Pattern Recognition	
SOURCE: 01	**Pattern Recognition and Machine Learning**
01	Introduction
02	Polynomial Curve Fitting
03	Probability Theory
04	Probability Densities
05	Expectation and Covariance
06	Bayesian Probabilities
07	The Gaussian Distribution
08	Curve Fitting Re-visited
09	Bayesian Curve Fitting
10	Model Selection
11	The Curse of Dimensionality
12	Decision Theory
13	Minimizing the Misclassification Rate
14	Minimizing the Expected Loss
15	The Reject Option
16	Inference and Decision
17	Loss Functions for Regression
18	Information Theory Part-1 – Entropy is Average Surprise
19	Information Theory Part-3 – Differential Entropy
20	Differential Entropy of the Gaussian – Exercise 1.35
21	Information Theory Part-4 – Maximum Entropy Distributions
22	Information Theory Part 5 – Maximum Entropy Showdown
23	Information Theory Part 6 – Conditional Entropy
24	Convexity and Jensen's Inequality
25	Relative Entropy and Mutual Information
26	Proof of the Non-Negativity of the Kullback-Leibler Divergence

Natural Language Processing (NLP)	
SOURCE:01	**Natural Language Processing**
01	Introduction
02	Why NLP is Booming Right Now
03	Regex For NLP
04	Three Category of Techniques for NLP
05	NLP Tasks
06	NLP Pipeline
07	Spacy vs NLTK
08	Tokenization in Spacy
09	Language Processing Pipeline in Spacy
10	Stemming and Lemmatization
11	Part of Speech POS Tagging
12	Named Entity Recognition (NER)
13	Text Representation Basics
14	Text Representation: Labe and One Hot Encoding
15	Text Representation Using Bag Of Words (BOW)
16	Stop Words: NLP Tutorial For Beginners
17	Text Representation Using Bag of N-Grams
18	Text Representation Using TF-IDF
19	Text Representation Using Work Embedding
20	Word Vectors in Spacy Overview
21	News Classification Using Spacy
22	Word Vectors in Gensim Overview
23	News Classification Using Gensim
24	FastText Tutorial | Train Custom Word Vectors in FastText
25	FastText Tutorial | Text Classification Using FastText
26	Introduction to Chatbots
27	End-to-End NLP Project | Build a Chat-bot in Dialog-flow

Audio Signal Processing	
SOURCE: 01	**Audio Signal Processing for Machine Learning**
01	Audio Signal Processing for Machine Learning
02	Sound and Waveforms
03	Intensity, Loudness, and Timbre
04	Understanding Audio Signals for Machine Learning
05	Types of Audio Features
06	How to Extract Audio Features
07	Understanding Time Domain Audio Features
08	Extracting the Amplitude Envelope Feature from Scratch
09	How to Extract Root-Mean Square Energy and Zero-Crossing Rate From Audio
10	Demystifying The Fourier Transform: The Intuition
11	Complex Numbers for Audio Signal Processing
12	Defining The Fourier Transform with Complex Numbers
13	Discrete Fourier Transform Explained Easily
14	How to Extract the Fourier Transform with Python
15	Sort-Time Fourier Transform Explained Easily
16	How to Extract Spectrograms Form Audio with Python
17	Mel Spectrograms Explained Easily
18	Extracting Mel Spectrograms with Python
19	Mel-Frequency Cepstral Coefficients Explained Easily
20	Extracting Mel-Frequency Cepstral Coefficients with Python
21	Frequency –Domain Audio Features
22	Implementing Band Energy Ration in Python from Scratch
23	Extracting Spectral Centroid and Bandwidth with Python
SOURCE: 02	**Deep Learning for Audio Classification**
01	DSP Background – Deep Learning for Audio Classification
02	Loading Data
03	Plotting and Cleaning
04	Model Preparation
05	Convolutional Neural Network
06	Recurrent Neural Network
07	Saving Data and Models
08	Predictions