

AI-aided Diagnosis of Rare Soft-Tissue Sarcoma by Means of Massive-Training Artificial Neural Network (MTANN)

Yuqiao Yang¹

Ze Jin, Fumihiko Nakatani, Mototaka Miyake and Kenji Suzuki

¹ Tokyo institute of technology

We proposed a patch-wise MTANN for aiding non-expert doctors in diagnosing soft-tissue sarcoma, which is one of the rare cancers. Our model predicts a map for likelihood of malignancy instead of a single category of malignant or benign. The proposed model trained with a small sample-size dataset achieved a higher area-under-the-curve (AUC) performance of 0.73 in classification between malignant and benign tumors, than did CNN-based models.