SHUAI SUN

Software Developer
Oracle Inc.
Santa Clara, CA, U.S.A.

Phone and email can be found on
http://www.columbia.edu/~ss4088

Interests

- **Programming Language**; promoting reliability and process of **Software Engineering**
- Focused on **Program Analyzing;** also interested in **Distributed System, Artificial Intelligence, Images &Graphics** and **Data Mining**

Education

Sep-2011 ~ Feb-2013
M.S. in Computer Science
School of Engineering and Applied Science, Columbia University, New York

Sep-2007 ~ Jul-2011
B.S. in Software Engineering
Software Engineering Institution, East China Normal University, Shanghai
Advised by Prof. *Geguang Pu*

Work Experience

Feb-2013 ~ present
Software Engineer**, Oracle Inc.,** Santa Clara
- Worked on the Data Storage team

May-2012 ~ Aug-2012
Intern at Aladdin & Technology**, BLACKROCK Inc.,** New York
- Analyzed SQL queries to fit Cassandra data model
- Designed a Java library to post concurrent live trading records into the database

Jan-2012 ~ May-2012
Teaching Assistant at **Columbia University,** New York
- Assisted Professor Alfred Aho on Programming Languages and Translators course (COMS 4115)
- Mentored five teams of five students

Research

Dec-2008 ~ Feb-2011
***C* Program Analysis and Unit Testing**
- Implemented a testing tool to automate the test case generation process, using dynamic symbolic execution method.
- Designed all data structures in the system to record the runtime information; involved in devising a logic pointer system to monitor and operate the complicated pointers, arrays, and other structures in C language.
- Carried out the test case generation on multi-core platform, in order to accelerate the iterative process of dynamic symbolic executions; involved in conceiving two different distributing models, centralized and non-centralized **[TTSS'10]**.

Nov-2008 ~ Dec-2008
***C* Oriented Code Checking (Leader)**
- By tracking symbols in code statically, realized an Eclipse plug-in tool to detect some errors.
- Received *"Da Xia Undergraduate Researching Project Funding of ECNU"*

Publications

Oct-2010
X. Yu, **S. Sun**, G. Pu, Z. Wang, and S. Jiang. **A Parallel Approach to Concolic Testing with Low-cost Synchronization.** Presented at *4th International Workshop on Harnessing Theories for Tool Support in Software* **[TTSS'10]**, Shanghai, China, November 15th, 2010 **(PDF)**

Honors & Awards

2008, 2009, 2010 Title of Outstanding Students of ECNU
2007-2008 Principal Scholarship for Excellent Students of ECNU
2008-2009 Second Runner-up Scholarship for Excellent Students of ECNU
2009-2010 Runner-up Scholarship for Excellent Students of ECNU

Skills

- Proficient with ***C/C++***, ***C#***; familiar with ***Java***; familiar with ***SQL***;
- Familiar with ***.NET*** framework; familiar with ***HTML&CSS*** webpage designing;
- Familiar with ***LaTeX***;
- Bilingual in English and Chinese

Activities

Nov-3-2010	The Second Asia-Pacific Symposium on Internetware
Nov-15-2010	4th International Workshop on Harnessing Theories for Tool Support in Software
Nov-17-2010	12th International Conference on Formal Engineering Methods

Selected Project Designs

Fall 2012 — **Android Kernel Development [A]**

- Worked in a team of three, modified the **Android kernel** including adding syscalls, scheduler, file system extensions
- Worked on the Linux kernel 3.1.10 on ARM architecture (Google Nexus 7)

Fall 2011 — **Compiler of Tree Manipulating Language (TML) [A]**

- Designed a programming language, which supports tree operations by nature
- Implemented the compiler and interpreter of TML, as well as programs written in TML
- Led a team of four, and managed the design and developing process

Fall 2011 — **In-memory Map-Reduce Engine in Parallel**

- Implemented the in-memory map-reduce engine and two applications in X10, a language supporting parallelism
- Designed, coded and presented in a team of two students

Jun-2009 — **Pintos (Stanford) [A-]**

- Individual project on **Operating System** course
- Designed and implemented kernel modules including threads management, user programs management and virtual memory module

Dec-2008 — **Small Ping in a Big World [A]**

- 3D interactive game project by 3-member team on **Computer Graphics** course
- In charge of the construction of the environment and the model, including texture, gravity controlling, and friction simulation

Nov-2009 — **License Plate Recognition [A]**

- Individual project on **Artificial Intelligence** course
- Using **color similarity detection** rather than common edge detection, developed a tool to recognize the position of a license plate in a given picture