

About Institute

Guru Nanak Dev Engineering College (GNDEC), Ludhiana, established in 1956, is one of the oldest and a premier Engineering Institute of India. The Institute is set up on 88 acres of sprawling pristine land along Gill Road (Ludhiana-Malerkotla Highway). The foundation stone of the college was laid by Honourable Dr. Rajendra Prasad Ji, President of India on April 8, 1956. GNDEC is now an autonomous college under UGC Act 1956 [2(f) and 12(B)] and also accredited by NAAC with 'A' grade. The Institution has six Under-Graduate (UG) programmes, thirteen Post-Graduate (PG) programmes, besides being a QIP centre for Ph.D.

About Departments

Computer Science & Engineering Department was established in 1997. Department is currently offering undergraduate and postgraduate programmes with an intake of 240 and 18 respectively. Ph.D. programme is also being offered in the department. The department has various laboratories equipped with state-of-the-art computing facilities to support the research and teaching activities. The research activities in the department involve fields like natural language processing, image processing, big data, cloud computing, software engineering, network security, etc.

Objectives

The key objectives of this Training is:

- To build strong foundations in Exploratory Data Analysis (EDA)
- To develop practical skills in Machine Learning (ML)
- To integrate Generative AI tools into data workflows
- To enable students to build real-world intelligent systems

Who can apply?

Students from B.Tech. (all branches), BCA, MCA, BBA, MBA, B.Com. (Entrepreneurship), B.Voc. (Interior Design) and Diploma (all branches) programs can apply for this training program. Students from other Engineering and Polytechnic colleges can also join this training

Four/ Six Weeks Summer Training Program

On

Next-Gen Data Exploration with ML and Generative AI

(June - July, 2026)

(Offline)



Dr. Kiran Jyoti

(Head, Department of CSE)

Coordinator

Dr. Sita Rani

Co-Coordinator

Er. Kajal Chugh

Organized by:

Testing and Consultancy Cell

in collaboration with

Department of Computer Science & Engineering

Guru Nanak Dev Engineering College, Ludhiana, Punjab – 141006

[An Autonomous College u/s of UGC Act 1956]

Next-Gen Data Exploration with ML and Generative AI

Duration: 4 Weeks / 6 Weeks

Mode: Offline

Contents to be Covered

Foundational Course (4 Weeks + Minor Project)

Week 1: Foundations of Data Exploration

Data types, structures, and pipelines, Data cleaning (missing values, outliers), Basic EDA techniques, Visualization (Matplotlib, Seaborn), Correlation and distributions

Week 2: Advanced Data Exploration

Feature engineering basics, PCA (intuitive understanding), Handling imbalanced data, Pattern detection & anomaly identification, Auto-EDA tools

Week 3: Machine Learning Essentials

Supervised learning basics, Regression & classification, Evaluation metrics, Train-test split & cross-validation

Week 4: Machine Learning and EDA Integration

Feature selection, Hyperparameter tuning (basics), ML pipelines, Model interpretation

Advanced Course (Foundational Course + 2 Weeks + Major Project)

Week 5: Generative AI for Data Analysis

Generative AI in data workflows, Prompt engineering, NL → SQL/Python, AI-assisted analytics

Week 6: Advanced ML and Gen AI Systems

Advanced models (Random Forest, Boosting), Model explainability (SHAP/LIME basics), Synthetic data concepts, AI app frameworks

- Daily Quiz
- Weekly Assignment – with Practical Problems
- **Project Submission – Within Two Weeks after completion of the course.**

For More Details Please Contact:

Dr. Sita Rani (Mobile No: 75080-08004)

Prof. Kajal Chugh (Mobile No: 9876956479)

Email at: nextgenaidatascience@gmail.com

Registration Form

Name (in block letters): _____

University Roll Number: _____

College Roll Number: _____

Department: _____

Institution: _____

Mailing Address: _____

Age: _____ Gender (M/F): _____

Mobile No.: _____

Email: _____

Mode of Payment: Online / Cash: _____

Transaction ID (Online Payment)/ Receipt No. (Cash Payment):

Signature of Applicant: _____

Registration:

The course fee for cash can be paid to the Testing and Consultancy Cell, GNDEC, Ludhiana during working days. The candidate can also make online payment in the institutional bank account. The participants should send through e-mail the scanned copy of the filled and duly signed registration form to the training coordinator on or before 30th May, 2026. The hard copy of the registration form must be submitted on the first day of the program at the registration desk. Registration **Fee for same as:**

Foundational Course: Rs. 5000/- including GST

Advanced Course: Rs. 6500/- including GST

Account Details for Online Payment:

Account Holder: Principal, Guru Nanak Dev Engineering College, Gill Road, Ludhiana, Pin Code: 141006

Bank: Punjab and Sind Bank, Gill Park, Gill Road, Ludhiana

Account Number: 00211000050652

IFSC Code: PSIB0000021