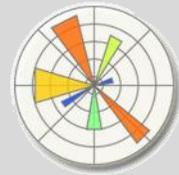




pandas



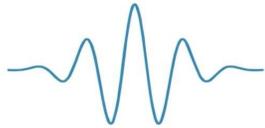
Matplotlib



jupyter



PyWavelets


$$F(a, b) = \frac{1}{\sqrt{a}} \int_{-\infty}^{+\infty} f(t) \psi^* \left(\frac{t-b}{a} \right) dt$$

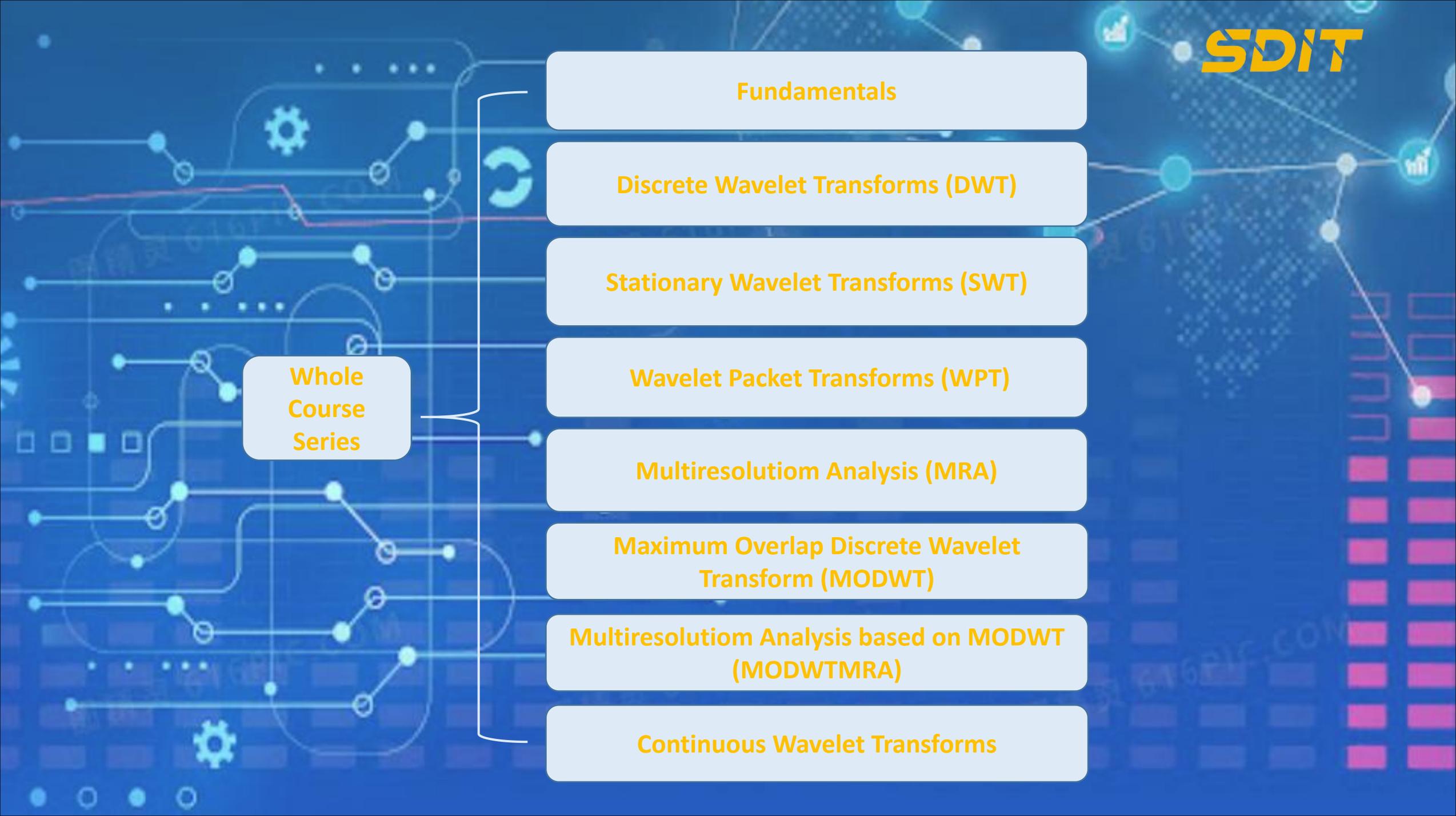
Welcome to this Course Introduction:

Practical Python Wavelet Transforms

Real-World Projects with PyWavelets, Jupyter notebook, Pandas and Many More

Part I: Fundamentals

Instructor: Shouke Wei, Prof. Ph.D.



