【**TL;DR**】

Dr. Alan Liu is an Assistant Professor of Computer Science at the University of Maryland, College Park (UMD). Liu's team is seeking highly motivated PhD students to work on cutting-edge research projects in computer and networked systems. Prospective applicants may contact the professor at zaoxing@cs.umd.edu. Deadline: 12/15/2024

- The Maryland Max Planck Ph.D. Program in CS is also available: check out
- For students interested in AI and systems, we also have collaborated/co-advised PhD options in UMD and with GaTech (e.g., w/ Prof. Tuo Zhao)

【**PI**】

Alan Liu joined UMD CS as a tenure-track assistant professor in September 2023. Prior to UMD, Liu has been an assistant professor of electrical and computer engineering at Boston University since 2021. Liu obtained his Ph.D. in Computer Science from Johns Hopkins University and did postdoctoral research in CyLab Security & Privacy Institute, Carnegie Mellon University.

【**Research**】

Liu's team works broadly on networked and data-intensive systems. Specifically, they design, implement, evaluate systems and algorithmic tools for ***network and distributed systems***, ***machine learning***, and ***network security***. Liu's research has been supported in part by federal agencies such as NSF and open-source industry such as Red Hat, Microsoft, and Intel. Liu's team publishes in top venues of systems (e.g., NSDI, OSDI, FAST), networking (e.g., SIGCOMM, NSDI, IMC, MobiCom), security (e.g., USENIX Security, NDSS), and data systems (e.g., VLDB).

Several example directions:

- Large-scale telemetry and analytics infrastructures for cloud and NextG networks.
- ML for systems, e.g., advanced persistent threat (APT) security defense.
- Systems to accelerate ML training and inference efficiency.
- Empirical measurement of security and protocol on the Internet.

【**Qualifications and Expectations**】

- System "hacking" experiences and strong programming/systems skills (e.g., C/C++, Rust, parallel programming and CUDA).
- Basic understanding and mathematics backgrounds on networking systems, distributed systems, or machine learning algorithms.
- Prior research experiences or publications are a plus, but not required.
- Self-motivated.

【About School and Area】

The University of Maryland Department of Computer Science is consistently top-ranked for research and teaching worldwide. In the United States, UMD CS is ranked #11 in CSRankings, #16 in US News and World Report, and #15 in student placement. The research outcome of UMD is among the top-10 CS programs across many AI, systems, and theory areas.

Brendan Iribe Center for Computer Science & Engineering
(Photo credit: cs.umd.edu)

[**From cs.umd.edu**] UMD is located in College Park, MD, about 7 miles from the center of US capital, Washington, D.C. Many of our students and faculty live in D.C., College Park, Silver Spring, and other surrounding towns. Washington, D.C. is a profoundly culture-rich, diverse city. Many of our students and faculty live in D.C. or visit it frequently, because:

- There is a Metro stop in College Park, making a commute to D.C. fast and easy.
- Most museums and art galleries in D.C. are free, year-round.
- Some of the best restaurants in the nation are in D.C.
- D.C. has a vibrant and diverse arts and music scene.

UMD is uniquely situated among top computer science programs given its proximity to nation's capitol and the many groups who affect policy at national and international levels, including the National Science Foundation (NSF), the Federal Communications Commission (FCC), and the major branches of the U.S. government (Judiciary, Congress, and the White House).