

Kasturi Chatterjee

School Of Computing & Information Sciences
Florida International University
Miami, FL 33199, U.S.A.
Phone (O): 1-305-348-6885
Fax: 1-305-348-3549

9601 SW 142nd Avenue, Apt# 1124
Miami, FL 33186, U.S.A.
Phone (W): 1-305-348-6885
Email: kchat001@cs.fiu.edu

Education

Ph. D Candidate in Computer Science April 2006 - Present
Florida International University, Miami, FL. U.S.A.
(The State University of Florida at Miami, Doctoral/Research University-Extensive)

Ph. D. Dissertation Title:

“A Generalized Multidimensional Index Structure to Support Content-Based Similarity Searches in a Multimedia Database Management System”

GPA:3.91/4.0

Ph. D. Dissertation Advisor:

Dr. Shu-Ching Chen, Professor

Master of Science in Computer Science Aug. 2004 - April 2006
Florida International University, Miami, FL. U.S.A.
(The State University of Florida at Miami, Doctoral/Research University-Extensive)
GPA: 3.89/4.00

Bachelor of Technology in Computer Science Aug. 1999 - Jun. 2003
Institute of Engineering and Management, Kalyani University, Kolkata, India.

First Class with Honors

Project Title:

“Network Data Authentication using Steganography and Watermarking techniques”

Recent Awards & Honors

Awards

1. **The Dissertation Year Fellowship**, Florida International University, 2009.
2. **Best Graduate Academic Achievement Award**, given to the best graduate student for overall academic achievement by the School of Computing and Information Sciences, FIU (2008).
3. **First Place in Poster Presentation**, at the 6th LA Grid Summit in Conjunction with IBM (2008).
4. **PIRE IBM Fellowship**, given to four exceptional Ph.D. students by IBM (2008).

5. **2008 Global CyberBridges Fellowship Award**, given to four top Ph.D. students by NSF (2008).
6. **SIGMA XI Associate Member Nomination**, awarded to two top Ph.D. students from each department (2007).
7. **Excellence Award**, given to best Ph.D. students for exceptional academic and research performance by the School of Computing and Information Sciences, FIU (2007).
8. **Strategic Initiative Teaching Award**, awarded by the Computing and Information Sciences, FIU to teach undergraduate courses independently (2007).
9. **Best Paper Award**, at the IEEE International Symposium on Multimedia (ISM2006), December 11-13, 2006, San Diego, CA, USA.

Student Travel Grants

1. SCIS (School of Computing and Information Sciences) Student Travel Grant (2006)
2. GSA (Graduate Student Association) Student Travel Grant (2008)

Research Interests

Multimedia Database Management System in a Collaborative Environment, Multimedia Indexing, Multimedia Data Mining, Content-Based Image/Video Retrieval and Database Management Systems.

Teaching Experience

2009 Spring, Fall	Invited Lecturer & Teaching Assistant: undergraduate Database Management Systems course (COP 4540 Database Management). Lecture topic: Introduction to Oracle Database
2008 Fall	Invitational Lecturer: undergraduate Database Systems course (COP 4722 Survey of Database Systems) Lecture topic: Introduction to Multimedia Database System
2007 Fall	Lecturer: undergraduate Object Oriented Programming course (COP 2250 Programming in Java) – Took full responsibility for this class, including lecture notes, course materials, additional reading materials, on-line supporting sources, projects, and exams
2007 Spring	Invited Lecturer & Teaching Assistant: undergraduate Database Management Systems course (COP 4540 Database Management). Lecture topic: Introduction to Oracle Database
2004 ~ 2008	Lab & Teaching Assistant: undergraduate Computer Architecture course (CGS 2060 Introduction to Microcomputers, CGS 2518 Data Analysis)

Publications

Book Chapters & Journals:

1. **Kasturi Chatterjee**, Shixia Liu and Shu-Ching Chen, “Social Network Preview Using Graph Similarity,” (*under preparation*).
2. **Kasturi Chatterjee**, S. Masoud Sadjadi, and Shu-Ching Chen, “A Distributed Multimedia Data Management over the Grid,” in *Multimedia Services in Intelligent Environments - Integrated Systems*, Springer, 2009, *in press*.
3. **Kasturi Chatterjee** and Shu-Ching Chen, "HAH-tree: Towards a Multidimensional Index Structure Supporting Different Video Modelling Approaches in a Video Database Management System," *International Journal of Information and Decision Sciences (IJIDS)*, *in press*.
4. **Kasturi Chatterjee** and Shu-Ching Chen, “A Multimedia Data Management Approach with GeM-Tree,” *Journal of Multimedia*, *in press*.
5. Shu-Ching Chen, Min Chen, Na Zhao, Shahid Hamid, **Kasturi Chatterjee**, and Michael Armella, "Florida Public Hurricane Loss Model: Research in Multi-Disciplinary System Integration Assisting Government Policy Making," *Special Issue on Building the Next Generation Infrastructure for Digital Government, Government Information Quarterly*, Volume 26, Issue 2, pp. 285-294, April 2009.
6. **Kasturi Chatterjee** and Shu-Ching Chen, "A Novel Indexing and Access Mechanism using Affinity Hybrid Tree for Content-Based Image Retrieval in Multimedia Databases," *International Journal of Semantic Computing (IJSC)*, Vol. 1, Issue 2, pp. 147-170, June 2007.

