

# Ting Su

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**Birth:** April 7<sup>th</sup>, 1989, Male

## EDUCATION

02/2014 —Now	<b>University of California, Davis</b> visiting Ph.D student	<b>Davis, CA, USA</b>
09/2011 —Now	<b>East China Normal University</b> Ph.D student in Computer Science	<b>Shanghai, China</b>
09/2007—7/2011	<b>East China Normal University</b> B.A. in Software Engineering	<b>Shanghai, China</b>

## RESEARCH INTERESTS

Software Testing (Automated Test Data Generation in particular), Symbolic Execution, Software Model Checking, Program Analysis and Verification, Android Testing

## RESEARCH PROJECTS and WORK EXPERIENCE

07/2011 - Now	<b>Research Project, ECNU</b> Building a DSE-based (Dynamic Symbolic Execution) tool (named “CAUT”) to automate test data generation and finding software runtime bugs. I collaborate with several smart people to design the architecture and algorithms of the tool. Currently, this tool is able to analyze C program and automatically generate test cases conforming to structural and logical coverage criteria, i.e., branch coverage and MC/DC coverage. In my recent work, I proposed a runtime path filtering algorithm and a novel path search strategy in DSE to accelerate the coverage-driven testing. This search strategy outperforms other strategies adopted in those state-of-art symbolic executors like CREST and KLEE on constrained testing budget. For further information, please refer to <a href="http://www.lab205.org/caut/">http://www.lab205.org/caut/</a> .	<b>Shanghai</b>
02/2012 – 01/2013	<b>Research Project, ECNU</b> Work in an automotive OS formal verification project. This automotive OS conforms to the popular OSEK/VDX standard in automotive industry. My research work focuses on using CSP (communicating sequential process) and PAT (a model checking tool) to verify some safety properties of the engine management system running on an OS implementation of AUTOSAR (an evolved standard of OSEK/VDX ). One novelty in this work is that we use CSP to simulate the parallel execution process of four strokes in a four-cylinder engine and facilitate the verification of software which has to interact with low-level hardware.	<b>Shanghai</b>
02/2011 - 06/2011	<b>Research Assistant, Shanghai Embedded System Institute</b> Develop a cloud-based game platform on FREECALE platform collaborated with China Telecom. My task involves developing the client control program of game control devices on Linux.	<b>Shanghai</b>
06/2010 - 01/2011	<b>Research Assistant, China Mobile</b> Develop an Android-based video call application based on ARM. My tasks involve modifying the camera driver (OS kernel), camera-related modules,	<b>Shanghai</b>

3G/GPRS modules, and upper layer Java Application.

09/2010 - 11/2010     **Research Assistant, Shanghai Geological Survey Institute**     **Shanghai**  
Work in a wireless sensor network project, which is aimed to measure environmental parameters of underground water all over the city. My task involves developing the server-part program to control sensors via GPRS network.

03/2010 – 06/2010     **Research Assistant, CAN Bus Laboratory in ECNU**     **Shanghai**  
Develop a remote video monitoring system on ARM platform with Browser /Server structure. My tasks involve developing web applet client and building the server application. The monitoring scene can be accessed via local IP address directly.

## PUBLICATIONS

[1]. **Ting Su**, Zhoulai Fu, Geguang Pu, Jifeng He, Zhendong Su. Combining Symbolic Execution and Model Checking for Data Flow Testing. The 37th International Conference on Software Engineering (ICSE 2015)

[2]. Yan Shen, Jianwen Li, Zheng Wang, **Ting Su**, Bin Fang, Geguang Pu and Wangwei Liu Runtime Verification by Convergent Formula Progression. The 21st Asia-Pacific Software Engineering Conference (APSEC 2014)

[3]. **Ting Su**, Siyuan Jiang, Geguang Pu, Bin Fang, Jifeng He, Jun Yan, Jianjun Zhao. Automated Coverage-Driven Test Data Generation Using Dynamic Symbolic Execution. The 8th International Conference on Software Security and Reliability. (SERE 2014)

[4]. Yunhui Peng, Yanhong Huang, **Ting Su**, Jian Guo. Modeling and Verification of AUTOSAR OS and EMS Application. 7th International Symposium on Theoretical Aspects of Software Engineering, (TASE 2013).

[5]. Yongxin Zhao, Hao Xiao, Zheng Wang, Geguang Pu, and **Ting Su**. The Semantics and Verification of Timed Service Choreography. International Journal of Computer Mathematics. 2013.

## AWARDS AND HONORS

10/2014	National Graduate Student Scholarship
06/2011	Shanghai Outstanding University Graduate
10/2010	The Scholarship of ECNU, Special Prize
12/2009	National "ITAT" Cup C Programming Contest, Third Prize
10/2009	The Scholarship of ECNU, First Prize

## PROFESSIONAL SKILLS

Programming	C, C++, Java, Ocaml, bash, Ruby
Lauguages:	
OS Platforms:	Windows, Unix/Linux, Mac OS
Database:	SQLite, SQL Server
Hardware Platforms	Single chip microcomputer , ARM series.
Used Tools:	LaTex, PAT, UPPAAL, CIL, Valgrind, SMT solvers (Z3,lpsolve), CREST, KLEE, Otter, SCORE

## FOREIGN LANGUAGE CAPABILITY

May 8, 2009	Advanced English Interpretation Written Test	Pass
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**SOCIAL ACTIVITY**

Volunteers or organizers in following workshops and conferences:

1. Verified Software Workshop and Summer School 2012, hosted by Microsoft Research Asia and East China Normal University.
2. 10th International Colloquium on Theoretical Aspects of Computing (ICTAC 2013)
3. Advanced Program for Festschrift Symposium in Honor of He Jifeng (hosted together with ICTAC 2013)
4. The Formal Methods in Software Engineering 2013 Summer School (hosted together with ICTAC 2013)

Hobbies: football, karate, running



I am now supervised by:

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