Xingyu Chen

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https://xingyuchen.me

EDUCATION

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

EXPERIENCE

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

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

AWARDS

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

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*.

PUBLICATIONS

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

[2] **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**)

[3] *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**)

[4] **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**)

[5] 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**)

[6] 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**)

[7] 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**)

[8] 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**)

[9] 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**)

[10] 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

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

NOTABLE PROJECTS

Visual Tensor (Typescripts, Python)   2020
It is a visual editor & debugger for basic neural networks.

APhysics Simulator Combo   2020
It is a combination of various soft-body & fluid simulation technologies for research and study use.

ALight Renderer Combo   2019
It is a combination of various rendering technologies for research and study use.
- ALight Creator (C++, ImGUI)
- ALight OpenGL (C++, OpenGL)
- ALight Rasterizer (C#)
- ALight RayCPU (C++, C#)
- ALight RayGPU (C++, CUDA)

Orange Programming Language (C#, MSIL)   2019
It is a basic programming language running on DotNet framework.

Dragonfly Programming Language (C/C++, CUDA, LLVM, Assembly)   2019
It is a toy programming language based on LLVM with a handwritten parser.

Steamwork GUI (C#)   2017
One of the first few GUI tools for managing and uploading content to Steam developer system.

REFEREES

Wenyao Xu   Associate Professor, Associate Department Chair
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                                   330 Davis Hall Buffalo
                                 Buffalo. NY 14260-2500

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                                  Denver. CO 80217-3364

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University of Edinburgh
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Edinburgh, EH8 9AB, UK

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Senior Research Engineer
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