Peizun Liu

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EDUCATION

Ph.D.	Computer Science, Northeastern University	09/2012 – *present*
	Advisor: Thomas Wahl	
M.E.	Software Engineering, Tsinghua University	09/2009 – 07/2012
	Thesis: *Study and Application of Reverse Modeling and Checking PLC System*	
	Advisor: Guiming Luo (Kueiming Lo)	
B.M.	Info. Mgmt. & Info. Syst., Chengdu University of Technology	09/2003 – 06/2006
	Thesis: *Ticketing System for Shandong Airlines: Analysis and Implementation*	

EMPLOYMENT

∗ Software Engineer   Tsinghua Tongfang Co., Ltd   Beijing, China   Aug. 2006 – Oct. 2008

∗ *Responsibilities:* Participate in designing and developing an E-campus system for Tsinghua University in China. *Achievement Highlights:*

- I was one of the main developers for two subsystems: one is to help users manage their eWallet on touch screen POS terminals, and one is an *online payment and settlement* system;
- I contributed the software engineering expertise in the development of products through software life cycle, from requirement specification to successful deployment.

SKILLS AND TECHNIQUES

∗ **Programming Languages:** C++ (*expert*), Java (*proficient*), Python, Shell, OCaml, Racket, ACL2

∗ **Operating Systems & Tools:** Unix / Linux, Windows; Eclipse, NetBeans, Git, Emacs, etc.

∗ **Others:** Multithreaded programming; knowledge of decision procedure; theorem proving; SMT / SAT solving techniques, solvers and APIs (e.g., Z3, miniSAT); model checking & temporal logic.

RESEARCH INTERESTS

My research interests are **program analysis** and **formal verification**. The goal of my research is to improve the **reliability** of various types of software, especially the critical system software, device drivers, etc. My recent work focuses on formally analyzing concurrent programs.

PUBLICATIONS

[1] **Peizun Liu** and Thomas Wahl, "IJIT: An API for Boolean Program Analysis with Just-in-Time Translation". In *SEFM*, pp.316-331, 2017.

[2] **Peizun Liu** and Thomas Wahl, "Concolic Unbounded-Thread Reachability via Loop Summaries". In *ICFEM*, pp.346-362, 2016.

[3] Konstantinos Athanasiou, **Peizun Liu** and Thomas Wahl, "Unbounded-Thread Program Verification using Thread-State Equations". In *IJCAR*, pp.516-531, 2016.

[4] **Peizun Liu** and Thomas Wahl, "Infinite-State Backward Exploration of Boolean Broadcast Programs". In *FMCAD*, pp. 155-162, 2014.

[5] **Peizun Liu**, Guiming Luo, Mo Xia and Maosong He, "Automatic Verification of Event-Driven Control Programs: a Case Study". In *ICACI*, pp. 249-256, 2011.

UNDER SUBMISSION

∗ **Peizun Liu** and Thomas Wahl, "CUBA: Interprocedural Context-Unbounded Analysis of Concurrent Programs". Submitted to *PLDI*.

PRESENTATIONS

∗ Sep. 2017	An API for Boolean Program Analysis with Just-in-Time Translation		*at* SEFM
∗ Nov. 2016	Concolic Unbounded-Thread Reachability via Loop Summaries		*at* ICFEM
∗ Oct. 2014	Infinite-State Backward Exploration of Boolean Broadcast Programs		*at* FMCAD
∗ Oct. 2013	On-the-fly Parameterized Boolean Program Exploration		*at* FMCAD

PROFESSIONAL ACTIVITIES & SERVICE

∗ *Conference program committee member*: ICSEA 2017

∗ *Conference and workshop reviewing*: **VMCAI 2018**, **CAV 2017**, **FMCAD 2017**, CAV 2015, CAV 2014, FMCAD 2014, DATE 2014, CAV 2013, FMCAD 2013, DATE 2013

HONORS AND AWARDS

∗ SAT/SMT Summer School Grant *(value. $1550)*	National Science Foundation	2014
∗ FMCAD Student Forum Grant *(value. $600)*	FMCAD Inc.	2013