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Zhengyu Wu

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About Me

I am a third-year Computer Science Ph.D Student at Stony Brook University. I work in the NetSys Lab with my advisor, Aruna Balasubramanian. My research interests include network performance, mainly peer-to-peer networks and decentralized distributed storage systems.

Education

Ph.D Student in Computer Science   **Jan 2022 - Present**
Stony Brook University, New York, USA   GPA: 3.93/4.0
Advisor: Prof. Aruna Balasubramanian

B.S. Computer Science   **Aug 2017 - May 2021**
Stony Brook University, New York, USA   GPA: 3.80/4.0

Publications

Is IPFS Ready for Decentralized Video Streaming?   **WWW 2023**
- The video playback experience on IPFS suffers from network instability and static video quality. Traditional ABR streaming performs poorly due to inaccurate network estimation. The proposed IPFS-aware algorithm, called Telescope, can update ABR's estimation on the fly and significantly improve the video playback experience.

Secrets are forever: Characterizing sensitive file leaks on IPFS   **IFIP Networking 2024**
- IPFS is a public decentralized storage system that is content-addressing based, which makes it easy to inadvertently share private files on the platform. This poses a risk as IPFS can store files for extended periods. Our investigation revealed the presence of sensitive files like SSH keys and API keys on IPFS, highlighting the potential risks of accidental file sharing.

Typosquatting 3.0: Characterizing Squatting in Blockchain Naming Systems   **eCrime 2024**
- Blockchain Name Systems (BNS) simplify crypto transactions but are vulnerable to typosquatting. We studied across multiple blockchains and showed a rising trend in typosquatting attacks, targeting popular domains and Twitter users.

Panning for gold.eth: Understanding and Analyzing ENS Domain Dropcatching   **IMC 2024**
- ENS domains, like traditional DNS, can expire and be re-registered by new owners (dropcatching). Through analysis of 3.1M ENS domains and 9.7M transactions, we discovered widespread drop-catching targeting high-value domains, leading to significant financial losses. Our study proposes practical countermeasures for wallet providers to prevent misdirected transactions to expired domains.

Work Experience

Software Engineer Intern (Network Engineering)   **Sep 2024 - Nov 2024**
ByteDance   *San Jose, California*

- Developed monitoring system to analyze BGP carrier network quality across CDN edge POPs, providing comprehensive visibility into inter-POP connectivity performance.
- Leveraged carrier quality metrics to implement intelligent traffic routing decisions, optimizing content delivery by selecting high-performing BGP paths

Graduate Teaching Assistant   **Fall 2021 - Fall 2022**
Stony Brook University   *New York*

- Graduate teaching assistant for Introduction to Network Administration. Introduced students with hands-on experience on fundamentals of network management, such as TCP/IP networking protocols, hardware, architecture, and software.
- Graduate teaching assistant for Computer Networks. Helped students learn the fundamental structure of the Internet.

Web/Database Support   **Sep 2020 - Dec 2020**
Stony Brook University   *New York*

- Maintained the Computer Science Department's websites at Stony Brook University by using Drupal, a widely used content management system (CMS), and MySQL.

Founder   **Jun 2018 - Present**
Hoshiro Entertainment   *New York*

- Founded a company services translating games from Japanese to English and Chinese.
- Successfully maintained a group of over 10 translators and helped partners reach over a million dollar in sales.

Awards & Honors

Stony Brook University Scholars (2017 - 2021)   **IMC Travel Grant (2022)**   **GAANN Fellowship (2023)**
Stony Brook University Provost Scholarship (2017 - 2021)