

EEC-351 Fundamentals of AI/ML

Autumn 2026-27

Lecture 0: Course Introduction

Parikshit Pareek

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IIT Roorkee

Logistics

- ▶ Instructors: Parikshit Pareek (pareek@ee.iitr.ac.in)
- ▶ Head Teaching Assistant: Ayushi Jolotia (ayushi_j@ee.iitr.ac.in)
- ▶ Teaching Assistant: Kaustubh Sharma (kaustubh_s@ee.iitr.ac.in)

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- ▶ Course Website: https://psquare-lab.github.io/teaching/course_EEC351/
- ▶ Lectures: Monday & Tuesday, 16:05–17:00, **GB005**. Friday 17:05–18:00 is a backup slot.
- ▶ Office Hours: Friday, 17:05–18:00, **214A, EE**.

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- ▶ Mode of Teaching: Board, Demos on Projector with Occasional Slides like Today.
- ▶ Instructor Notes will **Not** be shared.
- ▶ Discussion: Piazza (access code eec351):
https://piazza.com/indian_institute_of_technology_roorkee/fall2026/eec351

Evaluation Policy

Type	CWS	MTE	ETE
Total Marks	30	30	40
Components	Announced & Surprise Quiz(s) Viva & In-Person Assignments Peer Discussion	Written of Any Type	Written of Any Type

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- CWS will be a **combination of Viva, Quiz(s) & In-Person Assignments** — no take-home submissions.
- Surprise Quiz: Best of N policy will be followed.
- Viva & In-Person Assignments: Will be announced; done in class/lab, in our presence.
- If a task needs teams, maximum size is capped at **Six** & No teams can repeat themselves in the next task – Intersections should be null set (except You!).
- Home Works: **No Submission Needed**, but **Part of Syllabus & Questions Might Appear in Exams**.
- Course might be demanding, we will try to be easy on Grading.

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- ▶ **All course-related questions and discussions** must be posted on **Piazza**.

Will allow instructors, TAs, and peers to view and respond

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Sent via email (only when urgent)

Updated on the course website

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Personal, non-technical, or sensitive discussions
- ▶ Individual emails to instructors or TAs are **highly discouraged**

Prerequisites

- ▶ Linear Algebra 101 – Will Review
- ▶ Probability 101 – Will Review
- ▶ Common Sense!

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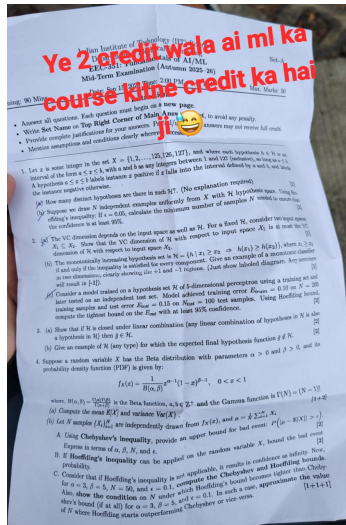
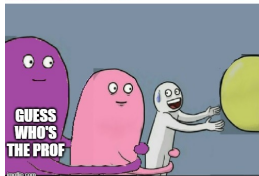
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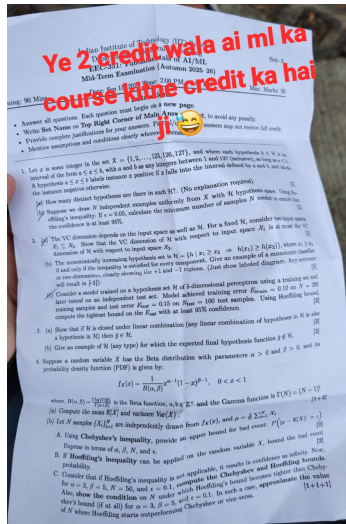
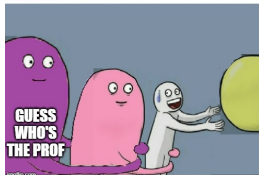
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- ▶ **Coding tasks** (is any) will go through **code plagiarism check**.
- ▶ Course website will have reading material:
 - Essential** – Skip at your own risk! Grades can get impacted.
 - Optional** – Extracurricular — that's why you came to IITR, isn't it?

From The Archives: Last Year's Class



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By: Veer Vardhan Singh (EE '27)

Permission obtained this morning.
consent matters, even for memes.

For the record: **no marks were cut.**

Good-natured humour has a rightful
place in academia. The rule is simple:

Take care of boundaries

Illustrator!

Course Overview

- ▶ Introduction to EEC351 → Today
- ▶ History, Types of ML
- ▶ Revision: Linear Algebra and Probability
- ▶ Learning Theory: Learning Model, Concentration Inequalities, PAC, VC Dimension...
- ▶ Energy Function & Loss Functions (incl. Energy-Based Modeling review)
- ▶ Optimization for ML: First Order, GD, SGD, Constraint Optimization
- ▶ Hyperparameters & Validation
- ▶ Evaluation Metrics
- ▶ Bayesian Learning

Questions!

Go check course website for prerequisite for next week's topics.