

Matthew R. Walker

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8150 Raritan St San Antonio, TX 78254

EDUCATION

University of Texas at Austin

MS, Computer Sciences, May 2005

Advisor: Dr. Inderjit Dhillon

Rice University

BS, Electrical and Computer Engineering, May 2003

Magna cum laude

EXPERIENCE

Pulse Meridian – Data-Driven Business Optimization

Jun. 2007 – Aug. 2008

Founded startup with graduate school colleagues. Developed multilinear and multivariate polynomial models to optimize semiconductor yield for Pintail Technologies. Provided CNET data mining consulting services to lift click rates in their online advertisement platform. Built several web applications, one currently used to measure the efficacy of lithotripsy treatments by a urology practice.

Pervasive Software – Dataflow Engineering

May 2007 – present

Converted dataflow framework into pure Java library, seeing project through to general availability. Designed composition language and embedded library in JRuby to further improve developer productivity. Implemented, benchmarked, and optimized several key operators used for delimited text I/O, k -means co-clustering, support vector machine classification, and Monte Carlo simulation.

Pervasive Software – Hyper-Parallel Dataflow

Nov. 2006 – May 2007

Conducted original research in concurrent programming using a Java framework for dataflow applications. Implemented and benchmarked a variety of novel dataflow formulations of algorithms including decision tree training, rule-based name standardization, and k -means clustering.

Scott & White Hospital – Database Optimization

Oct. 2006 – present

Developed, modified, and maintained library of stored procedures, views, and Crystal Reports in pathology department's PowerPath system. Collaborated with physicians to generate reports for auditing, administration, and research.

Texas A&M University – Secure Distributed Applications

Jun. 2005 – Nov. 2006

Designed and implemented distributed applications spanning authentication, identity management, web apps, provisioning, and bulk mail. Coordinated subsystem deployment, testing, interface features, and notification content.

University of Texas at Austin – Research

Sep. 2003 – Dec. 2004

Conducted original research in data mining and optimization focusing on constrained k -means clustering. Solved optimization problems in C++ using MOSEK, while addressing noisy constraints.

MIT Lincoln Laboratory – Satellite Tracking

Jun. 2002 – Aug. 2002

Upgraded real-time ionospheric monitoring system from FORTRAN and C to object-oriented C++. Measured and corrected for ionospheric activity's effect on satellite tracking using GPS signal bias.

Rice University – Parallel Disk Scheduling

Jun. 2001 – Aug. 2001

Simulated the PC-OPT parallel disk scheduling algorithm. Developed software testing environment and collected data to identify the optimal prefetch schedule.

Rice University – Device Drivers

Jun. 2000 – Aug. 2000

Implemented device drivers and firmware for VME cards used as high-speed data selectors in the Muon Detector at CERN.

TEACHING

Computer fluency teaching assistant, fall 2004
Artificial intelligence lab assistant, spring 2003
Object-oriented programming lab assistant, spring 2002
Digital logic design lab assistant, spring 2001

SKILLS

Programming Languages: Java, Ruby, Bash, SQL (reasonable familiarity with Haskell, Python, and Perl, past experience with C/C++ and Matlab)

Technologies: Rails, JSPs/Servlets, MySQL, MS SQL Server, ANTLR, JavaCC, LDAP, XML, RPC/RMI

Communications: Two years teaching experience including lectures and labs. Technical presentations ranging from tutorials, to design overviews, to paper presentations. See also publications.

PUBLICATIONS

Nena Marin, Srivatsava Daruru, Joydeep Ghosh, **Matt Walker**. Pervasive Parallelism in Data Mining: Dataflow Solution to Co-Clustering Large and Sparse Netflix Data. To appear in *The Fourteenth International Conference on Knowledge Discovery and Data Mining (KDD)*, July 2009.

Matt Walker, Kevin Irwin. Four Paths to Java Parallelism. *Java Developer's Journal*, Vol 13, Issue 9, September 2008.

Jim Falgout, **Matt Walker**. It's a Multi-Core World: Let the Data Flow. *Java Developer's Journal*, Vol 12, Issue 8, August, 2007.

M. Walker. GRIMS/RTSEQ Object-Orientation Report. *MIT Lincoln Laboratory, Project Report SS-7*, November 7, 2003.

HONORS

Eagle Scout
Phi Beta Kappa
Eta Kappa Nu
Donald D. Harrington Fellowship at UT, 2003–2004
Dean's Excellence Award from UT Natural Sciences, 2003
NSF Honorable Mention, 2003 and 2004
Hertz Foundation Finalist, 2003
Herbert Allen Outstanding Junior Award from Rice Engineering Alumni, 2002
Junior and Senior Merit Awards in ECE from Rice Engineering Alumni, 2002 and 2003
Dean's List and President's Honor Roll at Rice University, 1999–2003
Ford Motor Company/Golden Key Undergraduate Scholar Award
Louis J. Walsh Scholarship in Engineering at Rice University
National Merit Scholar
Advanced Placement National Scholar
Abell-Hanger Foundation Scholarship from Texas Interscholastic League Foundation