Manolya Eyiyurekli McCormick

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Education

Doctor of Philosophy in Computer Science, College of Engineering, Drexel University, Philadelphia, PA.

Graduated – December 2012

GPA – 3.88

PhD Thesis: *Interactive Freeform Editing Techniques for Large-Scale, Multiresolution Level Set Models*

Master of Science in Computer Science, College of Engineering, Drexel University, Philadelphia, PA.

Graduated – September 2006

GPA – 3.73

Master's Thesis: *Simulation of Chemotaxis Based Cell Aggregation*

Bachelor of Science in Computer Science, College of Engineering, Isik University, Istanbul, Turkey.

Graduated – June 2004

GPA – 3.92

Work Experience

June 2009–Sept 2009 **DreamWorks Animation SKG** **Glendale, CA**

Research & Development Intern

Worked with the research and development team on implementing advanced techniques for surface extraction from volumetric implicit data. Responsibilities included software development for use in the production pipeline for making 3D animated movies. Worked in extreme programming pairs to develop a fluid solver for particle systems. Participated in ongoing research on level-set methods and contributed towards writing a narrow-band level-set library.

Sept 2004–Sept 2011 **Drexel University** **Philadelphia, PA**

Research Assistant

Level Set Surface Editing. Perform research on interactive, multi-resolution, large scale surface editing using level set methods. Contribute towards designing and implementing an OpenGL application to interactively deform 3D objects, creating the mathematical model for speed functions that lead to different free-form deformations.

Simulation of Chemotaxis-Based Cell Aggregation. Perform research on dynamics of cell motility and aggregation in tissue generation. Contribute towards designing and implementing an OpenGL simulation to demonstrate virtual tissue development.

Sept 2004–Sept 2011 **Drexel University** **Philadelphia, PA**

Teaching Assistant

Computer Graphics I, Interactive Computer Graphics, Advanced Rendering Techniques: Provide assistance to students in the implementation of the algorithms in computer graphics.

Introduction to Computing, Computer Programming I: Teach principles of programming using VB.Net and C++ in a laboratory session.

Selected Publications

- M. Eyiyurekli, D. Breen, "Data Structures for Interactive High Resolution Level-Set Surface Editing", Proceedings of Graphics Interface, May 2011, pp. 95-102.
- M. Eyiyurekli, D. Breen, "Interactive Free-Form Level-Set Surface-Editing Operators", Computers & Graphics, Vol. 34 No. 5, 2010, pp. 621-638.
- M. Eyiyurekli, C. Grimm, D. Breen, "Editing Level-Set Models with Sketched Curves", Proc. of Eurographics/ACM Symposium on Sketch-Based Interfaces and Modeling, August 2009, pp. 45-52.

- M. Eyiyurekli, D. Breen, "Localized Editing of Catmull-Rom Splines", Computer Aided Design and Applications, Vol. 6, No. 3, 2009, pp. 307-316.
- M. Eyiyurekli, L. Bai, P. Lelkes, D. Breen, "Chemotaxis-based Sorting of Self-Organizing Heterotypic Agents" Proceedings of the ACM Symposium on Applied Computing, Self-organizing Complex Systems Track, Switzerland, March 2010.
- M. Eyiyurekli, P. Manley, P. Lelkes and D. Breen, "A Computational Model of Chemotaxis-based Cell Aggregation," BioSystems, Vol. 93, No. 3, pp. 226-239, September 2008.
- M. Eyiyurekli, P. Lelkes and D. Breen, "Simulation of Chemotaxis-based Sorting of Heterotypic Cell Populations," Proc. IEEE / NIH BISTI Life Science Systems & Applications Workshop, November 2007, pp. 47-50.

Talks & Presentations

- *Data Structures for Interactive High Resolution Level-Set Surface Editing*
  Graphics Interface, May 2011, St. John's, Canada
- *Editing Level-Set Models with Sketched Curves*
  Eurographics/ACM Symposium on Sketch-Based Interfaces and Modeling, August 2009, New Orleans, LA
- *Localized Editing of Catmull-Rom Splines*
  CAD'09: Computer Aided Design, June 2009, Reno, NV
- *Interactive Free-form Level Set Surface Editing*
  i3D: ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games, February 2008, Boston, MA
- *A Computational System for Investigating Chemotaxis-Based Cell Aggregation*
  European Conference on Artificial Life, 12 Sept 2007, Lisbon, Portugal

Awards & Recognition

2011	Outstanding Graduate Student Research Award	Department of Computer Science, Drexel University
2008	George Hill Jr. Endowed Fellowship	College of Engineering, Drexel University
2004	Valedictorian	Department of Computer Science, Isik University
2000-2004	Dean's List	Isik University
2000	Higher Education Council(YOK) Scholarship	Turkey

Relevant Graduate Course-work

Advanced Computer Graphics	Partial Differential Equations	Computational Geometry
Object Recognition	Computer Vision	Parallel Processing
Data Structures and Algorithms	Mathematics of Medical Imaging	Artificial Intelligence

Computer Experience

Programming Skills: C/C++, OpenGL, QT, Bash Script
Operating Systems: Mac OS, Linux
Applications: SVN, Adobe CS