WILLIAM SENTOSA

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https://williamsentosa.github.io

EDUCATION

University of Illinois Urbana-Champaign, USA *Aug 2018 - (Expected: May 2025)*
Ph.D. in Computer Science
Advisor: P. Brighten Godfrey

Bandung Institute of Technology, Indonesia *Aug 2013 - Oct 2017*
B.S. in Computer Science GPA: 3.83/4.00

RESEARCH STATEMENT

My research interests span broadly in the area of **networked systems**, including (but not limited to) low-latency networking, networking for ML systems, cellular networks, wide-area networks, and VR/AR systems.

PUBLICATIONS

CellReplay: Towards accurate record-and-replay for cellular networks
William Sentosa, Balakrishnan Chandrasekaran, P. Brighten Godfrey, and Haitham Hassanieh
To appear at 22nd USENIX Symposium on Networked Systems Design and Implementation (**USENIX NSDI**), 2025

Offloading Head Tracking for Low Power XR: An End-to-End System and Evaluation
Qinjun Jiang, Yihan Pang, William Sentosa, Steven Gao, Muhammad Huzaifa, Jeffrey Zhang, Javier Perez-Ramirez, Dibakar Das, Dave Cavalcanti, P. Brighten Godfrey, and Sarita Adve.
To appear at 16th ACM Multimedia Systems Conference (**ACM MMsys**), 2025

WarpLab: Evaluating Edge-Assisted Rendering Offload for Low Power Extended Reality Devices
Steven Gao, Jeffrey Liu, Qinjun Jiang, Finn Sinclair, William Sentosa, P. Brighten Godfrey, and Sarita Adve.
To appear at 16th ACM Multimedia Systems Conference (**ACM MMsys**), 2025

Is WTSN the missing piece for low latency in general-purpose Wi-Fi?
Milind Kumar Vaddiraju, William Sentosa, Qinjun Jiang, Sarita Adve, Dave Cavalcanti, Dibakar Das, P. Brighten Godfrey, Javier Perez-Ramirez, and Deepak Vasisht.
To appear at the Twenty-second International Workshop on Mobile Computing Systems and Applications (**ACM HotMobile**), 2025

DChannel: Accelerating Mobile Applications With Parallel High-bandwidth and Low-latency Channels
William Sentosa, Balakrishnan Chandrasekaran, P. Brighten Godfrey, Haitham Hassanieh, and Bruce Maggs
20th USENIX Symposium on Networked Systems Design and Implementation (**USENIX NSDI**), 2023

Boosting Application Performance using Heterogeneous Virtual Channels: Challenges and Opportunities
Talal Touseef, William Sentosa, Milind Kumar Vaddiraju, Debopam Bhattacherjee, Balakrishnan Chandrasekaran, P. Brighten Godfrey, and Shubham Tiwari.
Twenty-second ACM Workshop on Hot Topics in Networks (**ACM HotNets**), 2023

cISP: A Speed-of-Light Internet Service Provider
Debopam Bhattacherjee, Waqar Aqeel, Sangeetha Abdu Jyothi, Ilker Nadi Bozkurt, William Sentosa, Muhammad Tirmazi, Anthony Aguirre, Balakrishnan Chandrasekaran, P. Brighten Godfrey, Gregory Laughlin, Bruce Maggs, and Ankit Singla.
19th USENIX Symposium on Networked Systems Design and Implementation (**USENIX NSDI**), 2022

Accelerating Mobile Applications With Parallel High-bandwidth and Low-latency Channels
William Sentosa, Balakrishnan Chandrasekaran, P. Brighten Godfrey, Haitham Hassanieh, Bruce Maggs, Ankit Singla

The Twenty-second International Workshop on Mobile Computing Systems and Applications (**ACM HotMobile**), 2021

Understanding and Auto-Adjusting Performance-Sensitive Configurations
Shu Wang, Chi Li, Henry Hoffman, Shan Lu, <u>William Sentosa</u>, Achmad Imam Kistijantoro
ACM *International Conference on Architectural Support for Programming Languages and Operating Systems* (**ACM ASPLOS**), 2018

WORK AND TEACHING EXPERIENCE

Teaching assistant at University of Illinois Urbana-Champaign, USA   Jan 2019 - Dec 2019
CS241 (now CS341) - System Programming
- I led lab sessions to teach system programming foundations such as processes, synchronization, scheduling, networking, and memory management.
- I assisted students to do the system programming assignments in C

Data reliability engineer at Bukalapak, Indonesia   February 2018 - May 2018
- I optimized the data processing stack performance by tuning the configuration
- I tuned the configuration of HBase and Presto to achieve better performance

INVITED TALKS

Accelerating Mobile Applications With Parallel 5G High-bandwidth and Low-latency Channels
- Microsoft Research, Sept 2022, Inviter: Sharad Agarwal
- Embrace.io, May 2022, Inviter: Anuj Jaiswal

TECHNICAL STRENGTHS

Programming	C/C++, Python, Java, SQL, JavaScript
Databases	MySQL, PostgreSQL, Cassandra
Distributed Systems	Hadoop, HBase, Presto
Other Skills	HTTP, QUIC, P4, NVIDIA CUDA