

# Yang Zhao

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## CONTACT INFORMATION

Department of Computer Science and Engineering  
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## CITIZENSHIP

China

## RESEARCH INTERESTS

Software/hardware formal verification and testing

## EDUCATION

**University of California, Riverside, CA USA**

Ph.D. student, Computer Science and Engineering (expected graduation in 2013)

- Advisor: Professor Gianfranco Ciardo
- Area of study: Software verification

**Institute of Computing Technology, CAS, Beijing, China**

M.S., Computer Science, July 2008

- Advisor: Professor Xiaowei Li
- Thesis: Formal Verification Techniques Based on Satisfiability

**Peking University, Beijing, China**

B.S., Electrical Engineering, July 2005

- Minor in Mathematics

## ACADEMIC EXPERIENCE

**University of California, Riverside**

*Graduate Student Researcher*

**June 2009 to Now**

- Multi-valued decision diagrams (MDDs) and formal verification for asynchronous systems
  - New CTL model checking algorithms using saturation
  - Symbolic strongly connected component enumeration
  - Shortest witness generation
  - Symbolic steady-state solution for continuous-time Markov Chain

*Teaching Assistant*

**September 2009 to December 2011**

- CS 008: Introduction to Computing
- CS 179K: Project in Computer Science: Software Engineering

**Institute of Computing Technology, CAS, Beijing, China**

*Research Assistant*

**September 2005 to July 2008**

- Circuit-oriented SAT solver and its application in verification for sequential circuits
- Digital integrated circuit design and simulation-based verification

WORK  
EXPERIENCE

**NASA Ames Research Center**, Moffett Field, CA

*Intern Student*

**June 2011 to August 2011**

**National Institute of Aerospace**, Hampton, VA

*Visiting Graduate Student*

**June 2010 to September 2010**

TECHNICAL SKILLS Extensive experience in software and hardware verification

Verification tools:	SMART, NuSMV, VIS, zChaff
Programming:	C, C++, Python, Matlab
Hardware design and verification:	Verilog, VHDL, SystemVerilog, E language
Applications:	TEX, L <sup>A</sup> T <sub>E</sub> X, BIBTEX, Microsoft Office, SVN, CVS, and other common productivity packages for Windows and Linux platforms
Operating Systems:	Linux, Microsoft Windows, Apple OS X

PUBLICATIONS

Xiaoqing Jin, Gianfranco Ciardo, Tae-Hyong Kim and **Yang Zhao**, *Symbolic Verification and Test Generation for a Network of Communicating FSMs*, Automated Technology for Verification and Analysis (ATVA), 2011.

**Yang Zhao**, Xiaoqing Jin and Gianfranco Ciardo, *A Symbolic Algorithm for Shortest EG Witness Generation*, IEEE International Conference on Theoretical Aspects of Software Engineering (TASE), 2011.

**Yang Zhao** and Gianfranco Ciardo, *Symbolic Computation of Strongly Connected Components and Fair Cycles Using Saturation*, Innovations in Systems and Software Engineering, Volume 7, Number 2, Page 141-150.

**Yang Zhao** and Gianfranco Ciardo, *Symbolic Computation of Strongly Connected Components Using Saturation*, Second NASA Formal Methods Symposium (NFM), 2010.

Gianfranco Ciardo, **Yang Zhao** and Xiaoqing Jin, *Parallel symbolic state-space exploration is difficult, but what is the alternative?*, International Workshop on Parallel and Distributed Methods in Verification (PDMC), 2009.

**Yang Zhao** and Gianfranco Ciardo, *Symbolic CTL Model Checking of Asynchronous Systems Using Constrained Saturation*, Automated Technology for Verification and Analysis (ATVA), 2009.

**Yang Zhao**, Ling-yi Liu, Tao Lv, Hua-wei Li and Xiao-wei Li, *Novel Circuit-Oriented SAT Engine and Its Application to Unbounded Model Checking* (poster in informal digest), European Test Symposium (ETS), 2007.

Tao Lv, Tong Xu, **Yang Zhao**, Hua-wei Li and Xiao-wei Li, *Bug Analysis and Corresponding Error Models in Real Designs*, IEEE International High Level Design Validation and Test Workshop (HLDVT), 2007.

Tao Lv, Ling-yi Liu, **Yang Zhao**, Hua-wei Li and Xiao-wei Li, *An Observability Branch Coverage Metric Based on Dynamic Factored Use-Define Chains*, Asian Test Symposium (ATS), 2006.