Ryan (Cheng-Hao) Yang

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EDUCATION

Northeastern University Boston, Massachusetts
M.S. of Computer Science *Sept. 2021 - Sept. 2023*

Stony Brook University Stony Brook, New York
M.S. of Computer Science *Sept. 2019 - Jun. 2021*

University of Illinois, Urbana-Champaign, UIUC Urbana, Illinois
Exchange Student in Computer Science Department *Sept. 2018 - Dec. 2018*

National Chiao Tung University, NCTU Hsinchu, Taiwan
B.S. of Computer Science *Sept. 2015 - Jun. 2019*

TECHNICAL SKILLS

- **Languages**: **C++ (advanced)**, Java, Python, C, Bash, Go, SQL, JavaScript
- **Skills**: AWS, Docker, Boost, Poco, OneTBB, Ansible, PyTorch, C++ Meta Programming, Mbed OS, Unreal Engine, Cocos2d-x, Qt6, SDL2
- **Human Languages**: English, Mandarin, Japanese

PROFESSIONAL EXPERIENCE

System Research Group, Northeastern University Boston, Massachusetts
Research Software Engineer *Sep. 2021 - Present*

- Designed and implemented Serverless-powered Network Filesystem in C++ to provide a high-performance and cost-efficient Distributed Filesystem [1]
- Created Deep Learning models for Fund Prediction from daily stock market prices and long-term sector trends

CDNJS Hsinchu, Taiwan
DevOps Volunteer *Sept. 2016 - Sept. 2018*

- Improved CDNJS homepage and Maintained CDNJS repository. Ranked #17/1293 by contribution commits

Northeastern University Boston, Massachusetts
Teaching Assistant *Jan. 2023 - Aug. 2023*

- 2023, CS3650, Computer System, 250 students
- 2023, CS3520, Programming in C++, 70 students

TECHNICAL AND RESEARCH EXPERIENCE

NetSys (Networked Systems) Laboratory Stony Brook University, New York
Research Student *Sep. 2019 - Jun. 2021*

- Designed and Implemented Telescope to optimize video streaming on the decentralized IPFS network. [2]
- Created NAT traversal tools using custom protocols with multiple platform support
- Implemented Raft and Key-Value store Raft in MIT lab 6.824

Yeh Laboratory, Cold Spring Harbor Laboratory Cold Spring Harbor, New York
Bioinformatics Project Leader *Sep. 2019 - Present*

- Built custom RFDiffusion for computational de novo protein design and structures analysis
- Implemented Rosetta platform for computational modeling and analysis of protein structures [3]
- Built bioinformatics pipelines for protein and antibody NGS analysis

Coordinated Science Laboratory, UIUC Urbana, Illinois
Independent Study Student *Sept. 2018 - Dec. 2018*

- Verified Hybrid Automata vehicle model using C2E2 (Advisor: Professor Sayan Mitra)

PUBLICATIONS AND AWARDS

1 **Cheng Hao Ryan Yang** et al., **"SLFS: a File System Design with Serverless Paradigms"**, (under review (FAST '24))

- Won **Third place** of presentation in Northeastern System Day at Khoury College of Computer Sciences

2 **Cheng Hao Ryan Yang** et al., **"Is IPFS Ready for Decentralized Video Streaming?"**. in Proceedings of the 32nd International World Wide Web Conference (WWW'23), 2023

3 Farrell BM, Gerth F, **Yang CR**, Yeh JT. **"A synthetic KLHL20 ligand to validate $CUL3^{KLHL20}$ as a potent E3 ligase for targeted protein degradation."** Genes and Development vol. 36, 1031-1042, 2022