**Whole
Course
Series**

Fundamentals

Discrete Wavelet Transforms (DWT)

Stationary Wavelet Transforms (SWT)

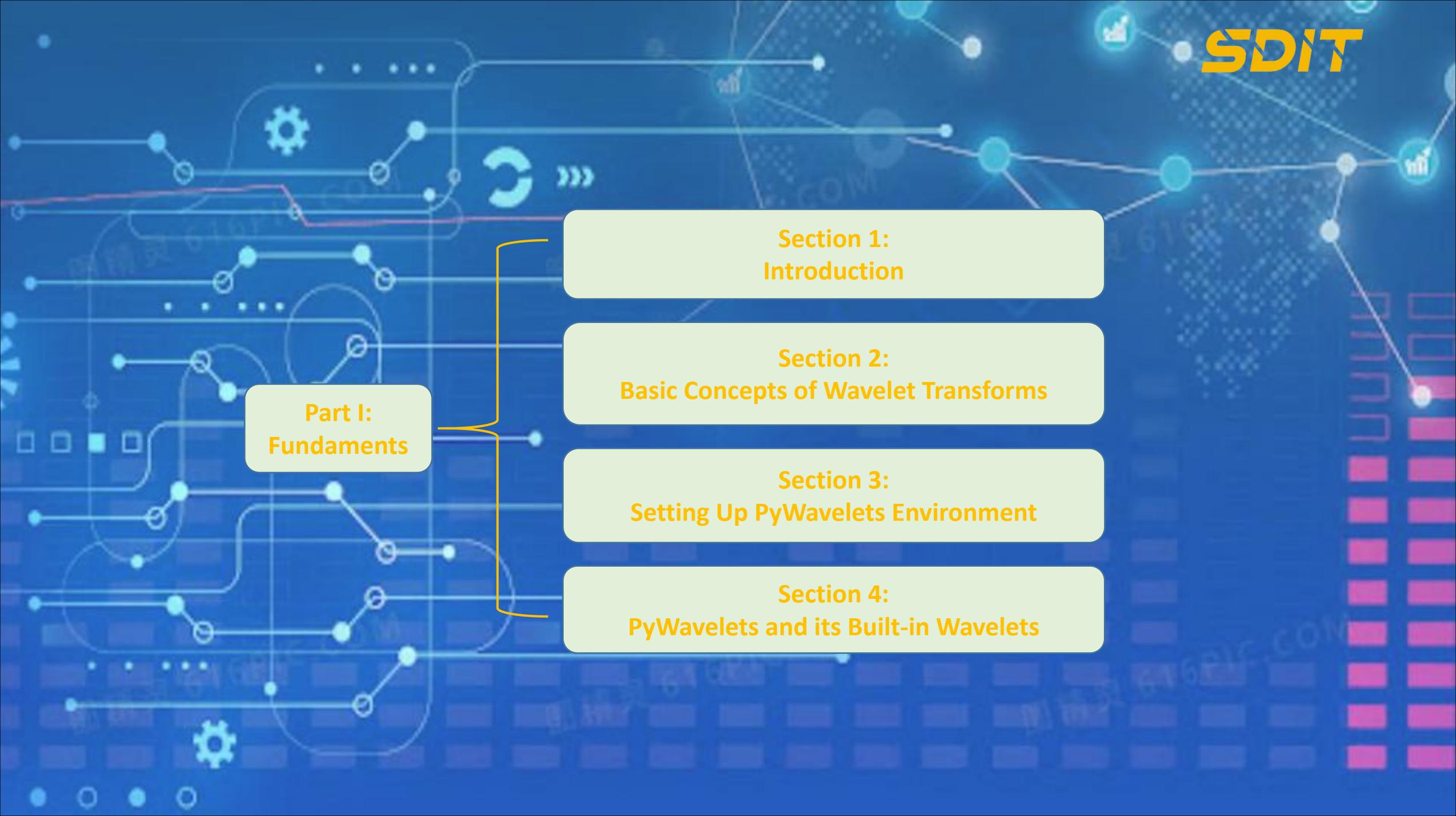
Wavelet Packet Transforms (WPT)

Multiresolution Analysis (MRA)

