

Shuwen (Jethro) Sun

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RESEARCH INTERESTS Systems and Networking

EDUCATION

Boston University, Boston, MA

M.S., Computer Science,

Sept. 2015 - May 2017

- Selected Courses: *Grad Computer Networks, Cloud Computing, Operating Systems, Advanced Algorithms, Distributed Systems, Data Science Tools, Advanced Networking*¹

Sun Yat-sen University, Guangzhou, China

B.Eng., Software Engineering,

Sept. 2011 - July 2015

- Selected Courses: *Compilers, Database Management Systems, Data Structure, Object-Oriented Software Principles*

RESEARCH EXPERIENCE

Red Hat Engineering

June 2017 - Sept. 2017

BU MOC Research Internship

Invited research intern position as a part of the BU MOC Research group. Belonging to Tracing and Monitoring research group, I am trying to understand the casual behaviors of distributed applications, and creating tools or frameworks to help people understand the cloud services.

Host: *Jan Mark Holzer*

Supervisor: *Prof. Orran Krieger & Dr. Raja R. Sambasivan*

Massachusetts Open Cloud, Boston University

Sept. 2016 - May 2017

Direct Study

Worked with Prof. Rodrigo Fonseca, Da Yu, Dr. Raja R. Sambasivan and Dr. Jason Hennessey on [Network Exchange](#) project. This is a continuing work of a HotCloud'16 paper. I am also serving as a core contributor to the [HIL](#) project.

Supervisor: *Prof. Orran Krieger & Prof. Rodrigo Fonseca*

Massachusetts Open Cloud, Boston University

May 2016 - Aug. 2016

Research Internship

Worked with Prof. Krieger, Prof. [Peter Desnoyers](#), and Dr. Jason Hennessey on various topics related to Hardware Isolation Layer project.

Supervisor: *Prof. Orran Krieger*

Computer Network and Information Security Lab,

Sun Yat-sen University

Feb. 2014 - June 2015

Research Assistant

Research on applications of networking, especially Software Defined Networking and OpenStack. Also, assisted in deployment and development of cloud desktop application.

Supervisor: *Prof. Wushao Wen*

WORKING PAPERS

NetEx: Enabling Flexibility in Cloud Networks

Sept. 2016 - Now

Da Yu, Luo Mai, Shuwen Sun, Raja Sambasivan, Jason Hennessey, Piyanai Saowarattitada, Rodrigo Fonseca, Orran Krieger

SELECTED PROJECTS

AWS EC2 Spot Instance Price Analysis

Sept. 2016 - Dec. 2016

CS 505, Boston University

¹It is a phd level course taught by Prof. Rodrigo Fonseca at Brown University. I am not officially enrolled.

Description: Use Data Science methods to understand Amazon EC2 Spot Instances marketplace. Specifically, we applied Pearson's Statistical Correlation, and Hierarchical clustering with Dynamic Time Warping to analyze the co-relations between various parameters while the bidding process.

(This is a joint work with Konstantino Sparakis)

DISCOS over FIFOS over MEMOS

Jan. 2016 - Apr. 2016

CS 552, Boston University

Description: A full operating system built from the ground includes: a bootloader that probes the system BIOS and reports the amount of physical memory, a non-preemptive or preemptive kernel, virtual memory, and abstraction of files and directories on top of ram disk.

Cloud vSwitch

Jan. 2016 - Apr. 2016

CS 591, Boston University

Description: A cross-platform virtual switch in cloud providing a virtual LAN between widely separated machines.

Splay Tree - Self-adjusting BST

Sept. 2015 - Dec. 2015

CS 520, Boston University

Description: Using ATS to implement a self-adjusting BST-based splay tree. Functional programming language features like dependent types and type-checking are adopted.

SKILLS

Platforms: Linux/UNIX, Mac OS X

Programming languages:

Python 2/3, Go (distributed systems programming), C (Linux kernel programming), Bash, Rust

Tools:

Mininet, NS3, SDN controller, P4 compiler, Wireshark, Unix CLI, L^AT_EX, Data Science/ML Toolchains (in Python)

AWARDS

Travel Grant Awards

- Awarded NSF Student Travel Grant for ACM SIGCOMM'17, UCLA, Los Angeles, CA *Aug. 2017*
- Awarded Student Grant to attend USENIX ATC'16 and HotCloud'16, Denver, CO *July 2016*

Student Awards - SYSU

- Second-class Scholarship for Outstanding Students (Top 10%) *Sept. 2014*
- Certificate of Advanced Level in the Application Development of Corporate Server (IBM University Program) *May 2014*
- Award of Excellence in the 9th Software Innovation and Application Competition *Jan. 2014*

Other Awards

- Third Prize in Mathematical Contest in Modeling *Apr. 2014*

TEACHING
EXPERIENCE

Teaching Assistant

Spring 2014

Probability and Statistics

School of Software,

Sun Yat-sen University

Undergraduate student Tutor

Summer 2014

In Probability and Statistics, Operating Systems, and Database Management System

School of Software,

Sun Yat-sen University