Author: Bc. Ján Kačur
Supervisor: Ing. Jakub Špaňhel
Consultant: Ing. Jakub Sochor, Ph.D.
Year: 2023

Fingerprint Identity Preserving Generative Adversarial Networks

MOTIVATION

- Public latent fingerprint databases are relativelly small

Table 1

Dataset	Number of latent fingerprints
NIST SD302	9990
MOLF DB4	4400
IIITD Latent Fingerprint Database	1046
IIITD MSLFD	551
NIST SD27	258
IIITD SLF	240

OBJECTIVE

- Generate more latent fingerprints

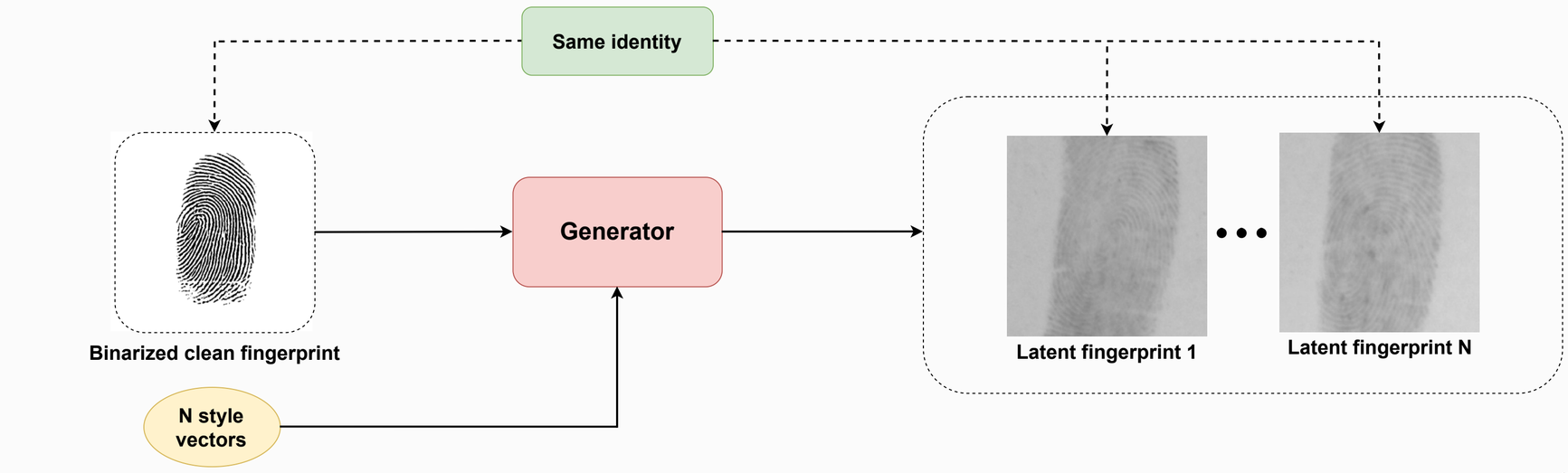

Figure 1

TRAINING - FIRST STAGE

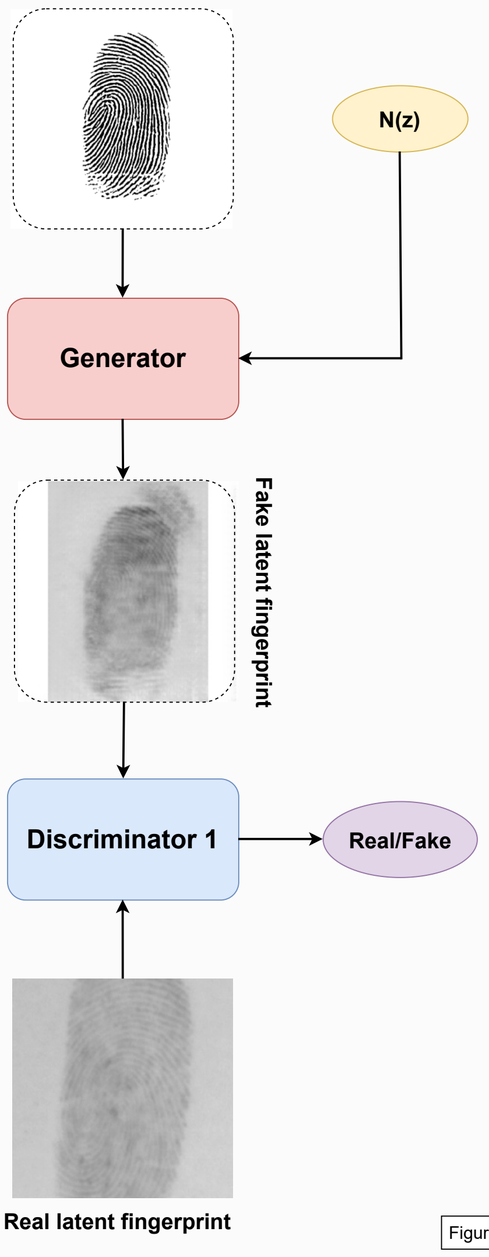

Figure 2

TRAINING - SECOND STAGE

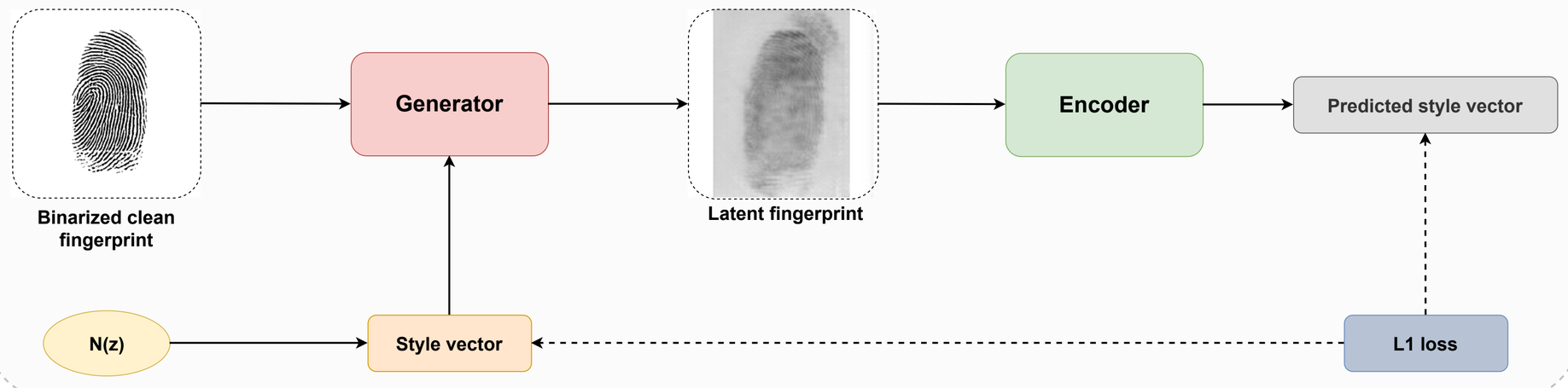

Figure 3

TRAINING - THIRD STAGE

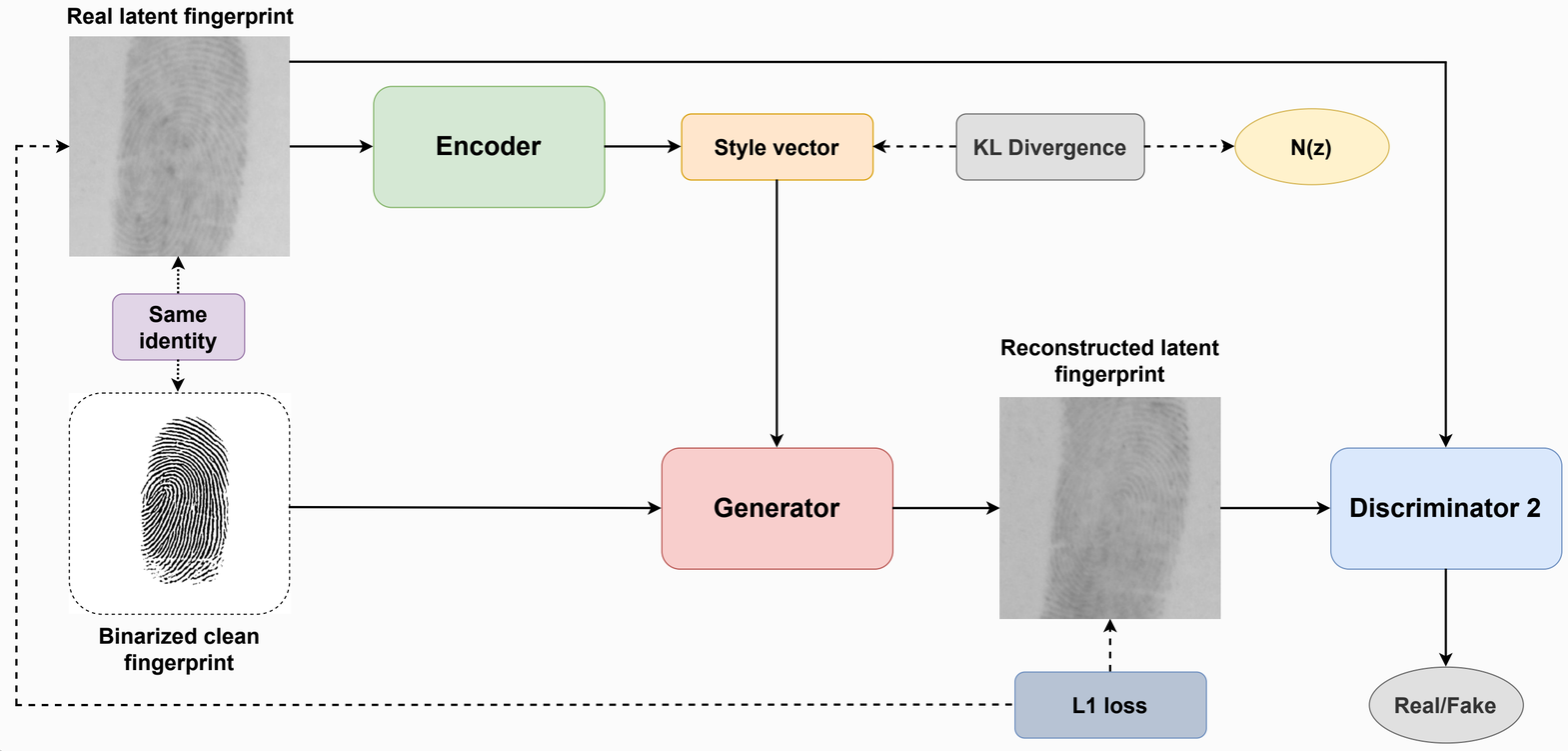

Figure 4

GENERATOR ARCHITECTURE

