
Teleinformatics Engineering Department, Federal University of Ceará

Introduction to Gaussian Processes

Filipe P. de Farias, IC
filipepfarias@fisica.ufc.br

October 10, 2018

The **Gaussian Processes** are the widely used stochastic processes for modeling dependent data observed over time, space or even time and space. Here, we'll initiate our study with a **Probability and Random Process Theory Review** taking some point to base our journey, going through **Linear Regression** and finally the **Gaussian Processes**.

The material here presented isn't sufficient to guide you over basic probability, so it's recommended to have some knowledge, once we'll just take a simple review.

- 1 Probability and Random Process Theory Review
 - 1.1 Basic Concepts of Probability Theory

Probability and Random Process Theory Review

Let's start with the sentence

Sentence

*A **random experiment** is specified by **starting** an experimental procedure and a set of one or more measurements or observations.*

Warning

You can ignore this slide if you're **not** working with Overleaf.

Overleaf, Beamer and Biber do not always get along well together. For this reason, if you make a mistake while writing this presentation, in the drop-down error message you'll **always** get Biber-related error messages.

Luckily, you just have to click on “go to first error/warning” and the UI will scroll to the line containing your mistake.

Warning

You can ignore this slide if you're working with Overleaf.

To compile this deck you'll need the biber package. Probably your \TeX editor already supports it; if not, you will easily find online the instructions to install it.

If you're not using an editor, you can compile this presentation using the command line by running:

```
$ pdflatex main.tex
$ biber main.bcf
$ pdflatex main.tex
$ pdflatex main.tex
```