

Masterarbeit

für Name, Vorname, Studiengang, Matrikel

Topic: TRACKING ADD-ON CAMERA SYSTEM FOR GAMMAPROBES AND ULTRASOUND SENSORS

Tracking and Navigation of instruments / systems and small imaging systems is performed using commercially available systems based on infrared cameras or electromagnetic fields. Both have advantages and drawbacks for use with handheld gamma cameras or ultrasound probes. Main disadvantage is that you require a separate system. It would be advantageous to have a small system ADD-ON that is directly attached to the device that is being tracked.

Based on a patent application and some work that was performed by the Max-Planck-Society in Leipzig (EMOTRAC -motion tracking of head movement with a small camera system) it is proposed to use one to three small cameras in a separate small system to be attached to the device to be tracked. These cameras track the motion of the device with respect to one to three markers (barcode, geometric forms, ...) that are attached to the human body.

Task: The project work expects that a small, rudimentary prototype is build including the tracking software and data sets that are required for accurate tracking and image stitching or image fusion. Accuracy of 1mm in all three dimensions is required in a real-time setup.

Required Knowledge: (some obviously to be acquired during the course of this work): Little mechanical engineering, some electronics, small camera systems for tracking, fiduciary/ physical markers, tracking algorithms, image registration

The preparation of the thesis is to be made under consideration of the guidelines for Bachelor/ Master Thesis of the Faculty of Electrical Engineering and Information Technologies OVGU and the corresponding norms. For more information and literature please visit <http://www.inka-md.de/>.

Magdeburg, den

Tag der Ausgabe:
Tag der Abgabe:
(Bearbeitungszeit: 20 Wochen)

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