A.N.M. (Roni) Imroz Choudhury

CONTACT
INFORMATION

Scientific Computing and Imaging Institute
University of Utah
72 South Central Campus Drive
Room 3750
Salt Lake City, UT 84112

phone: 801-232-4216
fax: 801-585-6513
email: roni@cs.utah.edu
web: www.sci.utah.edu/~roni

RESEARCH
INTERESTS

Software visualization; performance modeling, analysis, and visualization; cache simulation, analysis, and visualization

EDUCATION

University of Utah, Salt Lake City, UT

Ph.D., Computer Science, expected May 2012
- Dissertation title: *Analysis and Visualization of Memory Reference Traces*
- Co-advisors: Professors Paul A. Rosen and Steven G. Parker

University of Chicago, Chicago, IL

B.S., Computer Science and Mathematics, June 2003

PUBLICATIONS

A.N.M. Imroz Choudhury, Bei Wang, Paul A. Rosen, and Valerio Pascucci. Topological Analysis and Visualization of Cyclical Behavior in Memory Reference Traces. *Proceedings of the 5th IEEE Pacific Visualization Symposium.* February 2012.

A.N.M. Imroz Choudhury and Paul A. Rosen. Abstract visualization of runtime memory behavior. *Proceedings of the 6th IEEE International Workshop on Visualizing Software for Understanding and Analysis.* September 2011.

A.N.M. Imroz Choudhury, Michael D. Steffen, James E. Guilkey, and Steven G. Parker. Enhanced understanding of particle simulations through deformation-based visualization. *Computer Modeling in Engineering & Sciences.* 63(2):117–136. 2010.

A.N.M. Imroz Choudhury and Steven G. Parker. Ray tracing NPR-style feature lines. *Proceedings of the 7th International Symposium on Non-Photorealistic Animation and Rendering.* August 2009.

PAPERS IN
SUBMISSION

A.N.M. Imroz Choudhury and Paul A. Rosen. Cache Ensemble Analysis for Understanding Algorithmic Memory Performance. *IEEE Transactions on Computers.*

PAPERS IN
PREPARATION

A.N.M. Imroz Choudhury and Paul A. Rosen. Visual element design for memory reference trace and cache visualization.

Christiaan P. Gribble and **A.N.M. Imroz Choudhury**. Cache considerations for high-performance streaming ray tracing architectures.

TEACHING
EXPERIENCE

University of Utah, Salt Lake City, UT

Teaching Assistant **September 2011 to present**
- Lead TA for CS1400 (Introduction to Computer Science)
  Teach 6 mandatory lab sections per week, augmenting material taught in lectures. Provide 3 office hours per week to help students directly with homework, concepts, etc. Grade homework assignments.

Teaching Assistant   **September 2004 to May 2005**

- TA for CS3500 (Software Practice)
  Taught 2 lab sections per week, leading students in lab exercise and lecturing on topics from syllabus as needed by students. Provided 2 office hours per week to help students with programming assignments. Graded homework assignments.

CONFERENCE   *Abstract Visualization of Runtime Memory Behavior.* 6th IEEE International Workshop
PRESENTATIONS   on Visualizing Software for Understanding and Analysis (VISSOFT 2011, co-located with International Conference on Software Maintenance). September 2011. Williamsburg, VA.

Ray Tracing NPR-Style Feature Lines. 7th International Symposium on Non-Photorealistic Animation and Rendering (NPAR 2009, co-located with SIGGRAPH). August 2009. New Orleans, LA.

Interactive Visualization for Memory Reference Traces. Eurographics/IEEE Symposium on Visualization (EuroVis 2008). May 2008. Eindhoven, Netherlands.

INVITED TALKS   *Visualizing Deformation in the Material Point and other Particle Methods.* 4th Annual Material Point Method Workshop. March 2008. Salt Lake City, UT.

SERVICE   Member, School of Computing Graduate Student Advisory Committee (GradSAC), May 2005 to May 2006
- Served as liaison between faculty and students regarding graduate program policy changes, etc.
- Planned and executed social events for the School of Computing
- Represented GradSACs across campus to Dean of the Graduate School regarding detrimental changes to graduate student tuition benefit policies (reaching an agreement with the Dean that benefitted all parties).

Paper reviewer
- PARA 2006: SIAM Workshop on State-of-the-Art in Scientific and Parallel Computing
- RT 2008: IEEE Symposium on Interactive Ray Tracing

SOFTWARE SKILLS Computer Programming
- Programming languages: C, C++, Java, Python, UNIX shell scripting, Mathematica, and others
- Programming technologies: Boost, MPI, CUDA, Pthreads, OpenGL, and others

REFERENCES   Available upon request.