REVOLUTIONISING
CLOUD COMMUNICATION

Privacy preserving federated machine learning and block chaining for reduced cyber risks in a world of distributed healthcare

FeatureCloud

OUR VISION

We envision a future in which doctors can easily and safely store, access and manage primary medical patient data without risking a privacy breach, and in which patients have full control and can change their mind at any time on what information they want to share or keep private. At the same time, researchers should have better, ideally global access to truly anonymous medical and biomedical data in order to study and understand diseases and accelerate the development of novel treatments. Legally and technically, we only see one secure solution for these two seemingly conflicting objectives: (1) all potentially insecure data communication is kept in decentralized form within local, firewall-protected hospital IT systems (highest-possible security, no single point of attack), (2) local, decentralized artificial intelligence (AI) software is active behind these firewalls, and (3) only federated machine learning features that cannot be tracked back to sensitive patient data are transferred to a centralized, yet transient cloud. FeatureCloud is a novel artificial intelligence (AI) platform, based on a ground-breaking new cloud infrastructure to integrate local AI globally without the need for any transfer of primary medical data — totally anonymous by default.

FeatureCloud on Twitter:
@Feature_Cloud

Scan me to visit website:
featurecloud.eu

![FeatureCloud]

FULL CONTROL FOR PATIENTS & MAXIMUM SECURITY FOR THEIR DATA

The final product of FeatureCloud will be characterized by three key strengths: (1) no sensitive data will be sent through any communication channels, (2) data won't be stored in one central point of attack, and (3) patients will maintain full control over their data, being able to give or withdraw their consent at any time.

Legend:
- ○ Firewall
- ⚠ Insecure data exchange
- ☁ Local data cloud
- ✓ Secure data exchange

Current security measures
Privacy by Policy
Privacy Enhancing Technologies

FeatureCloud innovation area
Privacy by Design ✓
Privacy by Architecture ✓

Full project title:
FeatureCloud

Start date:
01 January 2019

Duration:
5 years

Participants:
9 institutions from 5 European countries

Horizon 2020 funding:
4.6 million € (4,646,000 €)

Syddansk Universitet, Odense, Denmark

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