



HAO ZHOU

hzhou07.github.io | 315-876-8036 | hzhou07@syr.edu |

EDUCATION

Syracuse University

Bachelor of Science: Computer Science

December 2018

Dean's List Honoree **EVERY SEMESTER**

GPA 4.0

PUBLICATIONS

Ju Chen, Yuzhe(Richard) Tang, **Hao Zhou**. "Strongly Secure and Efficient Data Shuffle on Hardware Enclaves", **SysTex 2017** at ACM SOSP

EXPERIENCE

Research Assistant / Syracuse University - Syracuse, NY

05/2017 - 09/2017

- **Implement Data-Oblivious External Shuffling on SGX:** Implement more secure but highly efficient version of Melbourne shuffle using Intel SGX enclave, measured by the overhead of which is less than 30%

Research Assistant / Syracuse University - Syracuse, NY

01/2018 - 05/2018

- **Implement Algorithms Using Cache Miss Oblivious Pattern:** Implement patterns in previous published paper by creating a library. Apply it to different algorithms making them more secure
- **Go-Ethereum Blockchain Education Program Design:** Retrieving possible bitcoin flows among the users in Blockchain by running JavaScript crawler, measured by accuracy, which is over 90%

Software Developer / Geta Technology Ltd - Hangzhou, Zhejiang

06/2018 - 08/2018

- **Inventory Management System:** Use Java and MySQL to Implement data manipulating with database, such as Displaying, adding, editing, deleting data, etc.
 - **Mobile Device Web Page Design:** Use Html5, CSS, JavaScript and MySQL to develop a website with new layout which is good to be viewed on mobile devices.
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SKILLS

- **Relevant Coursework:** Data Structure, Algorithm, Operating System, Discrete Math, Linear Algebra
 - **Specific Fields:** Software, Hardware & Internet Security, Machine Learning, Data Mining
 - **Technical Skills:** Proficiency in C (2 yrs.), C++ (1 yr.), java (2 yrs.), Latex (0.5 yr.), Haskell (2 yrs.), python (1yr.), JavaScript (0.5 yr.)
 - **Tools:** Microsoft Visual Studio, Git, Eclipse, IDEA, Android Studio, Wireshark, PyCharm
 - **Hardware:** Intel SGX enclave
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ACTIVITIES AND HONORS

Cyber Security Semester: Professional Development /

09/2018 - Current

- The course is instructed by Dr. Erich Devendorf from Air Force Research Lab. Training through a cyber-physical mission set called Concord Dawn, which is composed of a set of escalating scenarios that require technical excellence, adaption and strong teamwork to achieve mission goals
- Support an air strike on a target through gathering and interpreting intelligence, developing a plan to achieve mission objectives, and executing it as part of a time phased mission. Finally debrief the work and refine the plan
- Achieve objectives for every Pre-Dawn mission within the time limit

Chiang Mai Elephant Volunteer Program /

06/2016 - 07/2016

- Live in cabin and work as volunteer mahout in the elephant camp in Chiang Mai, Thailand
- Daily routine: cutting trees from the mountain as their food, making special nutrients packages for elephants, bathing them in the river, cleaning their houses, using elephant's excrement to make paper, performing with elephants for tourists

Orange Hacker Association /

01/2018 - Current

- Meeting every week to discuss different security topics, which is ranged widely
- Participating in preparations for many nationwide security competitions.
- Recently, leader for Linux security part in the team for preparing National Collegiate Cyber Defense Competitions(CCDC).

PROJECTS

CSE400: Machine Intelligence with Deep Learning / Group Project: Faster-RCNN Analysis & Improvement -

12/2018

- Recognize the format of input and output data, install, train, and test the neural network using google cloud. Identify the structure of the network and loss function and the selection of hyper-parameters
- Improve and extend faster-RCNN model in several aspects, such as improve optimizer to get better accuracy, implement resizing function to align input images with different sizes

CIS454: Software Implement / Group Project: Time Bank -

04/2018

- Use Java, XML and Firebase to implement an android mobile application where people can trade their time as local currency. The platform provides a means for people to request service and also provide service for others. Also, google map API is used to calculate distance and provide navigation. Rating system is also included
- Leader of the backend designs and coding
- Selected as work of excellence for Open House Event of the school

CIS400: Social Media & Data Mining / Group Project: Bitcoin Tweets Sentiment Analysis -

04/2018

- Write python program with twitter API collecting over 100,000 tweets related to cryptocurrencies (preferring Bitcoin) and with API from Poloniex.com to collect price data of 50 different cryptocurrencies.
- Python package Textblob and VaderSentiment for sentiment analysis, enigma and pandas for correlation analysis
- Outcome: Sentiment can be a reasonable indicator for short term momentum and is universally observable. Strong positive correlations exist between different kinds of digital currencies

CIS554: Object Oriented Programming C++ / Personal Project: Multi-thread Programming -

03/2018

- Use C++ to implement a Classic producer and consumer with special requirements. In my program, the resources are used up with no dead locks
- Selected by Professor Roger Chen as the sample answer shared to the class

CIS554: Object Oriented Programming C++ / Personal Project: Poker game -

03/2018

- Use C++ standard template library(STL) to implement a special poker game, which is played by the class and get excellent feedback