Curriculum Vitae – Yunfei Ma

Personal Information

Yunfei Ma
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Current position

Sr. Engineering Manager
Alibaba Group (U.S.) Inc.
525 Almanor Avenue
Sunnyvale, CA 94085

Education

Postdoctoral fellow
MIT Media Lab (2016-2018).
Signal Kinetics Group
Ph.D. in Electrical and Computer Engineering
Cornell University (2010-2016).
GPA:4.21/4.3
B.S. in Electrical Engineering
University of Science and Technology of China (USTC) (2006-2010).
GPA:4.00/4.3

Selected honors and awards

Keynote speaker at MobiHoc'21

MobiCom'21 best paper runner-up

DAMO Award Individual (highest honor in DAMO Academy) finalist (Top 0.4%)

Top-10 Breakthrough News by RFID World, 2020
Covered by IEEE Signal Processing Magazine Special Report, 2018
ACM SIGCOMM research paper highlights, 2018
China Young Scientist Computing Association Rising Star, 2018
Qualcomm QualStar Award, 2015
International Microwave Symposium Best Student Paper Award, 2015
Irwin and Joan Jacobs Scholar, 2011
National Scholarship (Top 2%), Ministry of Education, China, 2009

Working experiences

Alibaba Group (U.S.) Sunnyvale, CA, Sept. 2018-present (Senior Engineer → Staff Engineer → Sr. Engineering Manager)

Sr. Engineering Manager at Alibaba Networking Infrastructure →
I lead an increadible team that works on cutting-edge technologies in mobile and wide-area networking. Our technologies have been successfully deployed in Alibaba's core services, including Taobao, Dingtalk, Eleme and AliCloud, serving hundreds of millions of users world wide.
Currently, I serve as the general Tech Lead for Alibaba's PredWAN global infrastructure (including transport protocol stack, traffic engineering,

performance-enhanced proxy, network quality monitoring, multi-cloud overlay networking, CDN congestion control optimization, and video conferencing optimization). I am a committee member of Alibaba Mobile Technology Group and Alibaba Real-time Communication Technology Group.

MIT Media Lab Cambridge, MA, Sept. 2016-Aug. 2018
Postdoctoral Associate→
Internet-of-things (IoT) based human machine interface (HCI). My research focuses on using tools from computer networks, signal processing, machine learning and hardware design to uncover, analyze and engineer the networks of natural and man-made signals that fill our world in order to enhance our abilities in communication, sensing and actuation.

Serve as invited reviewer for

IEEE Transaction on Mobile Computing
IEEE/ACM Transaction on Networking
IEEE Consumer Electronics Maganine

Other services

IEEE GlobeCom Technical Program Committee 2021
IEEE INFOCOM (one of the three major computer network conferences) Technical Program Committee 2020
ACM CoNEXT Technical Program Committee 2018
IEEE INFOCOM (one of the three major computer network conferences)Technical Program Committee 2019
ACM MobiCom Workshop Technical Program Committee 2018
ACM Mobisys Workshop Technical Program Committee 2018
Invited speaker for IoT Expo North America 2018
Invited speaker for 2018 Information Theory and Application Workshop
Invited speaker for 2018 China Turing Celebration Meeting

IETF Drafts

Y. Liu, Y. Ma, Q. D. Coninck, O. Bonaventure, C. Huitema, M. Kuhlewind, *Multipath Extension for QUIC*, IETF WG Draft, 2023. Working group draft in the IETF QUIC WG.
Z. Zheng, Y. Ma, Y. Liu, M. Kulewind, *QUIC-enabled Service Differentiation for Traffic Engineering*, IETF Draft, 2023.
F. Yang, Y. Liu, Y. Ma, *A Configurable Retransmission Extension for HTTP/3 Datagrams*, IETF Draft, 2023.
Y. Ma, Y. Liu, C. Huitema, X. Yu, *An Advanced Scheduling Option for Multipath QUIC*, IETF Draft, 2023.

