Jason Reisman

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Education

New York University, New York, NY
Ph.D. student in Computer Science (September 2006 – Present)
M.S. in Computer Science (December 2005)
Advisor: Denis Zorin

Carnegie Mellon University, Pittsburgh, PA
B.S. in Cognitive Science and Computer Science (May 1999)

Academic Experience

Research Assistant, New York University, New York, NY
January 2007 – Present
Current research in mesh parameterization and remeshing aimed at producing a smooth, feature-preserving quadrilateral mesh given an arbitrary (perhaps noisy) triangular input mesh. This work uses sparse linear systems to optimize vector and tensor fields on the surface of the mesh so that their integral lines smoothly follow curvature. C++, Python, Matlab.

Research Assistant, New York University, New York, NY
September 2006 – December 2006
Implemented tools for the visualization of experimental/statistical genomic data for Virtual Plant, a joint project between the Biology and Computer Science Departments. Java, Perl.

Research Assistant, New York University, New York, NY
June 2005 – August 2006
Authored a mesh optimization framework capable of minimizing energy functionals which are defined over surfaces. Solutions to the minimization find an equilibrium configuration between internal and external forces and the surface "evolves" accordingly. This platform serves as a basis for many ongoing research projects in the NYU Media Research Lab. C++, Python.

Research Programmer, Carnegie Mellon University, Pittsburgh, PA
November 1996 – May 1999
Designed, implemented, and maintained a distributed notification server that facilitated real-time collaborative work. The server supported multiple collaboration policies, versioning, and disconnected modes of operation. Enabled real-time document sharing and modification by embedding Java clients into Microsoft Office97 applications. Java.

Professional Experience

Developer, Komera Corporation, Washington D.C.
July 2001 – September 2006
Led development of several Java applets which provided a peer-to-peer collaboration tool for extremely bandwidth-limited locations (i.e., third-world nations) which have little or no computing/network infrastructure. The applets supported decentralized email, chat, file transfer, as well as a persistent storage service, all inside of a relatively tiny memory footprint. Java, Python.

Developer, Charles Schwab, San Francisco, CA
February 2001 – May 2001
Designed, implemented, and executed a suite of system functionality tests for Schwab's next-generation object persistence system. Java.

Developer, Sony Music, San Francisco, CA
October 2000 – January 2001
Implemented an online music service, Unsurface, which allowed users to upload, store and stream music from a secure "digital locker". Java.

Developer, Kiwi Consulting, San Francisco, CA
February 2000 – October 2000
Implemented a modular HTTP proxy server capable of parsing, modifying, and re-serving HTTP streams in real-time. Developed a website analysis tool built on the aforementioned architecture that measured website usage and reported the information visually, directly on top of the pages being measured. Added remote and transactional capabilities to in-house object persistence system. Java.

Developer, Trilogy Software, Austin, TX
July 1999 – February 2000
Added intelligent pre-fetching and caching capabilities to Trilogy's web application server. This scheme reduced browser load times by several orders of magnitude by making use of idle server cycles to fetch and cache the next n most-likely pages for a particular user, based on collected statistical information of all users' browsing patterns. As a member of the application server's testing and QA team, performed extensive unit and functionality tests. Java.

Skills

Programming Languages
Fluent in C, C++, Java, Python, Matlab
Working knowledge of Mathematica, ML, Perl, Ruby

Mathematics
Numerical solutions of ordinary and partial differential equations, numerical integration techniques, various methods of linear, quadratic, and otherwise nonlinear optimization

Software Development
Ten years of professional development experience, including object-oriented design, multi-threaded programming, networking, build systems, and testing methodologies
APIs: OpenGL, PETSc, TAO, CGAL, OpenMesh, JXTA, JavaMail

Publications

A Note on the Triangle-Centered Quadratic Interpolation Discretization of the Shape Operator
Jason Reisman, Eitan Grinspun, Denis Zorin
Technical Report, New York University, 2007

Shape Optimization Using Reflection Lines
Elif Tosun, Yotam I. Gingold, Jason Reisman, Denis Zorin
In Proceedings of SGP 2007, Barcelona, Spain

Computing Discrete Shape Operators on General Meshes
Eitan Grinspun, Yotam Gingold, Jason Reisman, Denis Zorin
In Proceedings of Eurographics 2006, Vienna, Austria (winner, 3rd best paper)

Interests

Academic
Geometric and physical modelling, computer graphics, optimization, machine learning, distributed computation, swarm intelligence

Personal
Literature, backgammon, poker, vegetarian cooking, electronics, bicycling, nature/hiking