

Md. Kamruzzaman

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Education

University of California, San Diego

Sep 2006 – present

Ph.D. student in Computer Science, Advisor: Dean Tullsen

Grade point average: 4.0

Selected courses: Principles of Computer Architecture, Parallel Architecture, Advanced Compilers, and Theory of Computation

Bangladesh University of Engineering and Technology

Dec 1998 – Feb 2004

B.Sc. in Computer Science and Engineering

Grade point average: 3.88(overall), 3.95(CSE courses)

Selected courses: Algorithms, Mathematics for Computer Science, Computer Architecture, Digital System Design, Microprocessor, VLSI Design, Compilers, Computer Networks, Operating Systems, Database, Software Engineering, Computer Graphics, Artificial Intelligence, Simulation and Modeling

Strengths

- Strong background in computer architecture and compiler optimization
- Strong problem solving skill and in-depth knowledge in various algorithms
- Self motivated, quick-learner, innovative and capable of thinking critically

Technical Skills

- Languages: Assembly, C, C++, Diesel, Java, OCaml, Prolog, Python
- Programming: Lex, Yacc, MFC, OpenGL, POSIX Threads, PL/SQL, Shell scripts, Verilog
- Advanced algorithms: Graph algorithms, Linear programming, Combinatorial optimizations, String algorithms, Geometric Data structures, AI search techniques, Machine learning algorithms, Random number generating algorithms
- Modeling: Object oriented designing, Design pattern, UML
- Tools: Emacs, Make, Gprof (profiling tools), CVS, Objdump, Sed, LaTeX, Rational Rose, Visual Studio 6.0

Research Interest

- Multi-core architecture, Hardware multithreading, Instruction level parallelism, Power aware design, Heterogeneous architecture
- Dynamic optimization, Event-driven compilation, Compiler-architecture interaction

Research Experience

Research Assistant

Jan 2007 – present

Architecture Lab, University of California, San Diego

Event-driven dynamic optimization techniques

Project Works

- Software Development: Video player with all types of video editing (adding subtitle, changing audio track, composing video, etc.), Full-fledged email client, Simple text editor
- Hardware: 8-bit microprocessor design with pipelining, 16x16 Digitizer interfaced with computer
- Systems: UNIX-like OS Kernel, Generic data link layer
- Compilers: Compiler for C-like language – converts C-like code into x86 assembly code, Simple ML interpreter – interprets OCaml like expressions
- Computer Graphics: Roller coaster, Terrain traversal, 3-d maze traversal
- Simulations and Modeling: Event-driven simulation for various queuing systems, Reservation based admission control of a multimedia server system, Branch prediction algorithms

Professional Experience

Lecturer CSE Department, Bangladesh University of Engineering and Technology	Feb 2006 – Sep 2006
Lecturer and Programming contest coach American International University-Bangladesh	Feb 2004 – Feb 2006
Software Developer Dynamic Solution Innovators, Bangladesh	Dec 2002 – Jul 2003

Programming Achievements

- Winner of the Parallelization contest in Parallel architecture course in UCSD – fastest parallel version of the SPEC2000 benchmark – Equake.
- Participated in **ACM ICPC World Finals** in 2002 (Hawaii), 2003 (Beverly Hills)
- **Champion** in **ACM ICPC Asia Regional 2001**, Dhaka Site; **3rd** in 2002, Dhaka Site; **4th** in 2003, Kanpur Site, and **5th** in 2003, Dhaka Site
- **Judge** and **Problem setter** of **ACM ICPC Asia Regional 2005**, Dhaka Site; National Computer Programming Contest-2004, Bangladesh
- Member of Elite Problem setters' Panel, ACM Valladolid Online Judge, Spain

Awards and Honors

UCSD CSE Department fellowship in 2006-2007

Dean's Award in Bangladesh University of Engineering and Technology
University Talent Scholarship, Bangladesh University of Engineering and Technology
University Grants Commission Scholarship, Bangladesh

Reference

Available upon request