXPERIENCE	<b>Research Intern</b> , Microsoft Research Asia Supervised by Prof. Lili Qiu <b>Researcher</b> , Mobile, Emerging Technologies & Applications (META) Lab University of Colorado Denver Supervised by Prof. Zhengxiong Li <b>Research Assistant</b> , Embedded Sensing and Computing (ESC) Group University at Buffalo, SUNY Supervised by Prof. Wenyao Xu	June 2023 – September 2023 August 2021 – August 2022 August 2018 – August 2021
AWARDS	<b>Best Student Paper Award</b> , IEEE International Conference on Health Informatics (ICHI) <b>IEEE COVID-19 Sensor Informatics Challenge</b> <b>Runner-up Award (Second place)</b> , IEEE Healthcare Summit (IHS) <b>Dean's List</b> <b>Best Paper Award</b> , SenSys'19	2022 2021 Fall 2018, Spring & Fall 2019, Spring 2020 2019
PUBLICATIONS	<ol style="list-style-type: none"><li>[1] <b>Xingyu Chen</b>, Xinyu Zhang, Qiyue Xia, Xinmin Fang, Chris Xiaoxuan Lu, Zhengxiong Li. "Differentiable Radio Frequency Ray Tracing for Millimeter-Wave Sensing", In: <i>Submission (Conference full paper)</i>.</li><li>[2] <b>Xingyu Chen</b>, Xinyu Zhang. "RF Genesis: Zero-Shot Generalization of mmWave Sensing through Simulation-Based Data Synthesis and Generative Diffusion Models", In: <i>SenSys'23 (Conference full paper)</i>.</li><li>[3] <b>Xingyu Chen*</b>, Zhengxiong Li*, Baicheng Chen*, Yi Zhu, Chris Xiaoxuan Lu, Zhengyu Peng, Feng Lin. "MetaWave: Attacking mmWave Sensing with Meta-material-enhanced Tags", In: <i>NDSS 2023</i> (*Co-first author) (<b>Conference full paper</b>).</li><li>[4] <b>Xingyu Chen*</b>, Zhengxiong Li*, Srirangaraj Setlur, Wenyao Xu. "Exploring racial and gender disparities in voice biometrics", In: <i>Scientific Reports</i> (*Co-first author) (<b>Journal article</b>).</li><li>[5] <b>Xingyu Chen</b>, Xinmin Fang, Wenchuan Wei, Wenyao Xu, Zhengxiong Li. "Poster: Exploring an Extensible Children Game Framework based on Augmented Reality Building Blocks", In: <i>ACM Conference on Embedded Networked Sensor Systems (SenSys'21)</i> (<b>Poster</b>).</li><li>[6] Xinmin Fang*, <b>Xingyu Chen*</b>, Wenyao Xu, Zhengxiong Li. "Poster: Enhanced Virtual Reality: Exploring an Immersive and Realistic Virtual Reality Training for Nursing", In: <i>ACM Conference on Embedded Networked Sensor Systems (SenSys'21)</i> (*Co-first author) (<b>Poster</b>).</li><li>[7] <b>Xingyu Chen</b>, Chenhan Xu, Baicheng Chen, Zhengxiong Li, Wenyao Xu. "Poster: In-Ear Thermometer: Wearable Real-time Core Body Temperature Monitoring", In: <i>ACM Conference on Embedded Networked Sensor Systems (SenSys'20)</i> (<b>Poster</b>).</li><li>[8] Huining Li, <b>Xingyu Chen</b>, Xiaoye Qian, Huan Chen, Zhengxiong Li, Soumyadeep Bhattachar-</li></ol>	

- jee, 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**)
- [9] 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**)
- [10] 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**)
- [11] 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]
- [12] 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**)
- [13] 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**)
- [14] 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**)
- [15] 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**)
- [16] 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

### Reviewer

- IEEE GlobeCom 2023 CISS
- IEEE Transaction on Mobile Computing.

### Artifact Evaluation Committee,

- ACM MobiCom 2023.
- ACM MobiSys 2022.
- 5th International SenSys/BuildSys Workshop on Data.

**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.
- CSCI 4773/5773 Introduction to Emerging System Security.

Fall-2021  
Spring-2022

### Presenter,

- University at Buffalo CSE Open House Event Project Demo
- UC San Diego CWC Research Review

2018, 2019  
2023

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 as **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 Associate Professor  
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Prof. Wenyao Xu Professor, Associate Department Chair  
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Prof. Zhengxiong Li Assistant Professor  
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