內視鏡影像追蹤系統
Endoscopic Image Tracking System
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We aim to develop an image tracking system with a stable view for minimally invasive Surgery (MIS) by using mono endoscope. With an autonomous tool tracking system, surgeons do not need to handle the endoscope during surgery. The system consists of an image recognition algorism and a control method to provide stable tracking.

Since none of the surgical instruments are used with any additional marker in clinical, it is significant to develop an algorithm to detect the instruments with natural features. It can thus be convenience for all the medical institutions to use such tracking system. In addition, in order to provide a stable view for the surgery, we propose to set a Buffer Zone in the center of the image. It is a kind of mechanism to reduce the redundant motions during tracking the instruments. And the whole study will achieve satisfactory tracking accuracy in real time and provide a stable view simultaneously.

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