

Da Yu

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Research Interests

Networking, Distributed Systems

Education

- **Brown University** Providence, RI, USA
Department of Computer Science
Ph.D Student in Computer Science
GPA: 4.0/4.0
– Second year PhD student, advised by Prof. Rodrigo Fonseca.
Aug. 2013- May. 2019(Expected)
- **Peking University (PKU)** Beijing, China
School of Software and Microelectronics
Master's Degree in Engineering, Software Engineering
GPA: 3.95/4.0
Sept. 2011 - Jun. 2013
- **Sun Yat-sen University (SYSU)** Guangzhou, China
School of Software
Bachelor's Degree in Engineering, Software Engineering
GPA: 3.7/4.0
Sept. 2007 - Jun. 2011

Selected Research Experience

- **Simon: scriptable, interactive, monitor for SDNs**
Research Assistant *Sept. 2014 - Mar. 2015*
Department of Computer Science, Brown University
Description: Simon is a scriptable, interactive, monitor for SDNs, which can provide a stream of network events seen by its monitors. Operators can view and manipulate these streams either at the CLI or in scripts to debug the network.
– Built the whole Simon prototype for Mininet
– Deployed Simon in a real network by port mirroring
- **Migration of Enterprise Network to SDNs**
Research Assistant *Feb. 2014 - Sep. 2014*
Department of Computer Science, Brown University
Description: Exodus is a system that can consume a collection of router configurations, compile them and generate corresponding SDN controller software.
– Built routing server to provide static and dynamic routing for Exodus, which receives link state information, generates routing table by Floyd-Warshall algorithm
– Built the Mininet startup script generator, based on network specifications generated by Exodus
– Modified Header Space Analysis library towards verifying the output of Exodus

Selected Course Projects

- **TCP over IP over UDP**
CSCI 1680, Brown University *Sept. 2014 - Nov. 2014*
Description: Designed and implemented a simple, but RFC-compliant form of TCP on top of a virtualized IP layer, which is a self-built IP network using real-world UDP as the link layer.
- **Paret Interpreter**
CSCI 1730, Brown University *Sept. 2014 - Nov. 2014*
Description: Built an interpreter for Paret, a small functional language with mutation and type checking. Also, built a simple Java compiler and interpreter, which can do run-time binding and static binding. All of them are built in Pyret, a functional language created at Brown.

Publications

Tim Nelson, **Da Yu**, Yiming Li, Rodrigo Fonseca, Shriram Krishnamurthi, “Simon: Scriptable Interactive Monitoring for SDNs”, To appear in Symposium on SDN Research (SOSR 2015)

Tim Nelson, Andrew D. Ferguson, **Da Yu**, Rodrigo Fonseca, Shriram Krishnamurthi, “Exodus: Toward Automatic Migration of Enterprise Network Configurations to SDNs”, To appear in Symposium on SDN Research (SOSR 2015)

Xingmin Cui, **Da Yu**, Patrick P.F. Chan, Lucas C.K. Hui, S.M. Yiu, Sihan Qing, “CoChecker: Detecting Capability and Sensitive Data Leaks from Component Chains in Android,” Australasian Conference on Information Security and Privacy (ACISP 2014), 2014

Da Yu, Wushao Wen. “Non-Access-Stratum Request Attack in E-UTRAN,” Computing, Communications & Application Conference (ComComAp 2012), 2012.

Zhiqiang Chen, Wushao Wen, **Da Yu**. “Detecting SIP Flooding Attacks on IP Multimedia Subsystem (IMS),” International Conference on Computing, Networking & Communications (ICNC 2012), 2012.

Weibin Huang, Wushao Wen, **Da Yu**, “Automated Vulnerability Assessment and Intrusion for Server Vulnerabilities,” International Conference on Intelligent Systems and Knowledge Engineering (ISKE 2011), 2011.

Skills

Technical Languages: Java, Python, C/C++

IDE or Development Tools: Vim, Eclipse, Visual Studio, L^AT_EX

Operating System: Windows, Linux

Awards

12/2012 **National Scholarship (Top 3%)**

10/2012 **CETC The 14TH Research Institute Glarun Scholarship (4/650 in PKU)**

10/2012 **Academic Excellence Award, Peking University**

10/2010 Excellent Volunteer of the 16th Asian Games

09/2010 The 2nd Class Outstanding Scholarship of SYSU 2009-2010 (Top 5%)

04/2010 3rd Prize of ACM Programming Competition, Sun Yat-sen University

09/2009 The 2nd Class Outstanding Scholarship of SYSU 2008-2009 (Top 8%)

04/2009 2nd Prize of ACM Programming Competition, Sun Yat-sen University

09/2008 The 3rd Class Outstanding Scholarship of SYSU 2007-2008 (Top 15%)

Extracurricular Activities

10/2012-10/2012 Staff of the ICICS' 12 Organization Committee

06/2012-08/2012 Grader in Integrated Practice (Cloud Computing), Peking University

11/2011-11/2011 Leader of the student branch of the ICICS' 11 Organization Committee

11/2010-11/2010 Volunteer of 16th Asian Games

09/2009-09/2010 Commissary in charge of Studies of Software Engineering, SYSU

10/2007-06/2008 Secretary of the Diplomacy Department, Student Union of School of Software, SYSU