

John Tsai

john15518513@gmail.com | (314) 537-6504 | Portfolio website: sctsa.com

625 Geoffry Ln. APT D, St. Louis, Missouri, 63132

EDUCATION

Washington University in St. Louis (WUSTL)	May 2017, St. Louis, MO
<i>M.S. in Computer Science</i>	<i>GPA: 3.80/4.0</i>
National Chiao Tung University (NCTU)	Sept. 2014, Taiwan
<i>M.S. in Computer Science and Engineering</i>	
National Chiao Tung University (NCTU)	June. 2012, Taiwan
<i>B.S. in Computer Science and Information Engineering</i>	

TECHNICAL SKILL

Programming: C/C++, Python, Shell Script, Java, JavaScript, JQuery, PHP, HTML, PostgreSQL, MySQL, MongoDB, NodeJS, AngularJS, Swift

Tools: Git, SVN, GDB, Make, Eclipse, Xcode

WORK EXPERIENCE

Clean Net Corporation	St. Louis, MO
<i>Software Engineer</i>	June - Present 2017
<ul style="list-style-type: none">Developed a real-time intrusion detection and network security monitoring system based on open source Suricata and BroDesign Yara rules, Suricata rules, and Bro scripts to detect malware packets and extract files over different internet protocolsDeveloped tools in Python and Shell Scripts to assist other team in evaluating system performanceIntegrated the system with our own product 40GbE network security board on server to achieve high speed data processing	
National Chiao Tung University (Collaborate with United Microelectronics Corporation)	Hsinchu, Taiwan
<i>Research Engineer</i>	Sept. - Dec. 2014
<ul style="list-style-type: none">Developed a C++ trace-driven simulator based on the architecture of two C/C++ open source - DineroIV and DRAMSimIIDeveloped a configurable interface for the simulator in order to simulate different product specs provided by UMCProposed Asymmetric Bank Design for embedded DRAM cache which improves energy efficiency by an average of 46.4%	

PROJECTS

Smart Home System	WUSTL, Spring 2017
<ul style="list-style-type: none">Developed a real-time IoT service to remotely control appliances and monitor home conditions. Built communication among server, client, and IoT devices using Amazon IoT API, AWS Python SDK, and NodeJS SDK. Developed a real-time displaying and controlling panel website using Node.JS and Socket.IO. on Amazon EC2. Developed wireless mesh network for each IoT devices via Linux shell scripts to reduce internet restrictions and achieve maximum adoption <p><u>Technologies used:</u> NodeJS, Socket.io, Amazon IoT, Amazon EC2, Wireless Mesh Network</p>	
Space Hero iOS Application	WUSTL, Spring 2017
<ul style="list-style-type: none">Developed an iOS shooting game app by exploiting SpriteKit framework. Players could control object using iPhone built-in motion/gravity sensors. Players could also share text message and their score on Facebook and Twitter <p><u>Technologies used:</u> SpriteKit, Facebook API, Twitter API, Swift</p>	
Wireless Energy Performance Model	WUSTL, Spring 2016
<ul style="list-style-type: none">Developed a system to monitor energy consumption for solar decathlon house. Modified commercial meters to extract recorded data such as power, gas, and water usage via Adafruit_Python library. Developed application on wireless sensor TelosB in nesC to collect ambient stats and transfer data wirelessly. Developed GUI to show the statistic results. <p><u>Technologies used:</u> TinyOS, nesC, Adafruit_Python library, Java Socket Programming</p>	
Student Study Platform	WSUTL, Spring 2016
<ul style="list-style-type: none">Developed an online study platform on Amazon EC2 and used MongoDB as our database. Built online chatroom using NodeJS and Socket.io so that users could send instant messages with each other. Evaluate the performance by using benchmark to stress Apache and compare Apache web server on different types of AWS instance <p><u>Technologies used:</u> NodeJS, Socket.io, AngularJS, Amazon EC2, MongoDB, Bootstrap</p>	
Portfolio Selection Strategy	NCTU, Spring 2012
<ul style="list-style-type: none">Developed a mutual fund investment management system to assist users in selecting portfolio. Designed fitness function of genetic algorithm and ran on over one million of input data scraped from financial websites. Results show our strategy is positive for average case, and could still win someone who picks portfolio randomly for worst case. <p><u>Technologies used:</u> Genetic Algorithm, Data Scraping, C++</p>	

PUBLICATIONS

S.C. Tsai, Y.K. Hao, P. Jendra, and T.F. Chen, "SAMS: A Self Adaptive Mapping Scheme to Assist Page Allocation for DRAM Energy Efficiency," in *International Conference on Circuits, System and Simulation (ICCSS)*, 2015
<http://www.ijee.net/uploadfile/2016/0831/20160831073527171.pdf>