Associate Professorship of Coding and Cryptography
TUM Department of Electrical and Computer Engineering
Technical University of Munich

Master's Thesis, Bachelor's Thesis, Forschungspraxis

Error Correction for DNA-Based Data Storage

DNA-based data storage is a novel approach for long term digital data archiving.

Due to the unique nature of writing and reading DNA, the channel associated with these processes is still realtively poor understood and varies over different synthesis (writing) and sequencing (reading) technologies. The task of the student is to analyze different sequencing methods and the associated errors and formulate associated channel models. Based on these models, error-correcting schemes shall be evaluated.

Prerequisites

- Basic principles of stochastic and algebra
- Channel Coding
- Information Theory

Advisors

Andreas Lenz