

RUI LU

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Profile

I am currently the ITF Postdoctoral Fellow at The Hong Kong Polytechnic University, supervised by Prof. Dan Wang. My research focuses on sustainable and energy-efficient privacy-preserving edge/cloud computing on video/3D video, LLM serving. My publications include papers in *ACM ASPLOS*, *USENIX Security*, *ACM/IEEE SEC*, *ACM MM*, *AAAI*, *IEEE TMC*, *ACM e-Energy*, and the *CoNEXT* workshop. My current postdoctoral stage works have been submitted to ASPLOS, AAAI, HPCA, INFOCOM, TPDS, and TDSC.

Professional Experience

• The Hong Kong Polytechnic University

Department of Computing, ITF Postdoctoral Fellow

Hong Kong

Jan. 2025 – Present

Education

• The Hong Kong Polytechnic University

Ph.D. in Computing

Hong Kong

Sept. 2020 – Dec. 2024

• Southern University of Science and Technology

B.Eng. in Computer Science and Technology

Shenzhen, China

Sept. 2015 – Jun. 2019

Selected Publications

Conference, workshop, and notes papers

- [C1] **GiTT: Forecasting the GPU Thermal Profiles in AI Datacenters with Immersion Cooling Systems.**
S. Zhu, Rui Lu, H. Zhang, J. Zhang, and D. Wang. *ASPLOS'27*. Conditioned accept.
- [C2] **MEPS: Privacy-preserving Edge-cloud Video Foundation Model Inference with Privacy Protectability.**
S. Shi, Rui Lu, D. Wang, and B. Zhang. *USENIX Security'26*.
- [C3] **HotGPU: A Thermal Profile Dataset for Immersion-Cooling AI Datacenters.**
H. Zhang, S. Zhu, Rui Lu, and D. Wang. *HotCarbon'26*.
- [C4] **ECSAM: An Edge-cloud Video Analytics Architecture for the Segment Anything Model.**
Rui Lu, S. Shi, and D. Wang. *ACM ECCAI/CoNEXT'25*. **Best Paper Award**.
- [C5] **A Thermal-aware Workload Scheduler for High-performance LLM Inference in Cooling-regulated Datacenters.**
Rui Lu and D. Wang. *HotCarbon'25*.
- [C6] **StoreLLM: Energy Efficient Large Language Model Inference with Permanently Pre-stored Attention Matrices.**
D. Wang, B. Liu, Rui Lu, Z. Zhang, and S. Zhu. *ACM e-Energy'25*. **Best Notes Paper Candidate**.
- [C7] **VVRec: Reconstruction Attacks on DL-based Volumetric Video Upstreaming via Latent Diffusion Model with Gamma Distribution.**
Rui Lu, B. Zhang, and D. Wang. *AAAI'25*. **Oral presentation**.
- [C8] **Pagoda: Privacy Protection for Volumetric Video Streaming through Poisson Diffusion Model.**
Rui Lu, L. Wei, S. Zhu, C. Hu, and D. Wang. *ACM MM'23*.
- [C9] **Preva: Protecting Inference Privacy through Policy-based Video-frame Transformation.**
Rui Lu, S. Shi, D. Wang, C. Hu, and B. Zhang. *ACM/IEEE SEC'22*.
- [C10] **Gemini: A Real-time Video Analytics System with Dual Computing Resource Control.**
Rui Lu, C. Hu, D. Wang, and J. Zhang. *ACM/IEEE SEC'22*.

Journal papers

- [J1] **A Privacy-preserving Edge-cloud Video Analytics System via Policy-based Frame Transformation.**
Rui Lu, W. Wu, S. Shi, C. Hu, and D. Wang. *ACM TOIT'26*.
- [J2] **P4LLM: Protecting Embedding Privacy against Model Inversion Attacks for EaaS LLM Serving via Token-wise Partition and Perturbation.**
Rui Lu, Y. Liu, and D. Wang. *IEEE TMC'26*.
- [J3] **LVMScissor: Split and Schedule Large Vision Model Inference on Mobile Edges via Salp Swarm Algorithm.**
Y. Liu, Rui Lu, and D. Wang. *IEEE TMC'25*.
- [J4] **An Edge-side Real-time Video Analytics System with Dual Computing Resource Control.**
C. Hu, Rui Lu, Q. Sang, H. Liang, D. Wang, D. Cheng, J. Zhang, Q. Li, and J. Peng. *IEEE TC'23*.

Full publication list: <https://sladelu.github.io/>.

Research Interests

Sustainable computing; energy-efficient systems; edge/cloud computing; privacy-preserving systems; video/3D video analytics; LLM serving.