**Maximum Overlap Discrete Wavelet
Transform (MODWT)**

**Multiresolution Analysis based on MODWT
(MODWTMRA)**

Continuous Wavelet Transforms



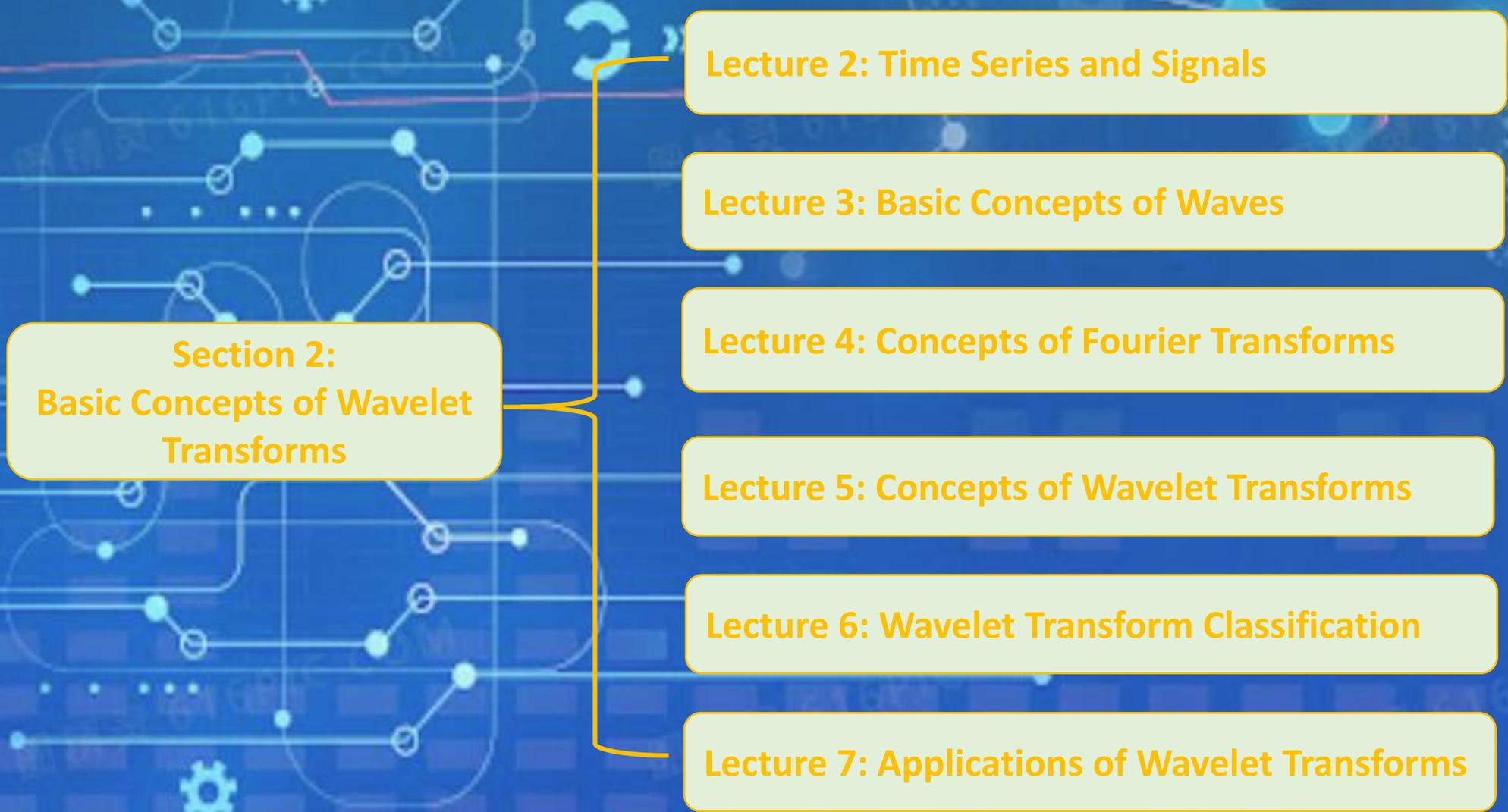
**Part I:
Fundamentals**

**Section 1:
Introduction**

**Section 2:
Basic Concepts of Wavelet Transforms**

**Section 3:
Setting Up PyWavelets Environment**

**Section 4:
PyWavelets and its Built-in Wavelets**



**Section 2:
Basic Concepts of Wavelet
Transforms**

Lecture 2: Time Series and Signals

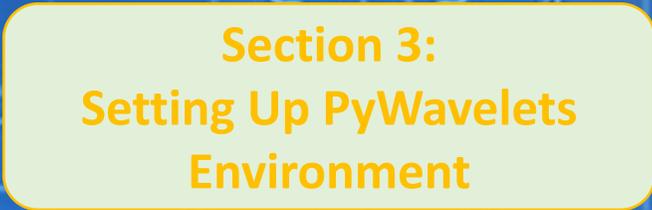
Lecture 3: Basic Concepts of Waves

Lecture 4: Concepts of Fourier Transforms

Lecture 5: Concepts of Wavelet Transforms

