

Zigang Xiao

Curriculum Vitae

408 Coordinated Science Lab, MC-228
1308 W. Main St., Urbana, IL 61801
☎ +1 (217) 979-2631
✉ zxiao2@illinois.edu
URL: <http://ews.illinois.edu/~zxiao2>

Education

- 8/2010 - present **Ph.D. Candidate**, *Department of Electrical and Computer Engineering, UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN (UIUC)*, Champaign, USA
Advisor: Prof. Martin Wong
- 8/2008 - 8/2010 **Master of Philosophy**, *Department of Computer Science and Engineering, THE CHINESE UNIVERSITY OF HONG KONG (CUHK)*, Shatin, Hong Kong
Thesis: Placement and Routing for Cross-Referencing Digital Microfluidic Biochips
Advisor: Prof. Evangeline, F.Y. Young
[GPA: **3.90/4.00**]
- 9/2004 - 7/2008 **Bachelor of Science**, *Department of Computer Science, School of Information Science and Technology, SUN YAT-SEN UNIVERSITY (SYSU)*, Guangzhou, China
Thesis: Principle, Design and Implementation of Distributed Ray Tracing
Advisor: Prof. Lin Xiaola
[GPA: **3.89/4.00**, Ranking: **1/200**, Outstanding Graduate Award]
- 1/2007 - 6/2007 **Exchange Program**, *Department of Computer Science and Engineering, THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY (HKUST)*, Clear Water Bay, Hong Kong
[GPA: **A-**, Dean's List Award]

Research Interests

- I am interested in designing efficient algorithms to solve practical problems raised during the design of Very Large Scale Integrated-circuit, a.k.a Computer-Aided Design (CAD) or Electronic Design Automation (EDA).

Publications

- T. Huang, Y. Jiang, X. Linfu, Z. Qian, H. Tian, Z. Xiao, and E. F. Young, "Local clock skew minimization using blockage-aware mixed tree-mesh clock network," to appear in 2010 International Conference On Computer-Aided Design, ICCAD'10.
- Z. XIAO and E. F. Young, "Crossrouter: A droplet router for cross-referencing digital microfluidic biochips," Proceeding of 15th Asia and South Pacific Digital Automation Conference, ASP-DAC'10, Jan. 2010.
- Z. XIAO and E. F. Young, "Droplet-routing-aware module placement for cross-referencing biochips," Proceeding of International Symposium on Physical Design, ISPD'10, Mar. 2010.
- X. YANG, Z. XIAO, and D. Y. Wu, "Improving redundancy addition and removal using unreachable states," Proceeding of International Symposium on Circuits and Systems, ISCAS'10, May 2010.

Honors and Awards

- 2010, Second Place in ISPD 2010 High Performance Clock Network Synthesis Contest
- 2009, Fourth Place in ISPD 2009 Clock Network Synthesis Contest
- 2008, Outstanding Graduate Award, SYSU
- 2008, Excellent Graduation Thesis Award, SYSU
- 2008, First place in Guangdong Computer Programming Contest (GDCPC '08), Guangdong Computer Federation
- 2008, First place in ZSU Computer Programming Contest (ZSUCPC '08), SYSU
- 2005, 2006, 2007, First place in Academic Excellence Award, SYSU, (Academic Scholarship for students achieved School top 5%)

- 2006, Third place in ZSU Computer Programming Contest (ZSUCPC '06), SYSU

Research Experience

- 1/2010 **Participated in ISPD 2010 Clock Network Synthesis Contest and won the second place.**
A mesh-tree hybrid clock distribution network algorithm that aim to be robust under process variation is designed and implemented. Contributions:
 - Design and implement the mesh-tree structure.
 - Implement intelligent blockage aware routing.
- 1/2009 **Participated in ISPD 2009 Clock Network Synthesis Contest and won fourth place.**
A blockage-aware clock distribution network algorithm is designed and implemented. Contributions:
 - Design and implement the block-aware rectilinear routing for the clock network.
 - Implement automation scripts of result evaluation.
- 10/2007-5/2008 **Project member, CS lab, SYSU, Supervisor: Dr. Xiaola Lin.**
 - Build a High performance computing cluster for CS lab.
 - Set up load balance scheme and deploy the Financial Computing project lead by Dr. Lin.
 - Design and implement Distributed Ray Tracer project in graduation thesis.
- 1/2007-5/2007 **Research Group Member, Software Lab, SYSU, Supervisor: Dr. Xiaocong Zhou.**
Analyze the feasibility and complexity of using AOP in Algorithm Demonstration (AD) program and compare it with traditional OOP-style AD.

Teaching Experience

- Spring 2009 **Course Tutor, CSC 3120, Compiler Construction, CSE, CUHK.**
- Fall 2009 **Course Tutor, CSC 3190, Introduction to Discrete Mathematics and Algorithms, CSE, CUHK.**
- Spring 2008 **Course Tutor, CSC 4430, Data Communication and Computer Networks, CSE, CUHK.**
- Fall 2008 **Course Tutor, CSC & CEG 3150, Introduction to Operating Systems, CSE, CUHK.**

Internship

- 3/2008 - 6/2008 **Software Designer, Ericsson Mobile Data Applications Technology Research and Development (Guangzhou) Co., Ltd. (CGC), Guangzhou.**

Selected Courses

- CS573 Algorithms, UIUC
- ECE552 Computational Techniques for Circuit Analysis, UIUC
- CEG5270 CAD for Physical Design of Digital System, CUHK
- CEG5330 Logic Synthesis and Testing, CUHK
- CSC5240 Combinatorial Search and Optimization with Constraints, CUHK
- CSC5350 Game Theory in Computer Science, CUHK

Computer Skills

- Linux, Mac OS and other UNIX-based systems, Windows
- C/C++, Java, Python, Shell script, HTML

Languages

- English **Fluent in speaking, good at writing.**
- Chinese **Native in Mandarin, Cantonese, Hakka**

Referee

- Available upon request.