Xinmin Fang

xinmin.fang@ucdenver.edu
https://fangxm.me

EDUCATION

University of Colorado Denver (CUDenver) — Fall 2024 – Present
Ph.D in Comp Science & Information Systems — Overall GPA: 3.7
Advisor: Prof. Zhengxiong Li

Guangdong University of Technology — Fall 2020 – June 2024
B.S in Internet of Things

EXPERIENCE

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

AWARDS

Best Paper Award, Sensors S&P '25 — 2025

COMMERCIAL PRODUCTS

Prompt2Robotics — 2025 - Present

A novel framework enabling users to generate virtual robotic scenarios, collect training data, and train Vision-Language-Action (VLA) models through natural language prompts alone.

- Developed an integrated system that translates user prompts into executable virtual environments for robotic policy training.
- Successfully implemented support for 140 diverse scenarios from MetaWorld and LIBERO environments, enabling comprehensive robotic manipulation training.
- Achieved end-to-end automation from prompt input to trained policy deployment, streamlining the robotics development pipeline.

Cyber Nachos — 2024 - Present

A pioneering initiative dedicated to advancing robotics, AI, and cybersecurity, with a focus on developing intelligent and secure robotic systems to drive innovation across industries.

- Designed and developed the Cyber Nachos website, featuring project introductions, product releases, open-source tutorials, and published papers.
- Explored and open-sourced comprehensive installation guides for NVIDIA Isaac Sim and Isaac Lab.
- Resolved and open-sourced liquid simulation issues in NVIDIA Isaac Lab, enabling accurate fluid dynamics simulation with a fully documented example.
- Achieved over 15,000 total website visits as of February 2026.

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

One of the first few solutions of Steam multiplayer networking for Unity. Used by commercial games such us RUSSIA BATTLEGROUNDS, a battle royale game supports up to 32 players at the same time.

PUBLICATIONS

[1] **Xinmin Fang**, Zheshuo Li, Lingfeng Tao, Zhengxiong Li. "VRobotix: A Scalable and Cost-Effective Virtual-Reality-Based Robotic Manipulation Dataset Generation Framework", In: *IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS'25**)* **(Conference full paper)**

[2] **Xinmin Fang**, Lingfeng Tao, Zhengxiong Li. "DexPour: Effective and Efficient High-DoF Robotic Hand Liquid Pouring via Hierarchical Reward with Approximated Proxy Abstraction", In: *IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS'25**)* **(Conference full paper)**

[3] *Xingyu Chen, ***Xinmin Fang**, Shuting Zhang, Xinyu Zhang, Liang He, Zhengxiong Li. "EffVR: Enhancing Energy and Computation Efficiency of Mobile Virtual Reality", In: *ACM International Conference on Mobile Systems, Applications, and Services (**MobiSys'25**)* (*Co-first author) **(Conference full paper)**

[4] **Xinmin Fang**, Lingfeng Tao, Fangzhou Ma, Zhengxiong Li. "From First Principles: Why Artificial Intelligence is a Civilizational Inevitability", In: *TechRxiv* (TechRxiv:177091628) **(Preprint)**

[5] **Xinmin Fang**, Lingfeng Tao, Zhengxiong Li. "Digital Hieroglyphs: Orthogonal Composite Tokens for Vision-Language-Action Models", In: *TechRxiv* (TechRxiv:177041993) **(Preprint)**

[6] **Xinmin Fang**, Lingfeng Tao, Zhengxiong Li. "Multi-Scaling Laws for Embodied Intelligence: A Conjecture on Nested Power-Law Relationships in Dexterous Manipulation", In: *TechRxiv* (TechRxiv:176857966) **(Preprint)**

[7] **Xinmin Fang**, Lingfeng Tao, Zhengxiong Li. "Intelligence Flywheel: A Conjecture on Recursive Self-Improvement and the Dynamics of AI Progress", In: *TechRxiv* (TechRxiv:176972273) **(Preprint)**

[8] **Xinmin Fang**, Lingfeng Tao, Zhengxiong Li. "AI Robotics Open Source R&D Survey: Foundation Models, Datasets, Simulation, and Benchmarks Platforms (2023-2025)", In: *TechRxiv* (TechRxiv:175756484) **(Preprint)**

