NTNU

Norwegian Biometrics Laboratory (NBL) is a distinguished research lab contributing actively to the biometrics research across Europe. NBL spans its expertise over physiological and behavioral biometrics including 2D & 3D face, iris, fingerprint, hand vein, gait, keystroke, gesture and mouse dynamics recognition.

Master Thesis

Homomorphic Encryption for Biometric Information Protection

OBJECTIVES & GOALS:

Biometric data is considered sensitive data and requires to be stored irreversible, unlinkable, and renewable according to the standard ISO/IEC 24745 on biometric information protection. Homomorphic encryption allows to perform operations on the ciphertext that directly affect the plaintext. This can be used to compute the distance between two biometric templates in the encrypted domain without revealing the sensitive data.

TASKS:

- Select a suitable encryption scheme
- Prepare biometric templates for encryption
- Benchmark computational efficiency in the encrypted domain

PREREQUISITES:

- High motivation and creativity
- Strong interest in research
- Programming experience

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NOTE: Highly qualified foreign students can get financial support to cover cost of an internship.