Title

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The study programme is unspecified. Please consult the documentation for the package `masterfrontpage` in order to correctly print the colophon:

https://github.com/martinhelso/masterfrontpage

CHAPTER 1

Normalizing Flows

1.1 Introduction

In the recent years Normalizing Flow (NF) has become a popular way to estimate a target distribution by transforming a random variable from a simple distribution such as Gaussian or Uniform. Normalizing flow is a flexible and often computationally cheap way to estimate distributions, which allow for easy sampling and also evaluation of likelihood. The core of NF are invertible functions $f_i : \mathbb{R}^D \to \mathbb{R}^D$, where D is the dimension of the distribution. The functions are often referred to as transformations. To sample with NF, one starts with a sample z^0 from a well known distribution such as Uniform or Gaussian, and then apply sequentially

$$z^{(i)} = f_i(z^{(i-1)}), i = 1, 2, 3, ..., M. \tag{1.1}$$

M can be one, but are often greater, i.e chain of transformations.