

# Tejas Gajera

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## EDUCATION

- Stevens Institute of Technology**, Hoboken, NJ May '09  
*Master of Science in Computer Science*  
**Thesis:** Instrument Localization in Interventional Images
- Nirma University, Institute of Technology**, Ahmedabad, India June '07  
*Bachelor of Engineering in Information Technology*  
**Thesis:** Weft Distortion Detection in Fabrics

## INTEREST AREAS

Computer Graphics, Computer Vision, Image processing, Map publishing and Geodata processing

## PROFESSIONAL EXPERIENCE

- Beth Israel Deaconess Medical Center, Harvard Medical School**, Boston, MA Feb '10 – Present  
**Virtual Slide Microscope for Histopathology Images** **Software Developer**  
Involved in the development of web-based application that helps pathologists to visualize microscopic slides at different resolutions (like Google maps) and to annotate cancer cells.  
**Automated Robotics Chemistry for Molecular Imaging**  
Involved in the software development of an application which automates chemistry process of molecular imaging using six robots.
- Siemens Corporate Research**, Princeton, NJ July '09 – Jan '10  
**Image Guided Cardiac Ablation for Ventricular Tachycardia** **Software Developer**  
Involved in the software design and development of a medical imaging application that performs CT image segmentation and PET-CT (i.e. 3D – 3D) image registration.
- Siemens Corporate Research**, Princeton, NJ May '08 – Dec '08  
**Instrument Localization in Fluoroscopy Images** **Intern**  
Involved in the software design and development of instrument localization plug-in for interventional images (i.e. Biplane X-Ray images).
- Semitronik**, Gandhinager Electronic Estate, India Jan '07 – Apr '07  
**Weft Distortion Detection in Fabrics Using Image and Signal Processing** **Intern**  
Developed an image and signal processing system that provides fast, efficient, accurate fabric quality control.

## ACADEMIC EXPERIENCE

- Image Picker** Sept '09  
Developed an application that provides functionalities for loading any png/jpeg images and performing image manipulation operation like 2D/3D translation, 2D planned rotation, 3D rotation, zoom in, zoom out and free hand deformation.
- Tracking** Mar '09  
Used Histogram Intersection procedure to track the human face and Normalized Correlation procedure to track ping pong ball in a series of images.
- Render a Virtual Scene with Shadowing using 2-pass Shadow Algorithm** Apr '08  
Developed an application that renders a virtual scene which is defined by multiple 3D objects. Keyboard shortcuts are used to change the view port and light around the scene.
- Comparison of Different Image Segmentation Techniques** Mar '08  
Developed project report which consists of different segmentation techniques and comparison.
- Bezier Patches** Mar '08  
Developed a modeling interface to view, rotate and manipulate Bezier patches in which patches are rendered as a wire frame or a smooth surface model. The camera and light sources can be changed.
- Animation of Robot** Feb '08  
Developed a 3D animation application that animates a robot model that is defined using 6 moving components in a 3D environment. The robot walks on a bi-cubic path and the environment is created using multiple trees and other 3D objects. The view point of a camera can be rotated, translated, zoomed in/out and toggled in first-person and third-person modes.
- Ray Tracer Application** Jan '08  
Developed a ray tracing application that renders a view of an object world that is defined using multiple 3D ellipsoids. The camera and light sources can be placed at user selected positions.

## TECHNICAL SKILLS

- Languages** C, C++, VC++, C#, MATLAB, OpenGL, Qt, STL, Open Inventor, MFC, FOX, Java  
**Web Technologies** Java Script, HTML, PHP  
**Database Technologies** Oracle, MySql  
**Application Tools** RAD/XIP Builder, CMake, Visual SourceSafe, Subversion, Clearcase, MS Office Suite

## PUBLICATIONS

Invention Disclosure (Pending), "Image Segmentation Editing Techniques", Siemens, Research Corporation, NJ.