Abstract

Microscopy has enormous applications in both medical and non-medical fields. This has gained interest of many researchers in the field of digital image processing to develop algorithms and applications helping in improving their observation and analysis. Here, novel method called µ-Mosaicing (read as Micro-Mosaicing) is introduced to create mosaics of microscopic images from a video sequence to obtain large view, high resolution images of specimen. A thermal camera forms images by sensing the infrared radiations from an object. High resolution thermal images can be used to determine temperatures in detailed thermal analysis. However, the cost of thermal camera increases with their resolution. While, thermo-graphy plays an important role in the diagnosis of various diseases, high resolution large field of view images will be certainly helpful in diagnosis and treatment. So a new approach to create mosaics of thermal images from video sequence, called Thermo-Mosaicing, is proposed which can find wide applications in medical field. Both, µ-Mosaicing and Thermo-Mosaicing employ Key Frame Selection Algorithm, Image Matching using Normalized Cross Correlation (NCC), Image Stitching using 3-point Mask Blending Algorithm and Image In-painting.
- Alessandro Bevilacqua, Filippo Piccinini, Alessandro Gherardi, "Vignetting correction by exploiting an optical microscopy image sequence", 33rd Annual International Conference of the IEEE EMBS Boston, Massachusetts USA, pp: 6166-6169, August 30 - September 3, 2011
μ-Mosaicing and Thermo-Mosaicing using Image In-painting


Index Terms

Computer Science
Image Processing

Keywords

Image Mosaicing; Image Stitching; Key Frame Selection; Microscopic Image Mosaicing; Micro-mosaicing; Thermo-mosaicing and Thermal Image Mosaicing