**PANCREAS SEGMENTATION IN ABDOMINAL CT SCAN USING U-NET**

# A PROJECT REPORT

**Submitted by**

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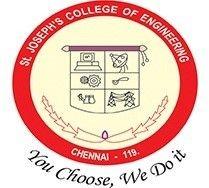
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**in partial fulfillment for the award of the degree of**

**BACHELOR OF TECHNOLOGY**

**in**

# INFORMATION TECHNOLOGY



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**BONAFIDE CERTIFICATE**

Certified that this project report “**PANCREAS SEGMENTATION IN ABDOMINAL CT SCAN USING U-NET”** is the bonafide work of **SANJAY KRISHNAAN H (312315205119)** and **SARAVANA PRASHANTH K (312315205121)** who carried out the project work under my supervision, for the partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Information Technology.

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The report of the project work submitted by the above students in partial fulfillment for the award of Bachelor of Technology degree in Information Technology of Anna University were evaluated and confirmed to be reports of the work done by the above students.

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# ABSTRACT

Medical imaging is one of the rapid growing field. Till humankind exists, medical field analysis continues and dynamically adapting to great extent. The pancreas, a gland in the abdomen behind the stomach and next to the small intestine, has two main functions. It facilitates digestion of carbohydrates, proteins, and fat. It also releases hormones, such as insulin and glucagon, into the bloodstream to control blood sugar. The segmentation of pancreas in a CT scan is difficult for several doctors as it involves various auxiliary parameters. Image segmentation is one of the most critical tasks in medical image analysis. A CT scan involves taking a series of X-rays from different angles to show clear images of the bones and soft tissues, including organs in the abdomen. It can help reveal any abnormalities in the pancreas or the area around it. To segment the pancreas and to provide a clear view of it is the primary concern of the project. Gray scale image filter followed by masking of images to train the model is done in the primary image processing steps. It is followed by enumeration of the data into pixel encoded array list and training the model with U-NET architecture. Finally, the pancreas is segmented using mask images and testing of data is done with the saved model.

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