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FLIGHT: Federated Learning Guided digital Health

Around 60,000 men are annually diagnosed with prostate cancer in Germany, which makes it the second-most frequent cancer. We previously developed the state-of-the-art analysis method eCaReNet (explainable Cancer Relapse prediction Network) for survival prediction of prostate cancer patients based on tissue microarray (TMA) data. To build a more robust and accurate model, data from multiple study sites can be combined and used for training, but this poses serious privacy risks to patient-derived data. To enable model training on distributed TMA data while minimizing privacy risks, we are developing FLIGHT, a privacy-aware version of eCaReNet, protecting patient-derived data with the use of Federated Learning (FL) and Secure Multi-Party Computation (SMPC) techniques.

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Keywords

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