03

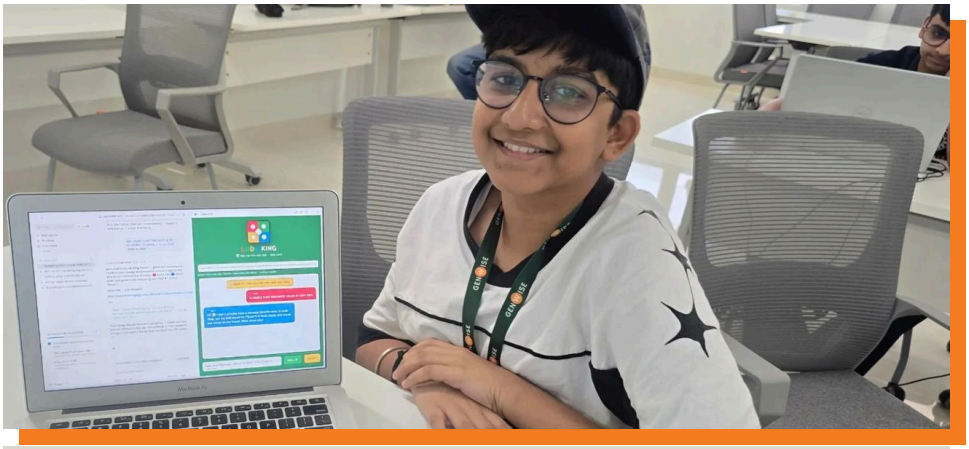
AI & CODE

Code the Future: AI & Machine Learning Adventure

Train real models, then learn the harder skill: knowing when they're lying to you.

Not a prompt-typing course. Students get their hands into data and models – and into the judgment layer: evaluation, bias, failure modes. Taught in the era where using AI is easy and trusting it is the whole problem.

Last May: children trained image classifiers and built their own chatbots, and many put their projects on GitHub.



Taught by Shiva, Professor, Mechanical Engineering, IIT Bombay; Sameer Mahajan, Independent AI adviser (Siemens Digital Industries Software) · B.Tech CS, IIT Bombay · MS CS, Georgia Tech · 9 US patents.

Needs A laptop; paid ChatGPT/Claude access (details on registration).

Facilitator	Shiva & Sameer Mahajan
Duration	3 weeks
Teaching hours	90+
Grade	Grades 8–11 (as of 2027–28)
Needed	A laptop; paid ChatGPT/Claude access (details on registration)

Week by week

01
Machine learning from data

Train models on real data (IPL scores, movies, Bengaluru's weather), then build an image classifier and test it live on a webcam.

- Features, labels and predictions
- Real data, real predictions
- Decision trees as twenty questions
- Your own image classifier

02
Generative AI and agents

How ChatGPT is actually built, how AI can answer from your own documents, and how teams of AI agents work together.

- How large language models are made
- AI on your own documents
- Word embeddings, by hand
- Build a team of AI agents

03
Ship it

Build a real AI project with a working backend, test it against honest benchmarks, and demonstrate it at the showcase.

- How transformers pay attention
- Code, version control, backends
- Benchmarks and honest testing
- Final project, shipped

How does this course help your child?

Innovative pedagogy

Hands on the keyboard from the first hour; the concept follows the experiment. Students use frontier tools as engineers do – critically, with an eye on cost, failure modes and evaluation – and the class's own transcripts become its dataset.

Academic acceleration

The working vocabulary and habits of an AI engineer – data, models, evaluation, agents, deployment – years before a computer-science degree would offer them.

Cognitive skillsets

- Computational thinking
- Evaluating a model honestly
- Scoping and shipping a project
- Judgment about AI: cost, bias, failure

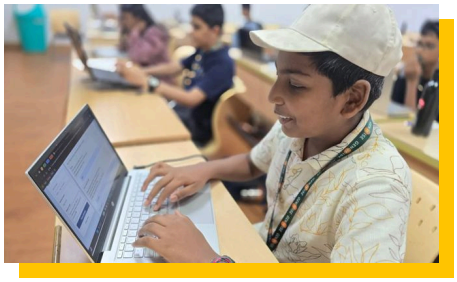
Peer networks

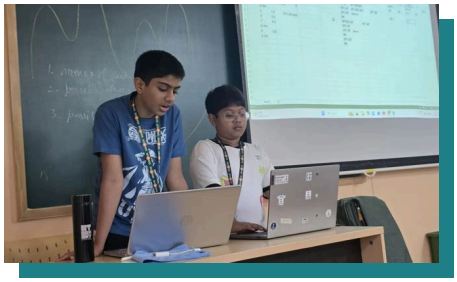
Debugging is communal – one student's fix becomes everyone's – and the final week runs like a small studio, with critique from the room.

Questions to wrestle with

- **Your model is 95% accurate. Why might it still be useless?**
- **Can you make a classifier fail on purpose — and then fix it?**
- **Where does training data come from, and who does it leave out?**







It ends with

A working AI project with a real backend, demonstrated at the open day.

May program · 9–29 May 2027 · MAHE Manipal

Like every GSP course: three hours each morning, hands-on afternoons, a real artifact at the closing showcase, and one residential coach or teaching assistant for every five students.

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Watch the course in a minute

youtube.com/shorts/2bVJbNTmlys