

Rahul Bhupendra Sheth



Graduate Institution: Stanford University

Graduate Discipline: Computer Science

Hometown: Roselle Park, NJ

Relevant SC Research: Advanced Scientific Computing Research

Research Interest:

My general research interests lie in developing methods for accelerating realistic physical simulation, particularly for interactive and real-time applications. This includes creating new algorithms and parallelization techniques for both fluid and solid simulations.

Reduced-order modeling is a well-known tool used in many disciplines, such as Aerospace Engineering and Computer Science, to accelerate (and approximate) the simulation of very large and complex systems. Currently, I am investigating the extension of reduced-order models for

deformable bodies to handle dynamic constraints such as collision and contact. Ideally, this work would allow complex deformable models to be simulated in arbitrary scenarios at real-time rates. I am also looking into methods for doing coupled simulations with reduced solids and full-order fluids to avoid unnecessary computation of high-frequency energy transfers.

About Me:

I am a second-year Ph.D. student in the Computer Science department at Stanford University, working in the fields

of physical simulation and numerical analysis under the direction of Professor Ron Fedkiw. I graduated from Rutgers University in 2010 with a B.S.E. in Electrical and Computer Engineering and minors in Mathematics and Statistics. My hope is to continue doing research in simulation after graduation, either in a position at a national laboratory or in industry. In my spare time, I enjoy playing tennis, racquetball, and video games.



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