

# ScatNet Implementation Document

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## 1 Introduction

## 2 The Scattering Transform

### 2.1 The `scat` Function

### 2.2 Network Layer $u_m, s_m$

## 3 Creating Operators

### 3.1 `wavelet_factory_1d`

### 3.2 `wavelet_factory_2d`

## 4 Manipulating, Formatting Scattering Coefficients

### 4.1 Post-processing

### 4.2 Formatting

## 5 Display

### 5.1 1D

### 5.2 2D

## 6 Classification

### 6.1 Batch Computation

### 6.2 Affine Space Classifier

### 6.3 Support Vector Classifier