

WILLIAM SENTOSA

307 E Healey St, Champaign, IL 61820, USA
(217)721-7885 ♦ sentosa2@illinois.edu

EDUCATION

University of Illinois at Urbana-Champaign, USA

Aug 2018 - Present

Ph.D. in Computer Science

Bandung Institute of Technology, Indonesia

Aug 2013 - Oct 2017

B.S. in Computer Science

GPA: 3.83/4.00

RESEARCH INTERESTS

Areas Networking System, Internet Measurement, Distributed System

RESEARCH PROJECTS

Accelerating Web Page Load via Parallel Networks

Jun 2019 - Present

Advisor: Prof. P. Brighten Godfrey (UIUC)

- Build a HTTP record and replay network emulation tool that supports two parallel networks with different characteristics
- Explore heuristics to accelerate web page load utilizing both low-latency and high-latency networks.

Accelerating Distributed ML with Programmable Switches

Feb 2019 - May 2019

Advisor: Prof. P. Brighten Godfrey (UIUC)

- Utilize programmable switch to speed up parameter server distributed ML training by caching ML model parameter at switches
- Implement the caching in P4 programming language and emulate the network in Mininet

Software Auto-Configuration Framework

Sep 2017 - Aug 2018

Advisor: Prof. Shan Lu and Prof. Hank Hoffman (UChicago)

- Analyze and reproduce MapReduce bug reports related to performance configuration
- Apply various ML techniques to predict the optimal configuration value
- Add control-theoretic modules in Hadoop MapReduce to auto-adjust configuration in runtime based on certain performance target

PUBLICATIONS

Understanding and Auto-Adjusting Performance-Sensitive Configurations

Shu Wang, Chi Li, William Sentosa, Henry Hoffman, Shan Lu, Achmad Imam Kistijantoro

ACM *International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)*, 2018

WORK AND TEACHING EXPERIENCE

Teaching Assistant at University of Illinois at Urbana-Champaign, USA

Sp'19 - Fa'19

CS241 - System Programming

Data Reliability Engineer at Bukalapak, Indonesia

Feb - May 2018

Responsible for improving the performance and reliability of their big data stack

TECHNICAL STRENGTHS

Programming	Java, C/C++, Python, SQL, PHP, JavaScript
Databases	MySQL, PostgreSQL, Cassandra
Distributed Systems	Hadoop, HBase, Presto
Other Skills	MPI, NVIDIA CUDA, OpenMP, Apache Thrift, RabbitMQ