



⚙️ **Title**
ToF Normal estimation for pulse based ToF camera using CNN

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⚙️ **Patent/ Application number**
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⚙️ **Short presentation**
A system and method for automatically computing spatial surface normals in 3D data from the pulse based Time-of-Flight(ToF) cameras is provided. Moreover, the system comprises a component which is using convolutional neural network (CNN) for computing the normals of a 3D pointcloud sensed and returned from the ToF camera depth images. The CNN is based on the 3 channel composition of information which is trained on a large real and synthetic dataset, for which an automatic 3D point processing chain is used to determine the normals. During the evaluation mode, the CNN is able to compute the normals of the pointcloud from the ToF camera, ensuring a fast and robust normal estimation for the pointclouds.

⚙️ **Applicability**
Robotics

⚙️ **Images**

