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School Address

Department of Computer Science
Rensselaer Polytechnic Institute
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Permanent Address

Troy, NY 12180

EDUCATION

Ph.D., Computer Science
Rensselaer Polytechnic Institute, Troy, NY
Advisor: Doctor Jeffrey Trinkle
THESIS - Manipulation Planning Under Uncertainty
Expected 2008

Bachelor's Degree, Mathematics and Computer Science
Clark University, Worcester, MA
GPA: 3.84/4.0
May 2003

RESEARCH AND PROFESSIONAL EXPERIENCE

Graduate Research Assistant
Rensselaer Polytechnic Institute, Troy, NY
2003 - Present

Technical Intern
Raytheon Electronic Systems
Summer 2001

TEACHING EXPERIENCE

Graduate Teaching Assistant
Computer Science II
Rensselaer Polytechnic Institute, Troy, NY
CS2 is a course in elementary data structures and their use in programming.
Conducted weekly lab section.
Instructor: Dr. Barb Cutler
Fall Semester 2007

Graduate Teaching Assistant
Data Structures and Algorithms
Rensselaer Polytechnic Institute, Troy, NY
Conducted weekly lab section.
Instructor: Dr. Frank Luk
Spring Semester 2007

Graduate Teaching Assistant
Three-Dimensional Computer Graphics
Rensselaer Polytechnic Institute, Troy, NY
Instructor: Dr. Srinivas Akella
Fall Semester 2006

Undergraduate Teaching Assistant
Discrete Mathematics
Clark University, Worcester, MA
Instructor: Dr. Arthur W. Chou

Spring Semester 2003

PUBLICATIONS

Book Chapters

- Kevin Egan, Stephen Berard, and Jeffrey C. Trinkle. *Toward Sensorless Acquisition of Multiple Contact Points Between Planar Parts*, pages 113-131. Number 18 in STAR - Springer Tracts in Advanced Robotics. Springer Berlin / Heidelberg, 2005. Workshop on Multi-point Interaction in Robotics and Virtual Reality

Refereed Conference Articles

- N. Chakraborty, S. Berard, S. Akella, and J.C. Trinkle. An implicit compliant model for multibody systems with frictional intermittent contact. September 2007.
- N. Chakraborty, S. Berard, S. Akella, and J.C. Trinkle. An implicit time-stepping method for multi-body systems with intermittent contact. In *Robotics: Science and Systems*, June 2007. **Best Student Paper Award.**
- Stephen Berard, Jeff Trinkle, Binh Nguyen, Benjamin Roghani, Vijay Kumar, and Jonathan Fink. daVinci code: A multi-model simulation and analysis tool for multi-body systems. In *IEEE International Conference on Robotics and Automation*, pages 2588-2593, April 2007.
- Kevin Egan, Stephen Berard, and Jeffrey C. Trinkle. *Toward Sensorless Acquisition of Multiple Contact Points Between Planar Parts*, pages 113-131. Number 18 in STAR - Springer Tracts in Advanced Robotics. Springer Berlin / Heidelberg, 2005. Workshop on Multi-point Interaction in Robotics and Virtual Reality.
- J.C. Trinkle, Stephen Berard, and J.S. Pang. A time-stepping scheme for quasistatic multibody systems. In *IEEE International Symposium on Assembly and Task Planning*, pages 174 - 181, March 2005.
- Stephen Berard, Kevin Egan, and J. C. Trinkle. Contact modes and complementary cones. In *IEEE International Conference on Robotics and Automation*, pages 5280 - 5286, April 2004.

Non-Refereed Articles

- Stephen Berard. Cooking with complementarity: A recipe guide for complementarity based rigid-multi-body dynamics simulation. Technical Report 06-08, Department of Computer Science, Rensselaer Polytechnic Institute, 2006.
- K.T. Egan, Stephen Berard, and J.C. Trinkle. Modeling nonconvex constraints using linear complementarity. Technical Report 03-13, Department of Computer Science, Rensselaer Polytechnic Institute, 2003.
- K.T. Egan, Stephen Berard, and J.C. Trinkle. Computing wrench bounds along a curved surface in 2d. Technical Report 04-09, Department of Computer Science, Rensselaer Polytechnic Institute, 2004.

PROJECTS

daVinciCode (dVC) Implemented and maintained a new physical simulation library capable of simulating and animating planar systems of bodies experiencing intermittent and steady unilateral contacts. Used in research at RPI and UPENN and classes at RPI and Northwestern.

REVIEWING

- ACM SIGGRAPH,
- IEEE Transactions on Robotics,
- ASME International conference on Multibody Systems, Nonlinear Dynamics and Control,
- IEEE Conference on Automation Science and Engineering,
- IEEE International Conference on Robotics and Automation
- IEEE/RSJ International Conference on Intelligent Robots and Systems
- Robotics: Science and Systems Conference

HONORS

Best Student Paper, Robotics: Science and Systems	2007
PHI BETA KAPPA National Honor Society	2003
Clark University Achievement in math award	2003
Dean's list every semester of Undergraduate education	1999-2003

TECHNICAL SKILLS

Languages (In order of proficiency): C++, C, Java, L^AT_EX, BASH, and Scheme

Software: Linux, UNIX, Windows, gcc/g++, gdb, valgrind, Office, STL, OpenGL

SERVICE

Student Member of Computing Committee, RPI Dept of Computer Science, Troy NY	2005
Undergraduate Recruiting, RPI Dept of Computer Science, Troy NY	2003-2008
Organized Departmental mixers, RPI Dept of Computer Science, Troy NY	2003-2008
Volunteer Tutor, Clark University Dept of Math and Computer Science, Worcester Ma	2002 - 2003