

Lakulish Antani

SN355, Sitterson Hall, UNC Chapel Hill
Chapel Hill, NC 27599-3175
Phone: +1-(919)-962-1956
Email: lakulish@cs.unc.edu
Web: <http://www.cs.unc.edu/~lakulish/>

PROFILE

Fourth year graduate student with Master's degree in Computer Science, currently enrolled in Doctoral program. Experience in computer graphics research. Proficient C/C++/Java/MATLAB programmer, accustomed to working in teams on large projects. Highly motivated to advance the state-of-the-art in real-time computer graphics.

EDUCATION

Graduate Student, PhD-intending (Computer Science) University of North Carolina at Chapel Hill Advisor: Prof. Dinesh Manocha	2008-Present
Master of Technology (Computer Science) Bachelor of Technology (Computer Science) Indian Institute of Technology, Bombay CGPA: 8.63/10.00 Advisor: Prof. Sharat Chandran	2003-2008

AWARDS AND ACADEMIC ACHIEVEMENTS

- **All India Rank 5** in the **National Cyber Olympiad, 2001.**
- **Honors (top 3%)** in the **Gulf Mathematics Olympiad, 2000.**

SELECTED PUBLICATIONS

- L. Antani, A. Chandak, L. Savioja, D. Manocha, "Interactive Sound Propagation using Compact Acoustic Transfer Operators", ACM Transactions on Graphics (to appear)
- L. Antani, A. Chandak, M. Taylor, D. Manocha, "Direct-to-indirect Acoustic Radiance Transfer", IEEE Transactions on Visualization and Computer Graphics (to appear)
- L. Antani, "Skeleton-Based Pose Estimation of Human Figures." Master's Thesis, 2008.
- L. Antani, C. Delage, P. Alliez, "Mesh Sizing with Additively Weighted Voronoi Diagrams." Proc. Int'l. Meshing Roundtable, 2007.

EXPERIENCE

UNC Chapel Hill Real-time Sound Rendering (Advisor: Prof. Dinesh Manocha)	2008-Present
<ul style="list-style-type: none">• Working on developing a precomputation-based algorithm for efficiently providing immersive, dynamic spatialized sound in interactive applications.• Developed a method to use precomputed conservative from-region visibility to accelerate edge diffraction modeling for sound propagation.	

- Intel Corporation** 2010, 2011
 Next-Generation Sound Rendering using OpenCL
 (Advanced Visual Computing Group)
- Implemented state-of-the-art sound rendering algorithms, tuned for high-performance parallel computing hardware, using OpenCL.
 - Prepared a SIGGRAPH 2011 talk on using OpenCL for real-time sound rendering.
- Disney Interactive Studios** 2009
 Modular Radiance Transfer
 (Advisor: Dr. Peter-Pike Sloan)
- Helped develop a novel method for real-time approximate global illumination. The algorithm is lightweight enough to run on mobile devices such as iPads.
 - Co-authored a paper on this method, which was accepted to SIGGRAPH Asia 2011.
- IIT Bombay** 2007-2008
 Skeleton-Based Pose Estimation of Human Figures
 (Advisor: Prof. Sharat Chandran)
- Developed a novel algorithm for human figures which combines the skeleton transform and pictorial structures for pose estimation.
 - Achieved a speedup of nearly 2 orders of magnitude compared to classic pictorial structures, with comparable accuracy.
- INRIA Sophia-Antipolis** 2006
 Mesh Sizing with Additively Weighted Voronoi Diagrams
 (Advisor: Dr. Pierre Alliez)
- Developed a novel technique for efficiently computing a sizing function over a mesh domain, providing a significant performance boost over previous work.
 - Incorporated these advances in CGAL, the most advanced open-source computational geometry library.

PROGRAMMING SKILLS

- **Programming Languages:** C/C++, C#, Java, Python, MATLAB.
- **Major APIs and Technologies:** DirectX, OpenGL, OpenCL, OpenMP, OpenCV, CUDA.

POSITIONS OF RESPONSIBILITY

- System Administrator** (Graphics Lab, IIT Bombay) 2008
 Managed 15+ computers used by over 20 lab members.
- Department Mentor** (Dept. of Comp. Sci. & Engg., IIT Bombay) 2006-2007
 One of 8 mentors, advising junior undergraduates on academic and other issues.
- System Administrator** (Hostel 4, IIT Bombay) 2006-2007
 Managed the LAN connecting 450+ students and a computer room with 15 computers.
- Core Group Member** (Tech General Championship, IIT Bombay) 2004-2005
- As Webmaster, designed the website from scratch and maintained it.
 - Formulated and conducted the Logic Quiz contest, which attracted 100+ participants.

REFERENCES

References will be provided on request.