Zuyu (Anthony) Zhang   **Curriculum Vitae**

1210 W. Dayton St.
Madison, WI 53706, USA
+1 (608) 886-2699
zuyu@cs.wisc.edu
http://www.cs.wisc.edu/~zuyu

EDUCATION	**Ph.D. Student, Database Systems**	2012-present
	M.S., Computer Sciences	2012-2013
	University of Wisconsin-Madison, Madison, WI USA	

M.Eng., Computer Systems Organization   2010-2012
Harbin Engineering University (HEU), Harbin, China
Thesis: LLVM based Back-end Porting for C*Core

B.Eng., Computer Science and Technology   2006-2010
Harbin Institute of Technology (HIT), Harbin, China

TECHNICAL SKILLS

Prog. Lang.: C/C++ >= Java > X86 AT&T Assembly == VHDL.
Tools: LLVM, SimSoC, DynInst, LaTeX, GIT, and SVN.

EXPERIENCE

Software Engineering Intern, Twitter   May-Aug 2014
- Storm team in real-time data analysis.

Teaching Assistant for Computer Network, UW-Madison   Jan-May 2014
- Implementing a router using Mininet, an emulator for Software-Defined Networks.

Project Assistant, UW-Madison   Jul-Dec 2013
- Extracted landscape information from satellite imagery in **GeoTiff** format.
- Filtered the extracted data set using **LibSVM**.
- Helped extend **EDISON**, a Mean Shift Segmentation lib, with GeoTiff support.

Advanced Operating Systems, UW-Madison   Sep-Dec 2012
- Evaluated Linux virtual memory system, including TLB performance for different page sizes, memory allocation and zero-out policy, and the cost of allocating large pages.
- Benchmarked a user-level direct access file system prototype for simulated **Storage-Class Memory** (SCM) using **PostMark** as mail-server workloads.

Distributed Systems, UW-Madison   Oct-Dec 2013
- Read papers on various distributed systems, including Grapevine, GFS, Coda, BigTable, Dynamo, Locus, Condor, MapReduce, DryadLINQ.
- Implemented client and server prototypes of a distributed replicated filesystem using **Two-Phase Commit** protocol (2PC).

Introduction to AI, UW-Madison   Sep-Nov 2013
- Implemented **K-Nearest Neighbor** Classifier for words classification.
- Implemented **Decision Tree** Build and Prune Algorithms over the simplified German Credit dataset.
- Implemented the **Naive Bayes** Classifier with smoothing for classifying spam SMS messages. All in **Java**.

Data Model and Integration, UW-Madison   Mar-May 2013
- Conducted supervised learning on **geolocation inference** for 1500+ tweets from the Bay Area and New York City using Bayes classifier.

Principles of Programming Languages, UW-Madison   Feb-May 2013
- Applied beta reduction in the De Bruijn notation.
- Implemented Algorithm W for type inference.
- Performed binding-time and function annotation analyses. All in **OCaml**.

Research Assistant, UW-Madison   Aug 2012-May 2013
- Performed static analysis and dynamic instrumentation for packed binaries.

LLVM Back-end Porting for C*Core Architecture, HEU   Sep 2011-Jul 2012
- Devised DAG lowering operations and transformations from LLVM IR.
- Designed selection patterns for 70 (of 100) instructions, and optimization passes.
- Produced function prologue/epilogue.

Research Internship, INRIA-Tsinghua, Beijing   Nov 2010-May 2011
- Proposed a compiler-assisted approach to speedup the **SimSoC** simulator using LLVM Just-In-Time (JIT) engine.
- Exploited a **macro-block**-based Dynamic Binary Translation (DBT) technique.
- Accelerated 35% in average, and achieved 95 MIPS with peeks at 125 MIPS.

Undergraduate Curricular Projects, HIT   2008-2009
- Implemented a processor with 16 RISC insns & a serial port in VHDL.
- Performed OS experiments based on Linux Kernel 0.11 and the **Bochs** simulator.

PUBLICATIONS **Zuyu Zhang**, Vania Joloboff, Xinlei Zhou, Claude Helmstetter, and Guoyin Zhang, "Fast Dynamic Translation Using LLVM On Multi-Core Hosts", The Fifth Workshop on *Architectural and Microarchitectural Support for Binary Translation* (**AMAS-BT**), in conjunction with ISCA, 2012.

SCHOLARSHIPS	**Graduate Scholarship**, twice, HEU	2010-2012
	People's Scholarship, twice, HIT	2007-2009

EXTRA-	**President**, ACM Student Chapter, UW-Madison	2013-present
CURRICULARS	**President**, IBM Technology Club, HIT	2009-2010
	Active Member, Harbin Linux Users Group (HLUG)	2008-2010
	Co-translator, *Linux System Programming* & *Linux 101 Hacks*	2008-2009

INTERESTS   Sailing, skiing, and clarinet.

REFERENCE   Furnished upon request.