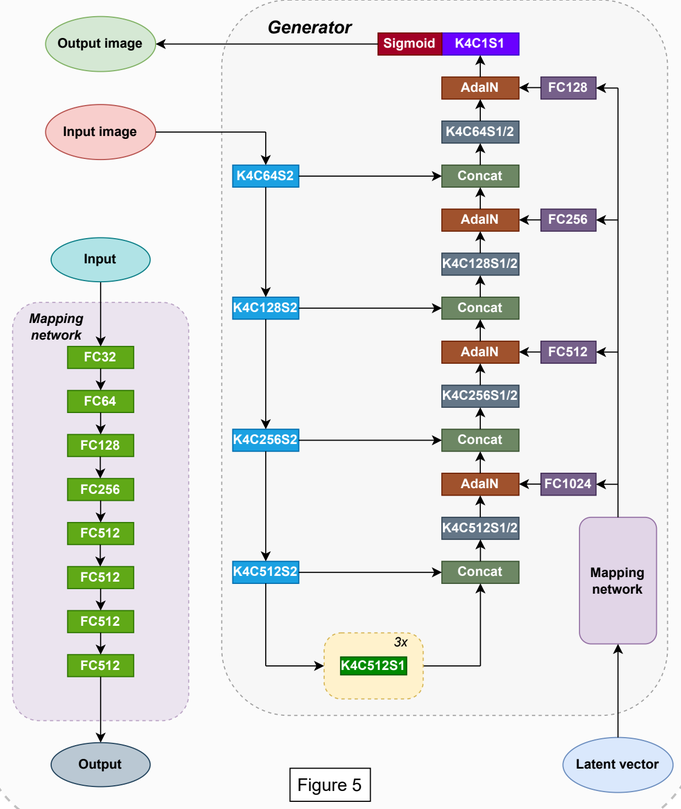

Figure 5

CURRENT RESULTS - FIRST STAGE

- Trained on subset of NIST SD302, 1455 latent fingerprints

Figure 6

- Trained on MOLF DB4, 4400 latent fingerprints

Figure 7

ACKNOWLEDGEMENTS

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BRNO UNIVERSITY OF TECHNOLOGY
FACULTY OF INFORMATION TECHNOLOGY
Excel@FIT 2023
INNOVATRICS