

MATHIAS GUENTER RICKEN

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NOTE **I am not looking for employment.**

EDUCATION **Ph.D. in Computer Science** May 2011
Rice University, Houston, TX. Graduate GPA 3.98/4.00
Thesis: “A Framework for Testing Concurrent Programs” (*extended*)
Research Area: Programming Languages. Advisor: Dr. Robert Cartwright

M.S. in Computer Science October 2007
Rice University, Houston, TX.
Thesis: “A Framework for Testing Concurrent Programs”
Republished 2009 by VDM Verlag (ISBN 978-3-639-15074-2)

B.S. in Computer Science May 2004, magna cum laude
Rice University, Houston, TX. GPA 3.89/4.00

Abitur 1999. Average 1.0/1.0. Ranked 4th in the state of Bremen
Hermann Boese Gymnasium, Bremen, Germany.

Computer skills: Java, C++, C, C#, Promela/SPIN, Assembly, Scheme, OCaml
Languages spoken fluently: English, German

EXPERIENCE **Software Development Engineer**, Armor Team, January 2011 –
Amazon.com, Seattle, WA
Designing and developing scalable tools that automatically predict, prevent, and detect failures and anomalies in large-scale distributed computer systems, and provide services for automated recovery from these failures.

Principal Developer, JavaPLT, January 2006 –
Rice University, Houston, TX
Extending and maintaining DrJava, an open-source cross-platform Java development environment (~350KLOC), Made it suitable for use on large software projects. Refactored the compiler interface, integrated the NextGen, Habanero Java, and Java Mint research compilers, and developed DrJava into a compiler research platform.

Research Assistant, Programming Languages Team, May 2004 –
Rice University, Houston, TX
Investigated and implemented testing tools for concurrent Java programs. Implemented a multi-stage programming extension of Java called Mint. Designed and developed course material for computer science courses in object-oriented programming and concurrent programming.

EXPERIENCE
(continued)

R & D Intern, Real-Time and Embedded Systems, May 2003 – August 2003
National Instruments, Austin, TX
Modified the LabVIEW Embedded environment to generate multi-threaded C source code for different operating systems and hardware platforms.

Software Developer, Programming Languages Team, August 2002 – May 2003
Rice University, Houston, TX
Developed the programming environment DrC#.

Research Assistant, Computer Graphics, May 2002 – December 2002
Rice University, Houston, TX
Independently researched and implemented texture and geometry synthesis algorithms in computer graphics; developed applications for a haptic input device.

PUBLICATIONS

DrHJ - A Lightweight Pedagogic IDE for Habanero Java
Payne, J., V. Cavé, R. Raman, M. Ricken, R. Cartwright, and V. Sarkar
To appear in Proceedings of the 9th International Conference on the Principles and Practice of Programming in Java (PPPJ 2011)

A Framework for Testing Concurrent Programs (*extended*)
Ph.D. Thesis, April 2011

Mint: Java Multi-stage Programming Using Weak Separability
Westbrook, E, M. Ricken, J. Inoue, Y. Yao, T. Abdelatif, and W. Taha
Proceedings of the 2010 ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI 2010), ACM 2010

Test-First Java Concurrency for the Classroom
Ricken, M., and R. Cartwright
Proceedings of the Forty-First SIGCSE Technical Symposium on Computer Science Education. ACM, 2010

ConcJUnit: Unit Testing for Concurrent Programs
Ricken, M., and R. Cartwright
Proceedings of the 7th International Conference on the Principles and Practice of Programming in Java (PPPJ 2009)
ACM International Conference Proceeding Series, ACM, 2009

A Framework for Testing Concurrent Programs
M.S. Thesis, October 2007
Republished 2009 by VDM Verlag (ISBN 978-3-639-15074-2)

Nifty Assignment: Temperature Calculator – Programming for Change
Nguyen, D., and M. Ricken
Proceedings of the Fifteenth OOPSLA Educators' Symposium. ACM, 2006

PUBLICATIONS
(continued)

Design Patterns for Parsing

Nguyen, D., M. Ricken, and S. Wong

Proceedings of the Thirty-Sixth SIGCSE Technical Symposium on Computer Science Education. ACM, 2005

