Kannan U V

938E 300S Apt#2, Salt Lake City, Utah 84102

Mobile: +1-(952) 457-6211
kannanuv@yahoo.com
http://www.sci.utah.edu/~kannanuv

EDUCATION

Master of Science in Graphics & Scientific Visualization
University of Utah, Salt Lake City, UT, USA , **GPA:** 3.92 / 4, **Graduation:** May '09
Bachelor of Engineering in Electrical & Electronics
College of Engineering, Guindy, Anna University, Chennai, India, **GPA:** 7.4 / 10 (equiv. 3.3/4), **Graduation:** May '03

SKILLS

Domains: Image processing, Machine learning	
Programming: C/C++, MATLAB, Unix shell scripting, Java, 68HC11 Assembly code	
Libraries: Nokia Qt, Kitware ITK, Kitware VTK, OpenGL, Nvidia Cg, Nvidia CUDA, FLTK, Siemens TeamCenter Enterprise (PLM) customization	
IDEs: MS Visual Studio, Eclipse	**Tools:** MS Expression Web, MS Project, MS Visio
Operating Systems: Windows, Linux, HP-UX	**Other:** SVN, Rational ClearCase, LaTeX, HTML

PUBLICATIONS

Kannan U. V., M. Kim, D. Gerszewski, M. Hall, "ASSEMBLING LARGE MOSAICS OF ELECTRON MICROSCOPE IMAGES USING GPUs"; Symposium on Application Accelerators in High Performance Computing (SAAHPC' 09)[Accepted]
Kannan U. V., A. Paiva, E. Jurrus, T. Tasdizen, "AUTOMATIC MARKUP OF NEURAL CELL MEMBRANES USING BOOSTED DECISION STUMPS"; International Symposium on Biomedical Imaging (ISBI'09)[Accepted]

ACADEMIC PROJECTS

Image Processing: Implemented algorithm for Image Mosaicing. Given set of image correspondences, the projection transforms were calculated and the final mosaic image was generated.
Machine Learning: Implemented a cascade architecture based classifier for finding synapses in Rabbit retina images based on an ICCV'03 paper Learning a Rare Event Detection Cascade by Direct Feature Selection by Jianxin Wu et. al.
Parallel programming using GPUs: Converted a C++ based image processing application to CUDA achieving 12x acceleration. The application assembles a mosaic of electron microscopy images. Work accepted at SAAHPC 2009.
Computer Vision: Reconstructed 3D model of the Stanford dragon from Silhouette images obtained by rotation of the model.
Advanced Computer graphics: Implemented "An Approximate Image-Space Approach for Interactive Refraction"(ACM Transactions on Graphics) by Chris Wyman using OpenGL and Cg shaders. In addition, have also worked on Bump Mapping, Shadows (projection, maps, and volumes), and Textures among several other Basic OpenGL topics.
Computer Aided Geometric Design: Wrote a program that can display 3D polynomial B-spline surfaces using iso-lines and can also create a surface that interpolates to a grid of data with nodal interpolation.

EXPERIENCE

Graduate Research Assistant   Aug '07 – present
Scientific Computing & Imaging Institute, University of Utah, Salt Lake City, USA
As a member in the Collaborative Research in Computational Neuroscience (*CRCNS*) group, developed new algorithms based on machine learning and image processing techniques. These algorithms were used to segment cell membranes and synapses on neural tissues scanned using an Electron microscope. Designed & developed a Qt/C++ based viewer to browse microscopy images with the markup data overlay. Developed shell scripts to automate the use of open source brain image segmentation tools for large datasets.

Programmer Analyst   Oct '03 – Jly '07
Tata Consultancy Services (TCS), Multiple locations in USA and India
As a member of Product lifecycle management solutions group, designed and developed C/C++ and Java based applications. As a technical lead, co-designed 15+ person-months development effort, managed a 24x7 5-member application maintenance/production support team. Organized & conducted training sessions and mentored new hires in the group.

Embedded Systems Engineer   Jun '03 – Oct '03
Appasamy Ocular devices, Chennai, India
As a member of Research and Development division, developed prototype for an Ophthalmic LASER to coagulate retinal lesions using a Motorola 68HC11 micro controller based board with serial port, LCD, Key Board interfaces.

REFERENCES

Available upon request