

Computer Vision Internship Opportunities Summer '05

GE Global Research

The Visualization and Computer Vision Group (VCV) offers internship opportunities in the areas of surveillance, security, clinical applications, and biomedical computing.

GE Global Research is one of the world's most diversified industrial research labs, providing innovative technology for all of GE's businesses and is headquartered in Niskayuna, New York. VCV's projects impact GE businesses including GE Healthcare, GE Security, and GE Aircraft Engines. In addition the group is working on projects funded by agencies such as DARPA, DOD, and NIH. These internships offer an opportunity to engage in cutting edge research that directly relates to industrial applications and GE products.

Candidates must be enrolled in a PhD program and have the ability to map technical expertise into the different application areas. Ideally the candidate should have started the thesis work and have research interests matching the project descriptions. Candidates are expected to contribute to the ongoing algorithm development and work may be considered for publication in relevant conferences and journals. Interested candidates should review the project descriptions and send their resumé to the relevant contact person by **20. Feb 2005**.

For more information on GE Global Research go to www.research.ge.com.

Surveillance

VCV researchers are developing algorithms for the automatic extraction of salient content from aerial video of complex scenes. Research areas include visual tracking, scene segmentation, event recognition, object detection, and change detection. One particular problem of interest is to track vehicles for long periods of time through extended occlusions.

Background knowledge: computer vision and machine learning.

Contact: Jens Rittscher (jens.rittscher@research.ge.com)

Security

VCV is developing innovative intelligent video solutions for GE's security business. Current research efforts are focused on problems relating to site-wide tracking across camera networks, tracking in range and IR imagery, site understanding, and camera calibration. Required background knowledge: computer vision, Bayesian statistics, and video processing.

Contact: Jens Rittscher (jens.rittscher@research.ge.com)

Clinical Applications

VCV is developing applications to enhance clinicians' ability to perform disease characterization, quantification, and diagnosis from medical images. Research areas include 3D segmentation, deformable registration, change detection, visualization of anatomical structures, and classification for the extraction of lung vasculature, lung nodule detection, quantification of lung tissue loss, airway wall thickening, and nodule classification.

Background knowledge: computer vision, 3D medical image processing.

Contact: Rahul Bhotika (rahul.bhotika@research.ge.com)

Biomedical Computing

National Alliance for Medical Image Computing (NA-MIC) is an NIH National Center for Biomedical Computing. This new center is a multi-institutional, interdisciplinary team of computer scientists, software engineers, and medical investigators who develop computational tools for the analysis and visualization of medical image data. The initial driving biological projects will study schizophrenia using diffusion and functional MRI. The intern would be involved in the development and testing of open source software bridging computer scientists and medical investigators.

Contact: Rahul Bhotika (rahul.bhotika@research.ge.com)