

# Distributed learning for optimal radiomics knowledge

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# PROPOSITIONS

belonging to the thesis

## Distributed learning for optimal Radiomics knowledge

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09 February 2022

1. "The analogy to deep learning is that the rocket engine is the deep learning models and the fuel is the huge amounts of data that we can feed in to these algorithms" (*Andrew Ng*).
2. "To ensure generalizability, large training data sets are often essential", "the development of generalizable AI algorithms in medical imaging requires statistically powered data sets in the order of hundreds of thousands or millions" (*Martin J. Willemink et al.*).
3. Publicly sharing and access to medical data is difficult and time consuming (*this thesis*).
4. Implementation of privacy preserving distributed learning enables large scale AI in health care without need to publicly share sensitive patient data (*this thesis*).
5. Conventional distributed learning is subject to trust and traceability concerns and fundamental radiomics and conventional learning research to current clinical practice is a challenging process (*this thesis*).
6. Decentralized (blockchain-based) distributed learning has the potential to enforce trust, immutability, transparency, traceability and security in a distributed learning network (*this thesis*).
7. Decentralization of distributed learning sets a transparent environment for the commercialization and intellectual property agreements related to the medical devices learned in a distributed fashion (*impact paragraph*).
8. You can't connect the dots looking forward; you can only connect them looking backward. So you have to trust that the dots will somehow connect in your future (*Steve Jobs*).