Xin Tong

Software Engineer at WhatsApp (Meta Platforms)

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Industry & Research Experience

WhatsApp, Meta Platforms Inc.   *1 Hacker Way, Menlo Park, CA*
Software Engineer, WhatsApp Infra   *02/08/2021 - Present*
- Summary: Develop and maintain highly distributed backend infrastructure that powers individual/group messaging and other consumer features on WhatsApp, such as User Status, Groups and Communities.
- Work Highlights: Build infra support for 0-to-1 product initiatives like WhatsApp Communities; create and evolve complex CRUD operations on user-data entities across microservices; maintain and improve long-term service reliability and efficiency; build and onboard use cases to a unified GraphQL platform for client-to-server data query and mutation.
- Keywords: high-volume client-server & server-server (RPC) communication, containerized service infra, distributed storage system
- Tech Stack: GraphQL & XMPP protocols, service container (Tupperware), Erlang microservices, In-memory cache / storage (Erlang ETS), distributed key-value data store (RocksDB)

Facebook Inc.   *1 Hacker Way, Menlo Park, CA*
Software Engineer Intern, Ads Manager   *05/18 - 08/07 2020*
- Created a new base url and updated the Web routing scheme for the advertiser data-reporting page within Facebook Ads Manager; applied performance optimizations to improve initial page loading time. Implemented in 9k lines of PHP and JavaScript code.

WeChat, Tencent   *Guangzhou, China*
Software Engineering Intern, WeChat Mini Programs   *June - Aug. 2018*
- Developed real-time, multiplayer gaming prototypes on the WeChat Mini Programs Web platform; created Web APIs that support networking, file storage and multimedia features, such as VoIP chat.

NYU Tandon School of Engineering   *Brooklyn, NY*
Summer Research Intern, Secure Systems Lab   *June - Aug. 2017*
- Researched and developed a Distributed Hash Table (DHT)-based information advertise and lookup library for Seattle Testbed, a cloud computing platform for networking and distributed systems research.
- Implemented and open-sourced the Python library. [code] [poster]

Education

University of Illinois at Urbana-Champaign   *Champaign, IL*
Master of Computer Science (4.0/4.0 GPA)   *Aug. 2019 - Dec. 2020*
- Notable coursework: CS423 Operating System Design, CS446 Machine Learning, CS527 Topics in Software Engineering.
- Teaching Assistant for CS225 Data Structures and CS425 Distributed Systems.

New York University Abu Dhabi   *Abu Dhabi, UAE / NYC, NY*
B.S. Computer Science, Minor in Mathematics (3.977/4.0 GPA)   *Aug. 2015 - May 2019*
- B.S. Thesis: A Decentralized Forum with Blockchain-based Distributed Data Store. [paper] [code]
- Graduated *Magna Cum Laude*.

Technical Skills

Programming Languages   Python, Java, JavaScript, Erlang, PHP/Hack, C/C++
Dev & Tooling   Unix, bash/zsh, Git, Mercurial, Vim, LaTeX

Open-source Projects

- 2018: Implemented multi-process binary sort using Inter-process Communication (IPC) mechanisms [code]
- 2020: Designed & Implemented Tandoop, an enhanced version of the Randoop random test generation tool [code]