



INTELLIGENT
ULTRASOUND®

NeedleTrainer



“NeedleTrainer is a major confidence booster and has completely transformed the way we teach ultrasound guided needling (UGRA) and peripheral nerve blocks”

Dr Melissa Fitch, Program Director, University of Evansville, IN, USA

The Product

- NeedleTrainer™ is a training solution to teach ultrasound-guided needling safely and effectively, using a retractable non-invasive needle insertion and virtual image during real-time scanning on a real subject
- The product enables trainees to develop hand-eye coordination, optimum positioning, and accuracy in ultrasound-guided interventional procedures.
- A sister product called ScanNav Anatomy PNB, is licensed as a medical device in the UK, EU and the US, and provides the same real-time anatomy highlighting as is available in NeedleTrainer, but can be used by clinicians on patients to help them carry out regional anaesthesia procedures.

Why AI?

- Regional anaesthesia is a type of ultrasound-guided needling where the aim is to deposit local anaesthetic around a nerve. Once in place, the local anaesthetic lasts for many hours, allowing effective post-operative pain relief with few of the drawbacks of opiates.
- The real-time AI overlays provided in NeedleTrainer help the trainee identify the key anatomical features necessary to carry out regional anaesthesia. NeedleTrainer provides AI support for 10 commonly-performed high-value regional anaesthesia procedures.

Industries & Applications

- Healthcare
- Medical imaging

Tasks

- Real-time segmentation
- Object detection

Why Hailo?

NeedleTrainer™ was developed using a different AI accelerator which is now discontinued. Several alternatives were examined and Hailo-8 was chosen for the following reasons:



High Performance

More compute power than all the alternatives, to improve the inference framerate and to have the option to run larger models in the future



Reliability

Edge application that is always available locally and does not rely on network connectivity



Robust Software Tools

Converting AI models to run at the edge is complex, and Hailo provides a stable, well-thought-out platform with great developer support and tools



Low Latency

Enables immediate response to visual feedback to maximize hand-eye coordination

