

Teaching History

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1 Courses Taught

Following are the modules I have been involved in during my six year stay at NUS.

- CS 4271 Critical Systems and their Verification
(Semester 2 2001-02, Semester 1 2002-03, Semester 2 2003-04, 2004-05)
Duties: Course Design (this was a new course), Lectures, Assessment, Projects
Web-page: <http://www.comp.nus.edu.sg/~abhik/CS4271>
- CS 5219/6214 Automated Software Validation
(Semester 1, 2003-2004, 2004-05, 2005-06)
Duties: Course Design (this was a new course), Lectures, Assessment, Projects.
Web-page: <http://www.comp.nus.edu.sg/~cs6214>
- CS 5201 Foundations of Theoretical Computer Science (since Semester 1 2005-06)
Duties: This is the PhD qualifier examination in Theoretical CS for which I serve as the coordinator.
Web-page: <http://www.comp.nus.edu.sg/~abhik/CS-QE/>
- CS 1102 Data Structures and Algorithms (Semester 2 2000-01)
Duties: Lectures, Assessment
- CS 2104 Programming Language Concepts
(Semester 1 2001-02, Semester 1 2002-03)
Duties: Modification of course content, Lectures, Assessment
- CS 4272 Hardware Software Codesign (Semester 1 2006-07)
Duties: Modification of course content, Lectures, Assessment, Lab set-up.
- Organization of Embedded Systems Seminar (Semester 1, 2003-2004)
Duties: Giving general overview to students interested in Embedded Systems, organizing talks by students and faculty.

2 Student Supervision and Mentoring

Graduate Student Supervision (Current) Currently I am supervising the following six Ph.D. students. I am also guiding three undergraduate students for their final-year projects.

- Tao Wang, (Ph.D. student since 2002, expected to finish in 2007), Sole Supervision, *Dynamic Analysis Techniques for Software Fault Localization*
Awarded **Microsoft Research Asia Fellowship** for his work in the year 2004-05.
- Ankit Goel, Ph.D. student since 2003, Sole supervision, *Interacting Process Classes: A model of computation for reactive embedded systems.*
- Vivy Suhendra, Ph.D. student since 2004, Co-supervised with Tulika Mitra, *Memory Optimizations for Developing Predictable Software for Real Time Embedded Systems*,
Awarded **Microsoft Research Asia Fellowship** for her work in the year 2006-07.
- Liang Guo, Ph.D. student since 2005, Sole supervision, *Traceability in model driven embedded software development*
- Lei Ju, Ph.D. student since 2005, Co-supervised with Samarjit Chakraborty, *Model-driven timing analysis of embedded software.*
- Shanshan Liu, Ph.D. student since 2006, Sole Supervision.

Graduate Student Supervision (Past) So far, I have supervised one Ph.D. student, four M.Sc. students and several undergraduate students.

- Xianfeng Li, Ph.D. (graduated Dec 2005), Co-supervised with Tulika Mitra, *Micro-architectural modeling for Timing Analysis of Embedded Software.*
First Employment: CS Department, Beijing University (China).
- Tuan-Anh Tran, M.Sc. (Graduated 2005), Co-supervised with P.S. Thiagarajan, *Generation of Protocol Converters from Scenario-based Specifications*
First Employment: Friar Tuck Pte Ltd (Singapore).
- Qinghua Shen, M.Sc. (Graduated 2004), Co-supervised with Tulika Mitra, *Multi-threaded Java from Multi-processor Perspective*
First Employment: Creative Technology Ltd (Singapore).
- Hemendra Singh Negi, M.Sc. (Graduated 2004), Co-supervised with Tulika Mitra, *Two Concrete Problems in Worst-Case Execution Time Analysis*
First Employment: Mentor Graphics, New Delhi (India).
- Lei Xie, M.Sc. (Graduated 2003), Sole supervision, *Performance Impact of Multi-threaded Java Semantics on Multiprocessor Memory Consistency Models.*

Undergraduate Students (Past and Present) I have guided several bright undergraduate students for their final year projects. Some of this work has led to research publications in established conferences (such as DATE'03). Following are the undergraduate students I have supervised for their final year thesis.

- S.R. Karri, *Verification of AMBA bus protocol*, graduated 2002. This work led to a publication in Design Automation and Test in Europe Conference (DATE) 2003.
- S.C. Choudhary, *Symbolic simulation of Live Sequence Charts*, Co-supervised with Roland Yap, graduated 2003. This work led to a publication in the Intl. Conf. on Practical Applications of Declarative Languages (PADL) 2004.

- Jia Zhan, *Multi-threaded Java from Multi-processor perspective*, Co-supervised with Tulika Mitra, graduated 2003.
- K.K. Subramanian, *Extending algorithmic searches for Design Space Exploration of Embedded Systems*, graduated 2004.
- Lei Ju, *Tracing methods to help multi-threaded program debugging*, graduated 2005.
- Xue Luo, *A Play-in front-end to a Live Sequence Chart symbolic simulator*, graduated 2005.
- Mustafa Yucefabdali, *Search optimizations for model checking of C# programs*, graduated 2006.
- Chong Tat Chua, *Improved instrumentation methods for fault localization*, graduating 2006.
- Shek Chian Low, *Verification of Interacting Process Classes using PVS prover*, Currently supervising.
- Kelly Tan, *Verification of Live Sequence Charts using PVS prover*, Currently supervising.

3 Participation in thesis and oral examination committees

I have served as the thesis evaluator of several M.Sc. students from NUS, namely: Xu Na and Kamrul Hasan Talukder.

I have been on the thesis committee of several PhD students from NUS, namely: Zhu Ping, Mihail Asavoae, Kathy Nguyen Dang, Corneliu Popeea, Sim Joon, Chen Chunqing, Sun Jun, Hamid Abdul Basit.

I have also served as the external Assessor of the following PhD thesis — “A formal framework for a service oriented multi-agent society” by Manas Ranjan Patra (University of Hyderabad, India).