

# HUASONG SHAN

Mobile Phone: 1-225-228-5446 • Skype or Email: [monadynshy@outlook.com](mailto:monadynshy@outlook.com)

Home Page: <https://monadyn.github.io>

## SUMMARY

- More than 10 years' experience in performance and security of large-scale web applications, cloud computing, data mining, database and telecommunication.
- Strong publication records in computer science, e.g., CCS (top tier conference).

## TECHNICAL SKILLS

Proficient Programming Language: **Java/Python/C/Shell/Make/JavaScript/SQL**

Packages and frameworks: **NumPy/Pandas/Trac/Django/Jenkins/Bitten/PhantomJS/d3.js**

## WORK EXPERIENCE

(1) Company: Louisiana State University—Research Assistant 2015-2017

Project: Highly available, scalable and secure Web applications

**KEY WORDS:** JAVA, PYTHON, SHELL, OPENSTACK, [Amazon AWS](#), [Azure](#), CLOUD COMPUTING, PERFORMANCE OPTIMIZATION, APACHE, TOMCAT, MYSQL, [PhantomJS](#), [Snort](#), [RUBBoS](#)

- Automatically deploy n-tier web applications in clouds using Java and Shell scripts
- Automatically test, analyze and visualize performance metrics via Python, Shell and Collectl
- Performance and stress test for web applications using [JMeter](#), ApacheBench
- Trace performance bottleneck of largescale web applications by timeline correlation analysis
- Model performance metrics of web applications using queuing network theory and simulate the model using [Java Modelling Tools](#)
- Optimize model parameters using feedback control theory and reinforcement learning

Project: Container based Multi-Cloud Management 2016

**KEY WORDS:** JAVA, PYTHON, SHELL, [Docker](#), [Amazon ECS](#), [Mesos](#), MPI

- [Container-based \(Docker\) virtual cluster managers in multi-cloud environments](#)

(2) Company: [Spreadtrum Communications, Inc.](#)—Staff Software Engineer 2008-2015

Project: [Automatic Build and Test Platform](#) as the only core technical developer 2011

**KEY WORDS:** JAVA, PYTHON, JAVASCRIPT, [Jenkins](#), [Bitten](#), CI/CD

- Manage and implement distributed build using Jenkins and Bitten
- Control different types of test agents (smart phones or computers) and implement parallel distributed testing, achieving to finish tens of thousands test cases within half an hour

Project: [Data Mining System from Bugzilla Database](#) as the project technical leader 2012

**KEY WORDS:** JAVA, PYTHON, JAVASCRIPT, NUMPY, PANDAS, D3.JS

- Deeply analyze metrics on software management, via invoking [Bugzilla REST API](#), using NumPy/Pandas to mine/analyze advanced metrics (e.g. speed of bug processing, bug-fix duration), and using d3.js to visualize statistics results.

Project: [Log Analysis System](#) as the project technical leader 2013-2015

**KEY WORDS:** PYTHON, C, JAVASCRIPT, NUMPY, PANDAS, D3.JS, PYQT, MONGODB

- Log crawl from Bugzilla database using [Bugzilla REST API](#)
- Log parse, extract and clean into xml files using C
- Log analysis by regular match algorithm in timeline event
- Visualize analysis results (e.g., event flow) using D3.js
- Store and query analysis result using MongoDB
- Implement stand-alone version using PyQT
- Implement on-line version using JavaScript with WebSocket

Project: Infrastructure Group of Protocol Software as the team member 2008-2015

**KEY WORDS: C, Real Time OS (e.g., Threadx)**

- Fix hundreds of bugs: thread/timer/memory/debug management modules of mobile phone
- Design and implement "[\*Method and terminal device for capturing terminal debugging information in real-time manner\*](#)" using circle buff to manage critical debugging information.

(3) Company: ZTE (Shanghai)—Software Test Engineer 2006-2007

**KEY WORDS: Field Test, System Performance Test**

- System performance test, such as Radio Resource Management of 3G telecommunication

## EDUCATION

Louisiana State University, Baton Rouge, LA, USA **Ph.D.** in Computer Science, Dec. 2017

Dissertation: [\*Very Short Intermittent DDoS Attacks on the Performance of Web Services in Clouds\*](#)

Research Area: Distributed Computing, Cloud Computing, Security

Huazhong University of Science and Technology, China **M.S./B.S.** in Computer Science, 2006/ 2003

Thesis: Research of Mandatory Access Control for SDM4 Object Features

Research Area: Database Management System, Security and Privacy

## SELECTED PUBLICATIONS

1. **Huasong Shan**, Qingyang Wang, and Calton Pu, "[\*Tail Attacks on Web Applications\*](#)", in Proc. of the 24th ACM Conference on Computer and Communications Security (**CCS'17**), Dallas, Texas, October 30-November 3, 2017. (Acceptance rate: 151/836=18%) (**Top tier security conference**)
2. **Huasong Shan**, Qingyang Wang, and Qiben Yan, "[\*Very Short Intermittent DDoS Attacks in an Unsaturated System\*](#)", in Proc. of 13th EAI International Conference on Security and Privacy in Communication Networks, Niagara Falls, Canada, October 22-24, 2017.
3. Jian Tao, **Huasong Shan**, Qingyang Wang, and Q. Jim Chen, "White Paper: [\*Type 2: Enabling Multidisciplinary Collaboration with Containerization Technologies\*](#)". in Proc. of the 1st US-Japan Workshop Enabling Global Collaborations in Big Data Research, Atlanta, GA, USA, June 5-6, 2017.
4. Jian Tao, Du Jin, **Huasong Shan**, Mona Wong, Andrea Zonca, and Q. Jim Chen, "Poster: [\*Management and Deployment of Scientific Applications with SIMULOCEAN Science Gateway\*](#)". in Proc. of the 11<sup>th</sup> Gateway Computing Environments Conference, San Diego, California, USA, Nov 2-3, 2016.

## PATENTS

**Huasong Shan**, "[\*Method and terminal device for capturing terminal debugging information in real-time manner\*](#)", Appl. No. CN101945155 A, 2011.