Refereed Conferences:

1. **Kasturi Chatterjee** and Shu-Ching Chen, “Hybrid Query Refinement: A Strategy for a Distance Based Index Structure to Refine Multimedia Queries,” (*under review*).
2. Yudan Li, **Kasturi Chatterjee**, Shu-Ching Chen, and Keqi Zhang, "A 3-D Traffic Animation System with Storm Surge Response," accepted for publication, *IEEE International Symposium on Multimedia (ISM2009)*, Hyatt Regency Mission Bay Spa and Marina, San Diego, California, USA, December 14-16, 2009.
3. **Kasturi Chatterjee** and Shu-Ching Chen, "GeM-Tree: Towards a Generalized Multidimensional Index Structure Supporting Image and Video Retrieval," accepted for publication, the *Fourth IEEE International Workshop on Multimedia Information Processing and Retrieval (MIPR2008)*, in conjunction with *IEEE International Symposium on Multimedia (ISM2008)*, Berkeley, California, USA, December 15-17, 2008.
4. **Kasturi Chatterjee** and Shu-Ching Chen, "Hierarchical Affinity-Hybrid Tree: A Multidimensional Index Structure to Organize Videos and Support Content-Based Retrievals," accepted for publication, *Proceedings of the 2008 IEEE International*

- Conference on Information Reuse and Integration (IEEE IRI-08), Hilton Hotel, Las Vegas, USA, July 13 - 15, 2008.
5. Shu-Ching Chen, Min Chen, Na Zhao, Shahid Hamid, Khalid Saleem, and **Kasturi Chatterjee**, "Florida Public Hurricane Loss Model (FPHLM): Research Experience in System Integration," accepted for publication, The 9th Annual International Conference on Digital Government Research, May 18-21, 2008, Montreal, Canada.
 6. **Kasturi Chatterjee** and Shu-Ching Chen, "Affinity Hybrid Tree: An Indexing Technique for Content-Based Image Retrieval in Multimedia Databases," In proceedings of IEEE International Symposium on Multimedia (ISM2006), December 11-13, 2006, San Diego, CA, USA (**Best Paper Award**).
 7. **Kasturi Chatterjee**, Khalid Saleem, Na Zhao, Min Chen, Shu-Ching Chen, and Shahid Hamid, "Modeling Methodology for Component Reuse and System Integration for Hurricane Loss Projection Application," In proceedings of IEEE International Conference on Information Reuse and Integration (IEEE IRI-2006), September 16-18, 2006, Hawaii, USA.

Posters:

1. **Kasturi Chatterjee**, Shixia Liu, and Shu-Ching Chen, "Using Graph Similarity for Social Network Analysis," in 6th LA Grid Summit, October 30-31, 2008, Boca Raton, Florida, USA (**First Place**).

Research Projects & Industry Experience

Research Assistant & Student Leader 2005 – Present
Distributed Multimedia Information Systems Laboratory
Florida International University, Miami, FL (Public Research University)

1. **Student leader, and project coordinator** for projects "**An Interactive 3D Visualization and Animation System for Hurricane Impacts**," NOAA (\$189,444), "**An Interactive Web-based 2-D Visualization System for Hurricane and Storm Surge Impacts**," NOAA (\$104,958) and "**3D Visualization and Animation System for Hurricane Impacts with Lighting and Sound**," NOAA (\$185,026).

January 2009 - present

- **Project description:** This project aims to develop a 3D simulation of hurricane scenarios for coastal Florida regions. The primary goal of this project is to educate the common public the actual hazards of hurricanes and storm surge effects to enable them be prepared to handle them safely.
- **Computer science technologies:** VTP, OpenGL, JavaScript, AJAX, JSP

2. **Database Manager and system developer** for multi-disciplinary project “**Hurricane Loss Projection Model,**” (<http://www.cis.fiu.edu/hurricane/loss/>) Florida Office of Insurance Regulation, \$4.3 million.

January 2005 - December. 2007

- **Project description:** This project aims to develop a public hurricane risk assessment model by an interdisciplinary team of researchers and scientists from meteorology, statistics, financial, actuarial, wind engineering, and computational sciences disciplines
 - **Computer science technologies:** Component-based design, information integration, JSP, C++, Oracle 9i
3. **Student Researcher and system developer** for project “Design and Development of a Multimedia Database Management System”.

January 2005 – present

- **Project description:** This project aims to develop a full-fledged Multimedia Database Management Framework for organizing all popular types of multimedia data like images, videos, etc. Since, Multimedia Data is different from traditional text-based data, hence all/most of the existing database components like index structure, query refinement strategies, retrieval routines, etc. need to be developed for handling the atypical characteristics of multimedia data.
- **Computer science technologies:** C++ on a Linux Platform

Summer Intern

May 2008 - July 2008

IBM China Research Laboratory, Beijing, China

Information Visualization Laboratory

Mentor: Dr. Shi-Xia Liu

Project: Using Graph Similarity for Social Network Analysis

- **Project description:** This project aims at automatic Graph Layouts for Social Network Visualizations. It utilizes Graph Similarity concepts for efficient representations of Social Network Graphs with fewer nodes.
- **Computer science technologies:** Java

Program Analyst

Sep. 2003 - Aug. 2004

Cognizant Technology Solutions, Kolkata, India

1. **Software Developer and student investigator** for the project “**A Labor Scheduling Algorithm for Brinkers’ Retail Company**”.
- **Project description:** This project was designed to introduce a Labor Scheduling Algorithm from Transportation Optimization Paradigm to optimally allocate resources to available jobs.

- **Computer science technologies:** C#.NET and XML
- 2. **Software Developer** for the project “**System Development for Cendant, A Mortgage Company**”.
 - **Project description:** This project conducts an extensive requirement analysis and develops the different aspects of a mortgage company.
 - **Computer science technologies:** PowerBuilder and SQL Server

Professional Activities

1. Involved in **writing proposals** for research funding
2. Independent Reviewer, *IEEE TKDE, ACM KDD, ICME, etc.*
3. Student Member of **ACM** and **IEEE**, 2005 – present

References & Contacts

References available upon request.