Dan Zhang

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EDUCATION

University of Texas – Austin (Austin, TX)
PhD Computer Engineering, May 2016
MS Computer Engineering, Dec 2012
Overall MS GPA: 4.000/4.000

University of Michigan – Ann Arbor (Ann Arbor, MI)
BSE Computer Engineering, Dec 2008
Overall GPA: 3.870/4.000

PUBLICATIONS

Andrea Pellegrini, Kypros Constantinides, Dan Zhang, Shobana Sudhakar, Valeria Bertacco, and Todd Austin, "CrashTest: A Fast High-Fidelity FPGA-Based Resiliency Analysis Framework," IEEE 26th International Conference on Computer Design (ICCD-2008), October 2008.

WORK EXPERIENCE

Apple Corporation: Cupertino, CA
CPU Front-End Design Intern, May 2015-August 2015
Proposed, invented, simulated, and evaluated new techniques for next-line prediction and instruction prefetching for future products. Implemented techniques within internal simulator written in C.

Microsoft Research: Redmond, WA
Catapult Research Intern, June 2014-August 2014
Evaluated and helped design custom FPGA manycore architecture for accelerating Bing ranking in datacenters. Characterized next-generation cores compare to current core design and baseline Altera NIOS cores.

Centaur Technology: Austin, TX
Intern, May 2013-August 2013
Invented, proposed, simulated and evaluated new branch predictor for upcoming x86 processor. Created brand new branch predictor simulator in C++. Made improvements to their existing BTB and indirect predictor.

Intel Corporation: Hillsboro, OR and Santa Clara, CA
Interned 4 times with ORCA, Larrabee, Jaketown, Intel Labs, May-Aug 2007, May-Aug 2009-2011
Intel Labs: analyzed and simulated x86 extensions to improve vectorization of general purpose code.
Jaketown: simulation and verification of their global power management microcontroller.
Larrabee: created Python-based graphing infrastructure for perf correlation and validation.
ORCA: SPECINT06 perf analysis for compilers, owned large cache study.

NVIDIA Corporation: Santa Clara, CA
Intern GPU HW, May 2008-August 2008
Engineering Change Orders, designed web-based fuse utility and scripts for performance validation.

HACKATHONS

SXSW Music 2015 - Best Use of Rdio, MusicGraph: CrowdJockey, judges crowd intensity using Kinect.
TreeHacks 2015 - Best Use of Meta: MetaWorld, augmented reality data visualization tool using Meta AR.
PennApps 2015 - Best Wearable Health Hack: Dr. Cloud, suggests diagnostics using vitals + NLP.
Amadeus Hack@1050 2014 - 1st place: Vamoose, Chrome plugin that inserts context-sensitive travel info.
HackTX 2014 - Top 10 finalist: FaceIt, Chrome plugin that enables upvotes/downvotes for Facebook posts.
HackTX 2013 - 2nd place: Relevant XKCD, web app shows relevant comic given search phrase using tf-idf.
Ebay 2012 - 3rd place: NoGo, Chrome plugin that donates $1 via Paypal when you visit blocked websites.
Microsoft 2012 - 2nd place: CloudPrinter, WP8 app to scan UPC barcodes with camera and prints receipts.

CLASS PROJECT EXPERIENCE

A 1GHz Custom-Logic 16-bit DSP for Multimedia Applications
AMD Design Competition-Winning Semester Project for VLSI I @ UMich, Spring 2008
4-way SIMD, Sklansky adder, full custom datapath, clock gating, stream buffer, 7-stage pipeline, GShare.

Duchess: an Out-of-Order Alpha CPU
Semester Project for Computer Architecture @ UMich, Fall 2006
Written with synthesizable Verilog, contains ROB, RRAT, RAS, GShare BP, OOO LSQ.

KEY SKILLS

Verilog, Bluespec, Perl, Python, C++, C, Java, HTML, CSS, JQuery, Bootstrap, AppEngine