Lecture 6: Wavelet Transform Classification

Lecture 7: Applications of Wavelet Transforms



**Section 3:
Setting Up PyWavelets
Environment**



Lecture 8: Installing Anaconda Python



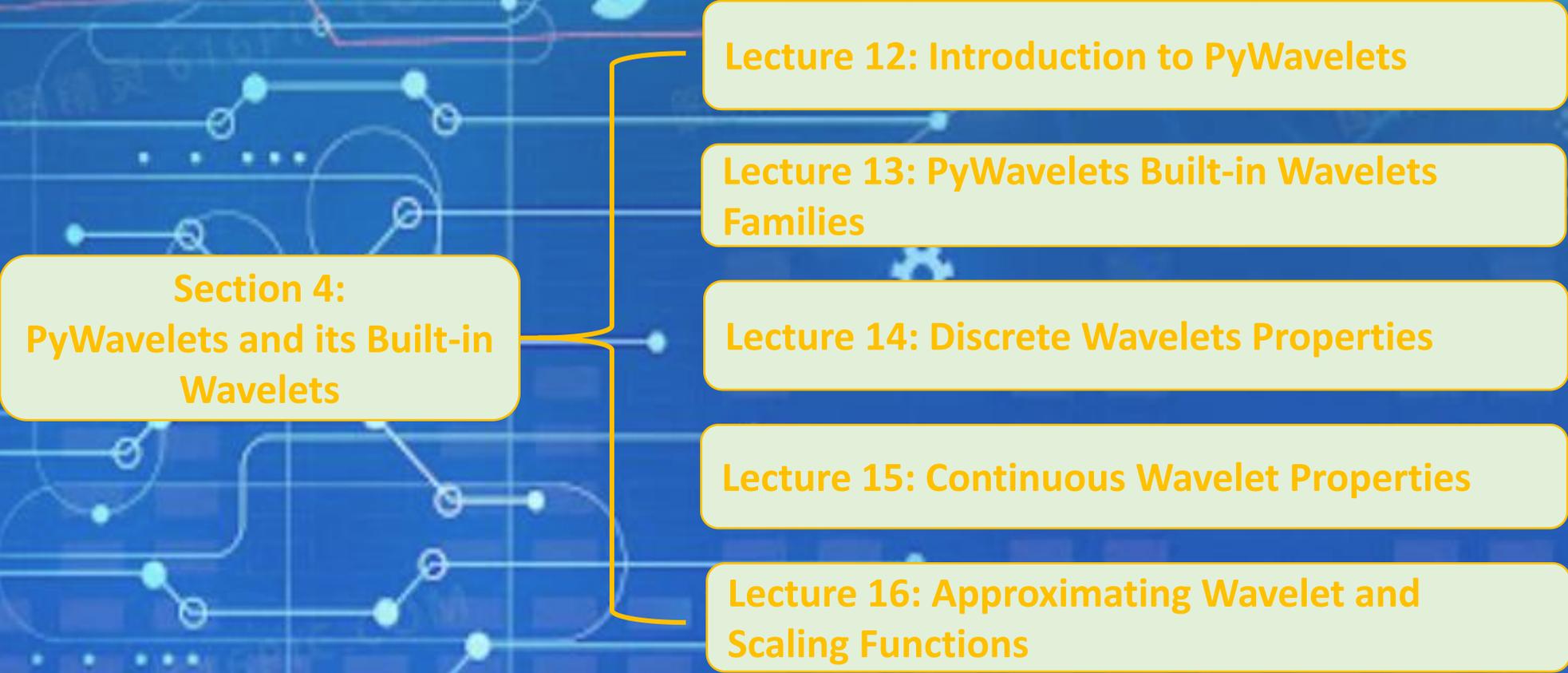
Lecture 9: Required Packages



**Lecture 10: Basic Operations of Working
Directory**



**Lecture 11: Basic Operations of Jupyter
Notebook**



**Section 4:
PyWavelets and its Built-in
Wavelets**

Lecture 12: Introduction to PyWavelets

Lecture 13: PyWavelets Built-in Wavelets Families

Lecture 14: Discrete Wavelets Properties

Lecture 15: Continuous Wavelet Properties

Lecture 16: Approximating Wavelet and Scaling Functions