Selected Publications

Y. Ni, Z. Zheng, X. Lin, F. Gao, X. Zeng, Y. Liu, G. Yang, Y. Su, D. Cai, H. Liu, C. Xu, E. Zhai, Y. Ma *corresponding author*, *CellFusion: Multipath Vehicle-to-Cloud Video Streaming with Network Coding in the Wild*, ACM SIGCOMM 2023. Cellfusion has become a new product in AliCloud and shipped to Self-driving customers.
B. Wu, K. Qian, B. Li, Y. Ma, Q. Zhang, Z. Jiang, J. Zhao, E. Zhai, D. Cai, X. Jin, *XRON: A Hybrid Elastic Cloud Overlay Network for Video Conferencing at Planetary Scale*, ACM SIGCOMM 2023.
X. Lin, Y. Ma *corresponding author*, J. Zhang, Y. Cui, J. Li, S. Bai, Z. Zhang,

D. Cai, H. Liu, M. Zhang, *GSO-Simulcast: Global Stream Orchestration in Simulcast Video Conferencing*, ACM SIGCOMM 2022. Deployed in Dingtalk, serving over 500 million users world wide.
Z. Zheng, Y. Ma *corresponding author*, Y. Liu, F. Yang, Z. Li, Y. Zhang, J. Zhang, W. Shi, W. Chen, D. Li, Q. An, H. Hong, H. Liu, and M .Zhang, *XLINK: QoE-driven Multi-path QUIC Transport in Large-scale Video Services*, ACM SIGCOMM 2021. Deployed in Taobao and successfully spinning off one Cloud product.
X. Fan, L. Shangguan, S. Rupavatharam, Y. Zhang, J. Xiong, Y. Ma, and R. Howard, *HeadFi: Bringing Intelligence to All Headphones*, ACM MobiCom 2021. Best paper runner-up.
R. Zhao, P. Wang, Y. Ma *corresponding author*, P. Zhang, H. Liu, X. Lin, X. Zhang, C. Xu and M. Zhang, *NFC+: Breaking NFC Networking Limits through Resonance Engineering*, ACM SIGCOMM, 2020. *Selected as one of the top-10 breakthrough news by RFID World.*
X. Fan, L. Shangguan, R. Howard, Y. Zhang, Y. Peng, J. Xiong, Y. Ma, X.-Y. Li, *Towards Flexible Wireless Charging for Medical Implants Using Distributed Antenna System*, ACM MobiCom, 2020.
Z. Luo, Q. Zhang, Y. Ma, M. Singh and F. Adib, *3D backscatter localization for fine-grained robotics*, USENIX NSDI, 2019. *Featured on MIT News, RFID Journal, Engadget, ZDnet and other media outlets*
U. Ha, Y. Ma, Z. Zhong, T. Hsu and F. Adib, *Learning food quality and safety from wireless stickers*, ACM HotNets, 2018. *Story covered by CBS Morning*
Y. Ma, Z. Luo, C. Steiger, G. Traverso and F. Adib, *Enabling deep-tissue networking for miniature medical devices*, ACM SIGCOMM, 2018. (acceptance rate: 40/222=18%) *Featured on Technology Review, Boston Herald, Engadget and other media outlets*
Y. Ma, N. Selby and F. Adib, *Minding the billions: ultra-wideband localization in deployed RFID tags*, ACM MobiCom, 2017.(acceptance rate: 35/186 = 19%)
Y. Ma, N. Selby and F. Adib, *Drone relays for battery-free networks*, ACM SIGCOMM, 2017. (acceptance rate: 36/250 = 14%) *Featured as Spotlight on MIT homepage, IEEE Spectrum, The Verge, Sina, Sohu and other media outlets*
Y. Ma, N. Selby, M. Singh, and F. Adib, *Demo: fine-grained RFID localization via ultra-wideband emulation*, ACM SIGCOMM, 2017.
Y. Ma, X. Hui and E. C. Kan, *3D real-time indoor localization via broadband nonlinear backscatter in passive devices with centimeter precision*, ACM MobiCom, 2016.(acceptance rate: 32/226 = 14%)

Teaching experiences

Teaching Assistant, Cornell ECE 2300 (Digital Logic and Computer Organization), 2011.

Students Mentoring:
Hongqian Rong (now at Apple), Sameed Shafi (now at SanDisk), Minji Kim (now Ph.D. student at Cornell), Rex Chen (now at Motorola), Kevin Wang (now at Apple), Nick Selby (now at MIT), Zhihong Luo (now at MIT), Tzu-Ming Hsu (now at MIT), Guojun Chen (now at Yale), Purui Wang (now at MIT), Pan Hu (now at Alibaba US).

Media Coverage

CBS Morning, The Verge, IEEE Spectrum, MIT News(front page), International

Business Times, Boston Herald, Technology Review, Digital Trends, Geek, Inverse, Engadget, UPI, RFID Journal, Cornell News, ScienceDaily, Sina(Chinese), Sohu(Chinese), IT Home(Chinese), The Drive, Material Handling and Logistics, RF Global Net, Computer Welt(Austrians), Electronics360, Quartz, New Atlas, Design Products and Applications.

LANGUAGE SKILLS English, Chinese