

Anthony Santella PhD

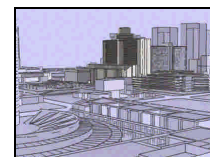
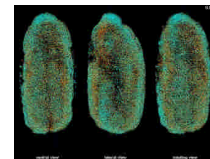
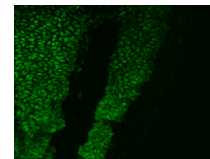
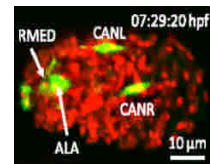
Image Analysis, Visualization, Graphics

Education:

- New York University, College of Arts and Sciences, NY, NY
BA. in Computer Science Sept 1995-May 1999
Magna Cum Laude, Phi Beta Kappa
- Rutgers University, Department of Computer Science, New Brunswick, NJ
Ph.D. in Computer Science, Certificate in Cognitive Science, Sept 1999-May 2005
Thesis : The Art of Seeing: Non-Photorealistic Rendering and Visual Perception
Adviser: Doug DeCarlo

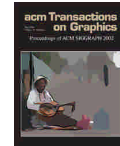
Publications:

- Y. Wu, A. Ghitani, R. Christensen, A. Santella, Z. Du, G. Rondeau, Z. Bao, D. Colón-Ramos, H. Shroff. Inverted selective plane illumination microscopy (iSPIM) enables coupled cell identity lineaging and neurodevelopmental imaging in *Caenorhabditis elegans* PNAS 2011 108 (43) 17708-17713, Contribution: cell tracking
- A. Santella, Z. Du, S. Nowotschin, A.K. Hadjantonakis and Z. Bao, "A hybrid blob-slice model for accurate and efficient detection of fluorescence labeled nuclei in 3D" BMC Bioinformatics, 2010, 11:580 Contribution: Design, coding, testing of nuclear detection method.
- P. J. Keller, A. D. Schmidt, A. Santella, K. Khairy, Z. Bao, J. Wittbrodt and E. H. K. Stelzer, "Fast, high-contrast imaging of animal development with scanned light sheet-based structured-illumination microscopy" Nature Methods 2010, 7, pp. 637-642 Contribution: Image analysis for generation of digital *Drosophila* embryo.
- Forrester Cole, Doug DeCarlo, Adam Finkelstein, Kenrick Kin, Keith Morley, and Anthony Santella, "Directing Gaze in 3D Models with Stylized Focus," Eurographics Symposium on Rendering, June 2006 pp. 377-387 Contribution: Design and conduct of eye tracking evaluation study testing the ability of level of detail to focus attention in 3D renderings.
- A. Santella, M. Agrawala, D. DeCarlo, D. Salesin, and M. Cohen, "Gaze Based Interaction for Semi-Automatic Photo Cropping" In CHI 2006, pp. 771-780.2006 Contribution: Development of eye tracking based image cropping software (Matlab), design and conduct of forced choice validation study.
- A. Santella and D. DeCarlo, "Visual Interest and NPR: an Evaluation and Manifesto". In Proceedings of the Third *International Symposium on Non-Photorealistic Animation and Rendering (NPAR) 2004*, pp 71-78, 2004. Contribution: design and execution of large scale eye tracking study of viewing behavior in images with locally varying detail.



Publications continued:

- A. Santella and D. DeCarlo, “Robust Clustering of Eye Movement Recordings for Quantification of Visual Interest”. In Proceedings of the Third *Eye Tracking Research and Applications (ETRA) 2004*, pp 27-34, 2004. Contribution: Design and presentation of clustering technique tailored to eye tracking data.
- D. DeCarlo, A. Finkelstein, S. Rusinkiewicz and A. Santella, “Suggestive Contours for Conveying Shape”. In *ACM Transactions on Graphics*, 22(3) (SIGGRAPH 2003 Proceedings), pp 848-855, 2003. Contribution: Conceptual development, and contributed to software development (C++) of 3D line drawing style.
- D. DeCarlo and A. Santella, “Stylization and Abstraction of Photographs”. In *ACM Transactions on Graphics*, 21(3) (SIGGRAPH 2002 Proceedings), pp 769-776, 2002. (An image from this paper was selected for the proceedings cover.) Contribution: Development (Java, perl) of image analysis, rendering techniques and perceptual metrics for 2D stylized rendering filter with local detail control.
- Santella and D. DeCarlo, “Abstracted Painterly Renderings Using Eye-tracking Data”. In Proceedings of the Second *International Symposium on Non-Photorealistic Animation and Rendering (NPAR) 2002*, pp 75-82, 2002. Contribution: Development (Java) of rendering techniques and perceptual metrics.



Experience:

- Research Fellow
April 2008-present
Memorial Sloan Kettering Cancer Center, Developmental Biology, NY, NY.
Research and development of image processing and analysis for in vivo cell tracking.
Awarded NIH Individual Fellowship F32 GM091874-01
- Self-employed as programmer, eye tracking consultant and fine artist
May 2005-April 2008
Web development (PHP, MySQL). Eye tracking experiment design and data analysis (VBA for Excel). Commission work and gallery exhibitions: www.anthonysantella.com
- Research/Teaching Assistant
Sept 1999-May 2005
The VILLAGE, Department of Computer Science and Center for Cognitive Science, Rutgers University, Piscataway, NJ, Advisor: Doug DeCarlo, decarlo@cs.rutgers.edu
Conducted CS and perceptual research, developed research software, planned and conducted recitations, designed assignments and provided student assistance for classes in software engineering, algorithms, computer graphics and artificial intelligence.
- Research Intern, Document Processing and Understanding Group
July 2004-Sept 2004, Supervisor: Maneesh Agrawala, maneesh@cs.berkeley.edu
Microsoft Research, Redmond, WA.
Research/development in eye tracking based interaction and computational photography
- Programmer/Systems Administrator
May 1998-Sept 2000 (part time)
HELP USA homeless services, NY, NY.