Francis Y. Yan

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Education

Stanford University Stanford, CA
Ph.D. in Computer Science September 2015 – June 2020 (expected)

- Advised by Prof. Keith Winstein and Prof. Philip Levis
- Research interests: intersection of computer networks and machine learning
- Thesis: Machine learning improves stochastic control in video streaming and congestion control

Tsinghua University Beijing, China
B.S. in Computer Science with Highest Distinction August 2011 – July 2015

- *Valedictorian* of Yao Class (founded by Turing Award laureate Prof. Andrew Yao)
- Rank: 1^{st}/39; GPA: 3.93/4.00

B.A. in Economics August 2012 – July 2015

Massachusetts Institute of Technology Cambridge, MA
Exchange Student in EECS Department January – May 2014

- GPA: 5.0/5.0

Publications

[1] **Francis Y. Yan**, H. Ayers, C. Zhu, S. Fouladi, J. Hong, K. Zhang, P. Levis, K. Winstein, Learning *in situ*: a randomized experiment in video streaming, 17th USENIX Symposium on Networked Systems Design and Implementation (*NSDI '20*). ***Community Award*** (for the best paper whose code and/or data set is made publicly available).

[2] **Francis Y. Yan**, J. Ma, G. Hill, D. Raghavan, R. Wahby, P. Levis, K. Winstein, Pantheon: the training ground for Internet congestion control research, 2018 USENIX Annual Technical Conference (*ATC '18*). ***Best Paper Award***.

[3] R. Jung, **Francis Y. Yan**, P. Levis, K. Jamieson, K. Balachandran, D. Hui, I. Maric, Desynchronized Timers as a Service, submitted to the 19th ACM/IEEE Conference on Information Processing in Sensor Networks (*IPSN '20*).

[4] D. Yu, Y. Wang, **Francis Y. Yan**, J. Yu, F. Lau, Speedup of Information Exchange using Multiple Channels in Wireless Ad Hoc Networks, 34th Annual IEEE International Conference on Computer Communications (*INFOCOM '15*).

[5] **Francis Y. Yan**, S. He, Y. Liu, L. Huang, Optimizing Power Consumption of Mobile Games, 7th USENIX Conference on Power-Aware Computing and Systems (*HotPower '15*).

[6] **Francis Y. Yan**, D. Yu, Y. Wang, J. Yu, F. Lau, Bounded information dissemination in multi-channel wireless networks, Journal of Combinatorial Optimization, 2014.

Work Experience

Microsoft Research, Mobility and Networking Research Group Redmond, WA
Research Intern mentored by Dr. Ganesh Ananthanarayanan and Yuanchao Shu June – September 2019

- Ongoing research on video compression and streaming for computer vision tasks

Google, Congestion Control Group Mountain View, CA
Research Intern mentored by Dr. Yuchung Cheng June – September 2016

- Added instrumentation to Linux kernel for TCP sender limits, measuring how long TCP is limited by the receive window or by an insufficient send buffer

- Commits accepted into Linux kernel since 4.10 (i.e., into Ubuntu since 17.04)

Microsoft Research, Wireless and Networking Group — Beijing, China
Research Intern mentored by Dr. Yunxin Liu — March – June 2015
- Implemented a dynamic frame rate scaling system for optimizing mobile power consumption
- Published a research paper and gave an oral presentation at *HotPower '15*

Baidu, Big Data Lab — Beijing, China
Research Intern on the team led by Prof. Tong Zhang — June – August 2015
- Implemented a high-performance multithreaded hash table
- Worked on optimization of a distributed deep learning framework

The University of Hong Kong, Computer Science Department — Hong Kong
Research Assistant advised by Prof. Francis Lau — July – August 2014
- Designed randomized distributed algorithms for information dissemination in wireless ad hoc networks
- Published research papers at *INFOCOM '15* and *Journal of Combinatorial Optimization*

Teaching Experience

Stanford University, Computer Science Department — Stanford, CA
Course Assistant for *CS140: Operating Systems* — Winter & Spring 2019

Massachusetts Institute of Technology, EECS Department — Cambridge, MA
Grader for *6.207/14.15: Networks* — Spring 2014

Activities

Professional Services
- Reviewer, *IEEE/ACM Transactions on Networking* — 2019 – Present
- Reviewer, *ACM SIGCOMM Computer Communication Review* — 2019 – Present
- Reviewer, *Computer Communications* — 2019 – Present

Chuang Plus (startup incubator of Tsinghua University) — 2015
- Co-developed the homepage

Member, Tsinghua-Berkeley Global Technology Entrepreneurship Program — 2014 – 2015

Social Practice — 2013
- Investigated the community reconstruction of Taomi ecological village in Taiwan
- Won the Silver Prize of Tsinghua Student Social Practice 2013

Honors and Awards

- ***Community Award*** (out of 354 submissions), USENIX NSDI — 2020
- ***Best Paper Award*** (out of 378 submissions), USENIX ATC — 2018
- Award of Excellence, Stars of Tomorrow Internship Program, Microsoft Research — 2015
- Outstanding Graduate of Tsinghua University (*lone recipient* at my institution) — 2015
- Outstanding Graduate of Beijing, China — 2015
- National Scholarship, China — 2014
- Silver Prize, Yao Award, Tsinghua University — 2014
- Tsinghua University Comprehensive Scholarship — 2013
- National Endeavor Fellowship, China — 2012
- Tsinghua-Baidu Scholarship — 2012
- Scholarship for Tsinghua Xuetang Talents Program — 2011 – 2014
- First Prize, National Senior High School Mathematical Olympiad, China — 2010
- First Prize, National Olympiad in Informatics in Provinces, China — 2008

Skills

C, C++, Python, TensorFlow, PyTorch, Linux kernel (contributor), SQL, HTML, CSS, JavaScript, LaTeX