



**NEMETSCHek
GROUP**

HACKATHON

Build the Future of BIM with AI

A 24-HOUR HACKATHON AT IIT MADRAS CHALLENGING TEAMS TO SOLVE REAL-WORLD BUILDING INFORMATION MODELING PROBLEMS USING MACHINE LEARNING, COMPUTER VISION, AND NEUROSymbolic AI.

DATE : 27th- 28th April, 2026

VENUE : IIT MADRAS, CHENNAI

DURATION : 24 HOURS NON-STOP

IN THE PRESENCE OF
NEMETSCHek - ALLPLAN, CTO



Mr. Zoltan Ladi

READY TO RESHAPE THE AEC INDUSTRY?



**CROSS FUNCTIONAL
IIT MADRAS TEAMS**

- Max 4 Participants
- Atleast 1 from Civil Eng. Dept. and 1 from Computer Science/ Data Science & AI
- Open for BTech/MTech/ PhD students



**PRIZE MONEY
TOP 3 TEAMS ₹**

- 1st Prize: ₹3,00,000
- 2nd Prize: ₹2,00,000
- 3rd Prize: ₹1,50,000

**REGISTER NOW
AS A TEAM**



Deadline for registration
16.04.2026, 10:00 AM



Call: +91 - 44 - 2257 5263,

Email: tlc2@civil.iitm.ac.in, nbugalia@civil.iitm.ac.in

April 27–28, 2026 · IIT Madras, Chennai · Presented by Nemetschek & IIT Madras

HACKATHON DETAILS

What You'll Build · How to Prepare · Event Rules

MVP Deliverables Per Track

Track 01 – Floor Plan → BIM

- Upload a 2D CAD or raster floor plan image
- Neural detection of walls, doors, windows & rooms
- Interactive overlay showing detected elements
- Export JSON with IFC-aligned entity descriptions
- Optional: 2.5D extrusion in a web viewer
- Works on residential, office, or mall floor plans

Track 02 – BIMRepair Model

- Assemble defective IFC snippet dataset + fixed versions
- Build a case library and train a small SLM / prompt LLM
- Detect: clashes, missing properties, disconnected floors
- Propose and auto-apply repairs with before/after diff
- Symbolic validation layer for IFC schema compliance
- Live demo on a sample IFC model during judging

BACKGROUND & CONSTRAINTS

Why Neurosymbolic & Case-Based AI

- Generalizes across diverse drafting styles without stored templates
- Encodes domain knowledge as symbolic constraints
- Produces clean IFC-standards-aligned outputs
- Case-based retrieval adapts known fixes to new model defects
- Supports structural analysis, energy simulation & FM pipelines

Constraints & Rules

- No pre-stored 2D→BIM template libraries in Track 01
- Pipeline must work from pixels or CAD vectors only
- Track 02 must use case retrieval – not hand-written rules
- Open-source or synthetic datasets allowed
- IFC / JSON export required for both tracks

PROBLEM STATEMENT WILL BE RELEASED ON 17TH APRIL, 2026