[9] **Xinmin Fang**, Lingfeng Tao, Zhengxiong Li. "AI's Euclid's Elements Moment: From Language Models to Computable Thought", In: *Arxiv* (arXiv:2506.23080) **(Conference full paper)**

[10] **Xinmin Fang**, Lingfeng Tao, Zhengxiong Li. "Closer to language than steam: Ai as the cognitive engine of a new productivity revolution", In: *Arxiv* (arXiv:2506.10281) **(Conference full paper)**

[11] **Xinmin Fang**, Lingfeng Tao, Zhengxiong Li. "Anchoring AI Capabilities in Market Valuations: The Capability Realization Rate Model and Valuation Misalignment Risk", In: *Arxiv* (arXiv:2505.10590) **(Conference full paper)**

[12] Xingyu Chen, Jianrong Ding, Kai Zheng, **Xinmin Fang**, Xinyu Zhang, Chris Xiaoxuan Lu, Zhengxiong Li. "InverTwin: Solving Inverse Problems via Differentiable Radio Frequency Digital Twin", In: *Arxiv* (arXiv:2508.14204) **(Conference full paper)**

[13] Xingyu Chen, Xingyu Zhang, Qiyue Xia, **Xinmin Fang**, Chris Xiaoxuan Lu, Zhengxiong Li. "Differentiable Radio Frequency Ray Tracing for Millimeter-Wave Sensing", In: *Arxiv* (arXiv:2311.13182) **(Conference full paper)**

[14] **Xinmin Fang**, Hailu Xu, Lingfeng Tao, Zhengxiong Li. "mmVanish: Extending the Vanish Attack for Multi-Radar Exploitation of mmWave Sensing with Meta-material Tags", In: *ACM Proceedings of the 2nd International Workshop on Security and Privacy of Sensing Systems (**Sensors S&P'25**)* **(Workshop)** [Best paper award]

[15] *Yilin Song, ***Xinmin Fang**, Zheshuo Li, Zhengxiong Li. "MetaGlucose: Low-cost and Practical Cold Liquid Glucose Level Measurement for Health", In: *ACM Conference on Mobile Computing And Networking (**MobiCom'24**)* (*Co-first author) **(Workshop)**

[16] **Xinmin Fang**, Zhengxiong Li. "Poster Abstract: Understanding IoT Security Awareness Disparities Between CS and Non-CS Students", In: *ACM Conference on Embedded Networked Sensor Systems (**SenSys'25**)* **(Poster)**

[17] ***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)**

[18] 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)**

SERVICES

Teaching Assistant, University of Colorado Denver

- CSCI 4772/5772 Mobile and IoT Security. Fall-2024
- CSCI 3740 Computer Security. Spring-2025
- CSCI 4771/5771 Intro to Mobile Computing. Fall-2025
- CSCI 4772/5772 Mobile and IoT Security. Fall-2025
- CSCI 4772 Mobile and IoT Security. Spring-2026

- CSCI 5773 Intro Emerging Systm Security. Spring-2026

Presenter

- ACM MobiCom-PICASSO Workshop: MetaGlucose 2024
- Sensors S&P: mmVanish 2025

NOTABLE PROJECTS

Firefly Renderer (C#) 2018

It is a rasterizer running on CPU for research use.

- Accomplished the implementation of a comprehensive rasterization pipeline.
- Developed a Shader framework enabling the creation of various effects through the customization of Shaders, allowing for real-time debugging.
- Dynamically loaded scenes, materials, and Shaders to enhance flexibility and adaptability.

Firefly Renderer (C++, CUDA) 2018

It is a rasterizer running on GPU for research use.

Butterfly Language (C#, C++) 2018

It is a programming language with compiler and interpreter.

- Possess comprehensive proficiency in fundamental syntax and object-oriented features.
- Executed both frontend and backend development, encompassing syntax analysis, semantic analysis, and the generation of target bytecode.
- Developed a bytecode interpreter in C++, achieving a runtime speed of approximately 30% faster than Python.