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Certificate of Achievement

Yanzhe Zhao

has completed the following course:

FOUNDATIONS OF SIGNALS AND SYSTEMS: ANALYSE AND PROCESS DIGITAL SIGNALS
UNIVERSITY OF PADOVA

This online course explored fundamental concepts of signals and systems, including signal analysis, Fourier and Laplace transforms, and digital signal processing using MATLAB.

5 weeks, 6 hours per week

Tomaso Erseghe
Professor on Network Science, Social Network Analytics, and Signals and Systems
University of Padova

Università degli Studi di Padova

The person named on this certificate has completed the activities in the attached transcript. For more information about Certificates of Achievement and the effort required to become eligible, visit futurelearn.com/proof-of-learning/certificate-of-achievement.

This certificate represents proof of learning. It is not a formal qualification, degree, or part of a degree.

TRANSCRIPT

UNIVERSITÀ DEGLI STUDI DI PADOVA

Yanzhe Zhao

has completed the following course:

FOUNDATIONS OF SIGNALS AND SYSTEMS: ANALYSE AND PROCESS DIGITAL SIGNALS

UNIVERSITY OF PADOVA

93% OVERALL SCORE

The course explored the foundations of signals and systems. It covered signal properties, system behavior, and transformation techniques like Fourier and Laplace. Hands-on MATLAB labs provided practical experience in signal visualization and processing. Students developed skills in signal analysis, convolution techniques, and understanding digital representation impacts. The course established a strong foundation for success in technical fields

STUDY REQUIREMENT

5 weeks, 6 hours per week

LEARNING OUTCOMES

- Apply mathematical principles to analyze continuous and discrete signals.
- Investigate the properties of linear time-invariant systems.
- Experiment Fourier and Laplace transforms for signal analysis.
- Implement signal processing techniques using MATLAB.
- Explain the effects of sampling and filtering on digital signals.

SYLLABUS

The course will address the following key topics: Fundamental mathematical analysis of signals, including energy, power, and periodicity. Introduction to system properties such as linearity, stability, and time invariance. Techniques of signal transformation, including Fourier and Laplace transforms. Convolution and its applications in filtering and signal processing. Discrete-time signals and systems, including sampling and digital signal representation. Practical labs using MATLAB for signal visualization and processing.