

ML4HEP

4th Machine Learning for High Energy Physics School



Welcome to ML4HEP V4 pre-school

11th May — 28th May, 2026
Hosted by: TIFR, Mumbai

Why ML4HEP?

- Trigger systems and fast decisions
- Particle identification
- Detector calibration and reconstruction
- Simulation acceleration
- New physics / anomaly searches
- Skills useful in academia and industry

Why this Pre-school?

- Build a common foundation for all participants
- Learn Python, statistics, ML basics
- Prepare for advanced in-person school at TIFR
- Develop coding confidence
- Evaluate readiness for the main school

Meet your Instructors/Tutors of the pre-school

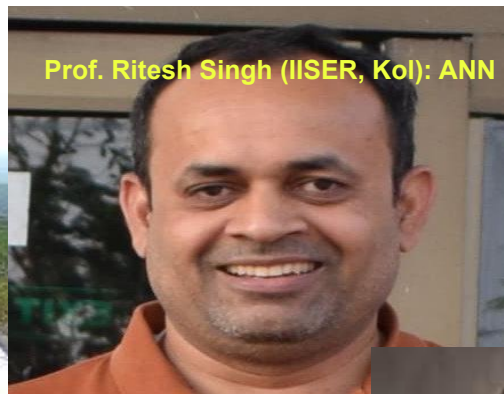
Prof Subir Sarkar (SINP): Python



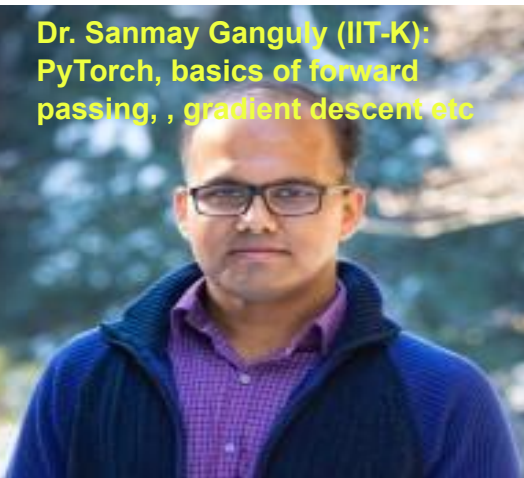
Dr. Atreyee Sinha (TIFR): Statistics



Prof. Ritesh Singh (IISER, Kol): ANN



**Dr. Sanmay Ganguly (IIT-K):
PyTorch, basics of forward
passing, , gradient descent etc**



Dr Rajdeep Chatterjee (TIFR): SVN



Prof. Aruna Kumar Nayak (IOP): BDT



**Dr. Akanksha Bhardwaj (IIT P):
Symb Reg**



Instructors/Tutors



Tagtshen Tamang (Ph.D. student in TIFR)
: Tutorials on Statistics



Dr Soumak Maitra (post-doc in TIFR)
Data handling in cosmology



Ashish Narayan (Ph.D. student in TIFR)
Data handling in IceCube

Special talks

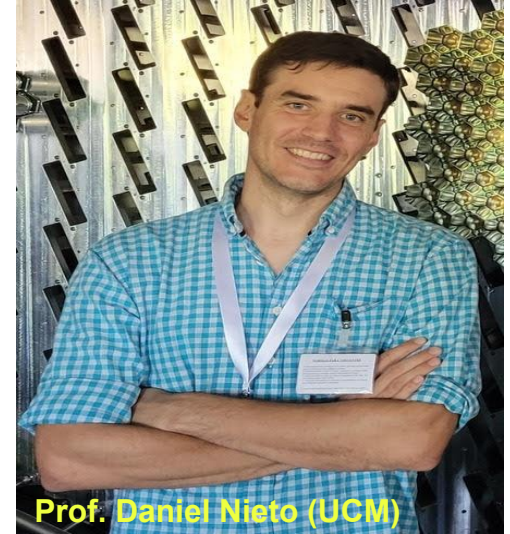
Prof. Partha Konar (PRL)



Dr. Mohammad Rameez (TIFR)



Dr. Pravata Mohanty (TIFR)



Prof. Daniel Nieto (UCM)



Prof. Raghunath Sahoo

(IIT Indore)

How sessions will run

- Join 5 minutes early
- Keep microphone muted unless speaking
- Use full name on Zoom
- Ask questions via chat or discussion slots
- Be respectful and collaborative

Selection for Main school at TIFR

Participants may be considered based on:

- Tutorial performance
- Quiz performance
- Attendance
- Participation and seriousness

By the end of pre-school, you should be able to

- Write Python programs confidently
- Understand ML workflow basics
- Able to write basic ML codes
- Apply statistics to data problems
- Be ready for the main ML4HEP school

Welcome Once Again

We look forward to learning together.



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