

HEADQUARTER MUNICH

# Master Thesis Secure your Genes (SyG)



## The project:

Personalized medicine will be the answer to ever growing need of individual medical treatment. One of the important topic to a successful establishment of this medical field is the secure and easy access to personalized genome / medical data. So far we have managed to achieve the following within our previous Bachelor Thesis project Carry your Genes(CYG):

The patient carries his genetic data, his property in a decentralized service realized as an android app. Allowing secure access to medical data for physicians. The physician can access the genetic data and the previously discovered phenotypes, create genetic profiles for gene matching and support his treatment based on genotype - phenotype. At any time, the patient stays in control of his data. All software components are encrypted and several other security mechanisms are in place.



## What`s the plan:

The aim of this study is to further explore security features and rise the protection to the next level, using block chaining, a security implementation known in the context of Bitcoins.

The following three features are envisioned:

- › Secure transfer of genetic data from the geneticist to the mobile application
- › Secure Auditing of all steps involving the patient's data
- › Enabling a security framework for data sharing and analysis

## Further information:

**What:** Hiwi job (one month) in combination with Master Thesis project

**Where:** iteratec GmbH, Inselkammerstraße 4, 82008 Unterhaching

**When:** asap

**Who?** Informatics / Bioinformatics students @TUM

## Your application:

To apply please contact:

Daniel Stahr [bewerbung@iteratec.de](mailto:bewerbung@iteratec.de) or Dr. Lothar Richter [richter@in.tum.de](mailto:richter@in.tum.de)

