Coronary artery Lumen Segmentation by Deep Learning

(Below is limited to 1-page only; be careful not to disclose vital technology content. Please delete these words when the document is finished)

PI： Prof. Tzung-Dau Wang

Experience:

President, Taiwan Hypertension Society
Professor of Medicine
National Taiwan University College of Medicine
Director, Division of Hospital Medicine
Director, Cardiac Function Lab
Cardiovascular Center and Division of Cardiology
Department of Internal Medicine, NTUH
Editor-in-Chief, Acta Cardiologica Sinica

Market Needs:

In the medical imaging field, lumen segmentation for coronary artery reconstruction is an important tool for analyzing various medical diseases or visualization and diagnosis of physiological data. However, lumen segmentation often has to be conducted in manual or semi-automatic means by medical personnel, which will result in enormous labor and time costs.Therefore, there is a need for deep learning assisted coronary artery reconstruction technique that assists the aforementioned issues in the art.

Our Technology:

The present disclosure relates to medical image processing, and more particularly to coronary artery reconstruction using CCTA images via deep learning technique.

Strength:

a two-channel patch-based 3D U-Net, called TaiCAD-Net, was proposed for the reconstruction of coronary arteries. The proposed reconstruction algorithm was rooted in two key ideas, namely, the patch-wise learning and the exploratory vesselness prior.

Competing Products:

PHILIPS IntelliSpace Portal

Intellectual Properties:

Contact (do not need to fill out):

Center for Industry-Academia Cooperation, NTU
Tel: 02-3366-9945, E-mail: ntuciac@ntu.edu.tw