



Arthrex – Operating Room Event Tracking

This project is in cooperation and partnership with Arthrex California Technology Inc located in Goleta (within biking distance of campus!).

Arthrex Project Support: Shilpi Ahuja and John Batikian

Arthrex is a global medical device company and leader in new product development and medical education in orthopedics. With a corporate mission of helping surgeons treat their patients better, Arthrex has pioneered the field of arthroscopy and developed more than 11,000 innovative products and surgical procedures to advance minimally invasive orthopedics worldwide.

Project Description

Problem Statement

The Arthrex Synergy UHD4 Imaging Platform is the first endoscopic 4K resolution camera system on the market. The console revolutionizes endoscopic visualization and image management, by combining 4K camera heads, LED lighting, image management and integration with an intuitive tablet controller. The console allows for capturing images and videos that are reviewed by the surgeon and shared with the patient at the conclusion of a procedure. The goal of this project is to detect and track events that occur in the operating room using a combination of sensors and sensing technologies.



Objective

The goal of the project is to create a system which tracks and records key events and objects in the operating room. The team will have the creative freedom to choose the sensors and technology behind the solution. The system can be a combination of cameras and sensors.



Examples:

- Tracking the patient time in operating room
- Identifying and tracking movements of surgeon and assistants
- Identifying surgical equipment present in the operating room
- Detecting disposable products used during the surgery

A mock operating room environment will be used for the demonstration and testing of the system.

Student Requirements

Team participant will be required to;

- Sign non-disclosure forms with Arthrex to limit outside disclosure of proprietary information related to supplied camera system.
- Sign agreements that provide Arthrex with access to any intellectual property developed during the project.

Ideal Student Qualifications

- Signal and image processing
- Computer Vision
- Algorithm development
- Strong programming skills
- Embedded software

Students interested in the medical imaging industry will find this project interesting and challenging. This is an opportunity to work with industry engineers, marketing executives, and medical professionals.

Website: www.Arthrex.com