Nifty Assignment: Marine Biology Simulation

Cheng, E., D. Nguyen, M. Ricken, and S. Wong

Proceedings of the Thirteenth OOPSLA Educators' Symposium. ACM, 2004

Nifty Assignment: Abstract Factories and the Shape Calculator

Cheng, E., D. Nguyen, M. Ricken, and S. Wong

Proceedings of the Thirteenth OOPSLA Educators' Symposium. ACM, 2004

Design Patterns for Marine Biology Simulation

Nguyen, D., M. Ricken, and S. Wong

Proceedings of the Thirty-Fifth SIGCSE Technical Symposium on Computer Science Education. ACM, 2004

PRESENTATIONS

DrHJ - the cure to your Multicore Programming Woes

Cavé, V., V. Sarkar, J. Payne, R. Raman, M. Ricken, and R. Cartwright

SPLASH 2011

Agile and Efficient Domain-Specific Languages using Multi-stage Programming in Java Mint

Ricken, M., E. Westbrook, and W. Taha

Ninth International Conference on Generative Programming and Component Engineering (GPCE'10). ACM, 2010

Mint: A Multi-stage Extension of Java

Westbrook, E, M. Ricken, J. Inoue, Y. Yao, T. Abdelatif, and W. Taha

Purdue University Computer Science Colloquia, March 15, 2010

Object-Oriented Design Festival Workshop.

Cheng, E., D. Nguyen, M. Ricken, and S. Wong

Thirty-Seventh SIGCSE Technical Symposium on Computer Science Education. ACM, 2006

TEACHING

Customer, Software Engineering Methodology, Fall 2010

Rice University, Houston, TX

Acted as demanding customer for students in a class that models a realistic software development scenario and that teaches principles of software engineering.

Mentor, Independent Study, Fall 2009, Spring 2010

Rice University, Houston, TX

Provided advice and supervision to undergraduate computer science students for independent studies concerned with (1) extending the DrJava development environment, and (2) multi-stage programming.

TEACHING
(continued)

Instructor, Production Programming, Spring 2009

Teaching Assistant, Production Programming, 2 semesters

Rice University, Houston, TX

Held all class lectures, designed the curriculum, chose projects for student groups, and assigned final grades. As teaching assistant, maintained website and solutions, helped students with Ant and Subversion, administered SourceForge accounts.

Instructor, Principles of Object-Oriented Programming II, Fall 2008

Rice University, Houston, TX

Held all class lectures and laboratory tutorials, modified and designed the curriculum, supervised teaching assistants, graded exams and homework assignments, and assigned final grades.

Teaching Assistant, Programming Languages, 3 semesters

Rice University, Houston, TX

Held several class lectures, consulted undergraduate and graduate students, and graded their exams and homework assignments. Assisted in conversion of lectures and assignments to OCaml. Maintained website and solutions, improved grading scripts.

Teaching Assistant, Intermediate Programming, 9 semesters

Rice University, Houston, TX

Held several class lectures. Presented weekly tutorials on Unix, Java, design patterns, and tools; consulted college students and graded their exams and homework assignments. Maintained website and grade database.

HONORS

Doctoral Fellowship (2004 – 2010)

Rice University/Texas Medical Center Graduate Teaching Certificate

Dean's Teaching Assistant (2008 – 2009)

Sid Richardson Fellow

Rice Undergraduate Scholar

Tau Beta Pi Engineering Honor Society (Officer 2003 – 2004)

Louis J. Walsh Merit Scholarship in Engineering 2001 – 2004

Rice Ambassador, Corps of Special Aides to the Governor of Texas (2001 – 2004)

Rice University President's Honor Roll Fall 2000, 2002, 2003; Spring 2002, 2003

MEMBERSHIP

Association for Computing Machinery (ACM)

Special Interest Group on Programming Languages (SIGPLAN)

Special Interest Group on Computer Science Education (SIGCSE)

ACTIVITIES

Brian O'Neill's Running Club: Fitness, Fun, Philanthropy

Houston Grand Opera Opening Nights for Young Professionals

Houston Symphony Young Professionals Backstage

Rice Wine Society (Secretary/Treasurer, 2004 – 2006)

Rice Computer Science Club (Vice President, 2003 – 2004)

Rice Engineering Society Council (Secretary/Treasurer, 2003 – 2004)