

# KOMAL GOEL

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EDUCATION

**Thapar Institute of Engineering and Technology**  
*Bachelor of Engineering in Electronics and Computer*

Patiala, Punjab  
*Sep. 2022 – Present*

## RELEVANT COURSEWORK

- Object-Oriented Programming
- Database Management Systems
- Algorithm Analysis and Design
- Data Structures and Algorithms
- Artificial Intelligence
- Cloud Computing Technology
- Operating Systems
- Computer Architecture
- Natural Language Processing

## EXPERIENCE

### Remote Sensing Intern

June 2024 – July 2024 Certificate

*Thapar Institute of Engineering and Technology*

*Patiala, Punjab*

- Built high-accuracy predictive models for cyclone forecasting (94%) and methane emission estimation (97%) using NOAA/NASA satellite data, spatio-temporal analysis, and machine learning techniques.
- Enhanced forecasting reliability by 40% through AI/ML-driven analysis of MODIS and Landsat imagery on Google Earth Engine.

## PROJECTS

### CodeCamp | HTML, CSS, JavaScript

November 2025

- Built a responsive and interactive web platform to showcase coding challenges and programming resources.
- Built reusable UI components and interactive animations with HTML, CSS, and JavaScript, boosting interface performance and user engagement.
- Designed the project structure and reusable modules to support future scalability and feature expansion.

### MCTS Predictor | Python, PyTorch, Google Colab, Machine Learning

September 2025

- Developed a decision-making model integrating Monte Carlo Tree Search (MCTS) with neural networks for predictive analysis.
- Executed preprocessing, training, and evaluation workflows in Google Colab using PyTorch for efficient experimentation.
- Optimized MCTS performance by tuning search policies and neural network architectures to improve prediction accuracy.

## SKILLS

**Languages:** C/ C++, Java, JavaScript, HTML/CSS, MATLAB, Python, PHP

**Database:** MySQL, MongoDB, PostgreSQL

**Developer Tools:** VS Code, Git, GitHub, Google Colab, Visual Studio Code, Visual Studio, IntelliJ IDEA

**Technologies/Frameworks:** Node.js, Express.js, React.js, AWS, PyTorch, Flask, TensorFlow, Keras, jQuery

**Operating Systems:** Linux, Ubuntu

**Soft Skills:** Problem-Solving, Communication, Team Collaboration, Adaptability, Analytical Thinking, Time Management

## CERTIFICATIONS

- Java (J2SE, JavaFX, MySQL), Bangalore Computing Education, Bathinda Certificate
- MERN Stack Program, Bangalore Computing Education, Bathinda Certificate
- NodeJS Full Stack Development with Project, Sun-Soft Technologies, Bathinda Certificate
- Data Structures & Algorithms (C++), Bangalore Computer Education, Bathinda Certificate
- C/C++ (Fundamentals & OOPs), Bangalore Computer Education, Bathinda Certificate

## EXTRACURRICULAR

- Presented a research paper titled “*Facial Recognition Based Attendance System: An AI-Powered Solution*” at the Seventh International Conference on Soft Computing and its Engineering Applications (CHARUSAT), held in Hanoi, Vietnam (Dec 09–11, 2025) Certificate
- Filed a patent for an AI-enabled attendance automation system integrating real-time facial recognition, dynamic venue mapping, and privacy-preserving data processing.
- Actively participated in Hare Ka Sahara Thapar Society and successfully managed the Janmashtami event, demonstrating leadership, teamwork, and event management skills.