

Çağatay Demiralp
Department of Computer Science
Box 1910, Brown University
Providence, RI 02912
(401) 699 5301
cad@cs.brown.edu

RESEARCH INTERESTS

Algorithms and models for scientific data exploration and understanding.

EDUCATION

Ph.D. Computer Science, Brown University, Providence, RI (Sep 2006 -)

Ph.D. Computer Science, The University of Utah, Salt Lake City, UT (Jan-Dec 2005)

Sc.M Computer Science, Brown University, Providence, RI (2004)

B.Sc. Computer Engineering, Ege University, İzmir, Turkey (2000)

JOURNAL PUBLICATIONS

- “A Qualitative and Quantitative Comparison of CAVE and Fish Tank Virtual Reality Displays”, Ç. Demiralp, C. D. Jackson, D. B. Karelitz, S. Zhang, and D. H. Laidlaw, *IEEE Trans. On Visualization & Computer Graphics*, May-June 2006
- “In-vivo measurement of contact areas and ligament lengths in the distal radioulnar joint” G. E. Marai, D. H. Laidlaw, Ç. Demiralp, S. Andrews, C. M. Grimm, and J. J. Crisco, *IEEE Trans. On Biomedical Eng.*, May 2004
- “Visualizing Diffusion Tensor MR Images Using Streamtubes and Streamsurfaces” S. Zhang, Ç. Demiralp, and D. H. Laidlaw, *IEEE Trans. On Visualization & Computer Graphics*, Vol. 9, No. 4, Oct-Dec 2003

CONFERENCE PUBLICATIONS

- “Slicing-based coherence measure for refining clusters of 3D curves.” Ç. Demiralp, G. Shakhnarovich, S. Zhang, and D. H. Laidlaw. *MICCAI 2008*.
- “Using Boy’s Real Projective Plane Immersion for Coloring DT-MRI Slices,” Ç. Demiralp, J. F. Hughes and D. H. Laidlaw. *ISMRM 2008* (oral).
- “Visualizing Spatial Relations Between 3D-DTI Integral Curves Using Texture Patterns,” D. Jianu, W. Zhou, Ç. Demiralp, and D. H. Laidlaw. In *IEEE Visualization Poster Compendium*, 2007.
- “Connectivity-aware sectional visualization of 3D DTI volumes using perceptual flat-torus coloring and edge rendering”, Ç. Demiralp, S. Zhang, D. F. Tate, S. Correia, D. H. Laidlaw, *Eurographics 2006*
- “JointViewer – An Interactive System for Exploring Orthopedic Data”, G. E. Marai, Ç. Demiralp, S. Andrews, D. H. Laidlaw, poster abstract, *IEEE Visualization 2004*, Austin, October 2004
- “Subjective Usefulness of CAVE and Fish Tank VR Display Systems for a Scientific Visualization Application” Ç. Demiralp, D. H. Laidlaw, C. Jackson, D. Keefe, and S. Zhang, poster abstract, *IEEE Visualization 2003*, Seattle, October 2003
- “Contact Areas and Ligament Lengths are Abnormal in Patients with Malunited Distal Radius Fracture Despite Normal Radioulnar Kinematics” G. E. Marai, D. H. Laidlaw, Ç. Demiralp, C. Grimm, J. J. Crisco, D. C. Moore, and E. Akelman, *IV World Congress of Biomechanics*, Calgary, August 2002
- “Modeling and Visualization of Inter-Bone Distances in Joints” Ç. Demiralp, G. E. Marai, S. Andrews, D. H. Laidlaw, J. J. Crisco C. Grimm, *IEEE Visualization 2001*, San Diego, October 2001
- “Visualizing Diffusion Tensor Volume Differences” M. J. da Silva, S. Zhang, Ç. Demiralp, and D. H. Laidlaw, *IEEE Visualization 2001*, San Diego, October 2001
- “Visualizing the differences between diffusion tensor volume images” M. J. da Silva, S. Zhang, Ç. Demiralp, and D. H. Laidlaw. In *Proceedings ISMRM Workshop in Diffusion MRI: Biophysical Issues*, pages 237-238, March 2001

- “An Immersive Virtual Environment for DT-MRI Volume Visualization Applications: A Case Study” S. Zhang, Ç. Demiralp, D. F. Keefe, M. J. da Silva, D. H. Laidlaw, B. D. Greenberg, P. J. Bassler, E. A. Chiocca, C. Pierpaoli T. S. Deisboeck, *IEEE Visualization 2001*, San Diego, October 2001
- “Toward Application of Virtual Reality to Visualization of DT-MRI Volumes” S. Zhang, Ç. Demiralp, D. F. Keefe, M. J. da Silva, D. H. Laidlaw, B. D. Greenberg, P. J. Bassler, E. A. Chiocca, C. Pierpaoli, T. S. Deisboeck, *MICCAI 2001*
- “Interactive Visualization of 3D Carpal Kinematics and Bony Anatomy” J. J. Crisco, Ç. Demiralp, D. H. Laidlaw, A-P. C. Weiss, E. Akelman, and S. W. Wolfe, Scientific Exhibition, ASSH 56th Annual Meeting, Baltimore, MD, October 2001
- “Usability Evaluation of a Set of Cognitive Tool Software by Teacher Educators” E. Orhun, Ç. Demiralp, 2nd International Conference on Technology in Teaching and Learning in Higher Education, June 2001, Samos Island, Greece

TECHNICAL REPORTS

- Ç. Demiralp, D. Acevedo, S. Zhang, D. Tate, S. Correia, and D. H. Laidlaw. “Connectivity-aware sectional visualization of DTI volumes.” Technical report, Department of Computer Science, Brown University, 2007.
- Ç. Demiralp. “Charm: A charming network coordinate system.” Technical report, Brown University, Department of Computer Science, 2007.

RESEARCH EXPERIENCE

Visiting Researcher, Computer Science Dept., Brown University (Jan-Aug 2006)

Graduate Research Fellow, NLM at the National Institutes of Health (Nov-Dec 2004)

Visiting Research Fellow, Centre for Neuroimaging Sciences, King’s College London (Summer 2004)

Graduate Research Asst, Computer Science Dept, Brown University (2002-2004)

Staff Researcher, Computer Science Dept, Brown University (2000-2002)

Visiting Undergraduate Research Asst, Computer Science Dept, Brown University (May-Sep 1999)

Intern, Fraunhofer Center for Research in Computer Graphics (Nov 1998 - May 1999)

AWARDS

Brain Sciences Research Award (2008)

TEACHING EXPERIENCE

Teaching Asst (Discrete Mathematics), School of Computing, The University of Utah (Fall 2005)

Teaching Asst (Advanced Algorithms & Data Structures), School of Computing, The University of Utah (Spring 2005)

SERVICE

Reviewer for *IEEE Visualization Conference*, *IEEE TVCG*, and *Dagstuhl Book on Visualization and Processing of Tensor Fields*.

Departmental L^AT_EX administrator (2007 -).