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Introduction

In this introductory video, we will leisurely talk about signal processing from both a historical and a technical perspective. In particular, we will illustrate how, in the history of scientific inquiry, there have always been two models for the world around us, an idealized abstraction in which we describe things by way of functions and we use calculus, and a more pragmatic approach in which we describe things via sets of numerical measurements. Digital Signal Processing is the crowning achievement of this latter approach, and the ability (via the Sampling Theorem) to bridge DSP to the classical mathematical models of reality is the reason why we are so successful at harnessing information in this time and age.

At the end of the introduction we will illustrate the latter point in detail by showing how information is transmitted over transoceanic cables; a companion Python notebook is available in this module so you can play with the numerical aspects of the approach.

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