

# Software Defined Communication System

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**Part I**

**Unit 1**

# Chapter 1

## Convolutions

### Definition 1.0.1: Convolution

A convolution is an integral that expresses the amount of overlap of one function  $f(t)$ , as it is shifted over to function  $g(t)$ , for a continuous time signal.

$$(f * g)(t) = \int_{-\infty}^{\infty} f(\tau)g(t - \tau)d\tau$$