



**Zakir Husain Delhi College**  
(University of Delhi)



under  
the aegis of IQAC  
and  
Skill Development and Learning Centre

announces

A Certificate Course on

## Fundamentals of AI Optimization (Techniques for Efficient Learning)

### ABOUT THE COURSE

In the rapidly advancing world of technology, machine learning has emerged as a key driver of innovation, influencing diverse domains, from healthcare to finance. To empower individuals with the foundational knowledge needed to navigate this transformative landscape, we present a comprehensive 10-hour certificate course on the Basics of Optimization Techniques for Artificial Intelligence and Machine Learning. This course is designed to provide participants with a solid understanding of essential concepts, hands-on experience, and the ability to apply optimization techniques to real-world scenarios.

## COURSE OUTLINE

- Fundamental Optimization Algorithm used to Minimize the Loss Function in AI Models.
- Batch Gradient Descent.
- Mini-Batch Stochastic Gradient Descent.
- Learning Rate Algorithms: Decay and Line Search.
- Overfitting in ML; Feature Processing.
- Gradient Descent with Momentum.
- AdaGrad, RMSProp, and Adam.
- Support Vector Machine (SVM) and Principal Component Analysis (PCA).

### MODE OF CONDUCTION OF COURSE: ONLINE

Assessment and Certification: Assessment throughout the course, including quizzes, assignments, or a final project or case study, will allow participants to showcase their understanding and practical application of optimization techniques through AI and ML concepts. Upon successful completion, participants will be awarded a certificate, validating their newfound knowledge of the foundational aspects of machine learning.

Embark on this 10-hour journey into the realm of machine learning, where theory meets practice, and participants emerge equipped with the skills to leverage AI and Machine Learning in their professional endeavors. Join us in building the foundations for a future shaped by data-driven insights and intelligent decision-making.

### WHO SHOULD PARTICIPATE

UG/PG students, Researcher scholars, and Faculties.

### IMPORTANT DATES

Deadline for registration: 05-03-2025

Selection intimation: 05-03-2025

Commencement of course: 08-03-2025

### Apply Now

The registration process may be completed using the link below or by scanning the given code. <https://forms.gle/7ohwdd31cbfVdx1E7>



### REGISTRATION FEE:

Research Scholar/Students: Rs. 200/-

Faculties/Industry Persons/Others: Rs. 300/-

The registration fee will be paid online with the following details:

Name of the Account Holder: ZHDC Boys Fund

Bank Name: Canara Bank

Account Number: 8668101000002

IFSC Code: CNRB0008668



Contact: [dbtstarcollege@zh.du.ac.in](mailto:dbtstarcollege@zh.du.ac.in)

### COURSE EXPERTS

DR. SUSHIL KUMAR, DEPT. OF COMPUTER ENGINEERING,  
NIT KURUKSHETRA

DR. SANJAY YADAV, DEPARTMENT OF PURE AND APPLIED  
MATHEMATICS, ALLIANCE UNIVERSITY, BANGALORE

### PATRON

PROF. NARENDRA SINGH  
PRINCIPAL

### COORDINATOR, IQAC

PROF. P.K. SHISHODIA

### CONVENER, SDLC

DR. SAIMA

### COURSE COORDINATOR

DR. DHIRAJ KUMAR SINGH  
DEPARTMENT OF MATHEMATICS

