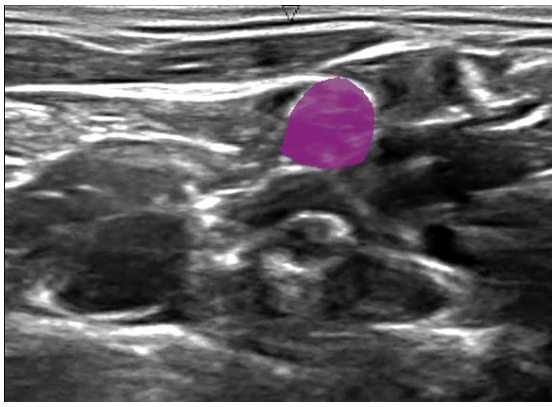
autonomous
intelligent
systems

Graduation project:
Automatic segmentation and measurement of nerves in ultrasound images



Project description

Several medical applications require identification and measurement of peripheral nerves on ultrasound images. In current practice the nerves are often identified and its properties measured through manual annotation. Unfortunately, this also leads to inter- and intra-operator variability and challenges in patient follow up.

The goal of this project is to assist the medical doctor in its diagnosis and treatment by automating the identification, segmentation and/or measurement of nerves in ultrasound images.

Project activities

- Literature research
- Development/tuning of image processing algorithms: Preprocessing, segmentation algorithms (deep learning/region growing), feature extraction, etc.
- Programming in Python
- Comparison/fine tuning of performance
- Documentation

The exact scope and goals of the project will be determined in consultation.

Prerequisites

- Energetic master student in electrical engineering, biomedical engineering, computer science or a related field
- Smart student who is able to apply technical skills (statistical tools, develop image processing algorithms, design machine learning algorithms) in the biomedical/clinical domain
- Programming experience in Python
- Good documenting skills to ensure that the project output is properly captured
- Team player

Details

Duration: 9-12 months
Location: Nobleo Technology, Heggeranklaan 1, 5643BP, Eindhoven
Start date: 1 September 2020
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