# YUNAN (Lucy) LU

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## EDUCATION

**Columbia University** — New York, NY
Ph.D. in Computer Science — Sep. 2024 - Present

**Columbia University** — New York, NY
M.S. in Electrical Engineering — Feb. 2020

**Hong Kong University of Science and Technology** — Hong Kong, HK
B.Eng. (Hons.) in Electronic and Computer Engineering [Minor in Mathematics] — May 2018

## PROFESSIONAL EXPERIENCE

**Columbia University** — New York, NY
Oct. 2022 – Present
*Supervisor: Prof. Zhou Yu*

- Developing a **User Simulator** for **multi-turn agent evaluation** that leverages business logic and agent infrastructure knowledge.
- Designed, implemented and deployed **Open-sourced Agent Framework** that has been used by multiple companies, such as Pearson, Richtech Robotics, Revvo, etc. Leveraging domain knowledge to handle customer inquiries, employing a graph-based dialogue schema to respond to customer inquiries and manage inbound leads efficiently.

**Huawei Technologies Co., Ltd**, *Software Engineer* — Hangzhou, CN
Sep. 2020 – Jul. 2022

- Worked together with ~60 developers to create the Kunpeng Hyper Tuner tool which is a performance analysis tool for Kunpeng-powered servers
- Led a 10-person team in developing HPC features for Hyper Tuner, which collects performance data of hybrid OpenMP/MPI programs, such as WRF, GROMACS.

**Nakamoto & Turning Labs**, *Part-time Research Engineer* — New York, NY
May 2020 – Jul. 2021
*Supervisor: Prof. Chong Li*

- Developed an Education Digital Asset Management platform that provides an online processing engine to translate, organize, and summarize educational videos
- Established the **reinforcement learning study platform** for users to implement Deep Q-learning, Policy Gradient, and Actor-Critic algorithms in the OpenAI gym environment

**Graphen**, *Data Scientist Internship* — New York, NY
Sep.2019 – Sep.2020
*Supervisor: Prof. Ching-Yung Lin*

- Constructed an evolution graph of 35,659 worldwide sequenced SARS-CoV-2 viruses and proposed graph spectral clustering methods to classify the genomes based on the **graph network topology**
- Built a **Clinical Decision Support System** for doctors to help predict the patient's future health condition and retrieve similar patients from the database; Embedding the disease by using the skip-gram model, which leverages the electronic health record of patients

## PUBLICATIONS

- **Yunan Lu***, Ryan Shea*, Yusen Zhang, Zhou Yu, "VISTA: A Versatile Interactive User Simulation Toolkit for Agent Evaluation", *under review*
- **Yunan Lu***, Luigi Liu*, Omar Yahia*, Arpit Sharma, Zhou Yu, "PQR: A Framework to Generate Diverse and Realistic User Queries that Elicit QA Agent Failures", *under review*
- Ryan Shea, **Yunan Lu***, Liang Qiu, and Zhou Yu, "SAGE : A Top-Down Bottom-Up Knowledge-Grounded User Simulator for Multi-turn AGent Evaluation", *EACL 2026*
- Naimeng Ye*, Arnav Ahuja*, Georgios Liargkovas*, **Yunan Lu***, Kostis Kaffes, and Tianyi Peng, "Speculative Actions: A Lossless Framework for Faster Agentic Systems", *In International Conference on Learning Representations (ICLR '26), 2026. Oral*
- Xiao Yu*, **Yunan Lu***, Zhou Yu, "LocalRQA: From Generating Data to Locally Training, Testing, and Deploying Retrieval-Augmented QA Systems", *ACL 2024*
- Derek Chen, Celine Lee, **Yunan Lu**, Domenic Rosati, Zhou Yu, "Mixture of Soft Prompts for Controllable Data Generation", *EMNLP 2023 Findings*
- **Yunan Lu**, William A. Kusmik, Deepak S. Turaga, "Pulse of the City: Spatio-Temporal Twitter Content Analysis", *in the proceedings of the 2020 IEEE 36th International Conference on Data Engineering Workshops (ICDEW)*