SELF-INTRODUCTION

Hello, I am Atanu Kundu

From rural West Bengal to Kyoto.

Postdoctoral Researcher
Computer Software Group, Graduate School of Informatics, Kyoto University

PhD
Indian Association for the Cultivation of Science (IACS)

ORIGINS • WEST BENGAL, INDIA

My Hometown: Bankura



Remote Village Upbringing

Born and raised in a quiet, agrarian village amidst red laterite soil.

17th-Century Terracotta Architecture

Bishnupur is world-renowned for ornate carved terracotta temples.

The Iconic "Bankura Horse"

A celebrated symbol of Indian indigenous pottery and folk craft.

CULTURE & HERITAGE • BANKURA

Terracotta Craft & Historic Rasmancha



Terracotta & Bankura Horse

Handcrafted by artisans in Panchmura village. Celebrated for upright symmetrical ears and stylized firing, it serves as India's national handicraft emblem.



Historic Rasmancha (1600 AD)

Commissioned by Malla King Bir Hambir. An architectural wonder featuring a stepped pyramidal brick superstructure over concentric terracotta arched galleries.

MASTER'S DEGREE • BOLPUR SANTINIKETAN

Visva-Bharati University

Rabindranath Tagore's Vision

Founded in 1921 by Asia's 1st Nobel Laureate (Literature, 1913).

UNESCO World Heritage Site

Historic open-air education fostering deep harmony with nature.

M.Sc. in Computer Science

Developed strong foundational roots in algorithms and theory.



LIVING PHILOSOPHY • SANTINIKETAN

Open-Air Classrooms & Nature's Canopy



Education Without Confining Walls

Tagore's pioneering belief that learning flourishes best under natural tree shade.

Symbiosis of Heritage & Science

Modern computational research embedded in a peaceful green sanctuary.

Seasonal Festivals & Rituals

Celebrations like Basanta Utsav and Poush Mela unite art, nature, and community.

CULTURAL FESTIVAL • SANTINIKETAN

Basanta Utsav: Spring Festival of Colors



Tagore's Celebration of Spring

Started by Rabindranath Tagore to welcome spring with music, dance, and poetry.

Yellow Attire & Palash Flowers

Campus dressed in saffron and yellow, adorned with flame-of-the-forest blossoms.

Abir & Cultural Harmony

Faculty, scholars, and visitors exchange dry herbal powders in joyful solidarity.

DOCTORAL DEGREE • KOLKATA

IACS: Asia's Oldest Research Institute



Founded in 1876 by Dr. M. L. Sircar

Pioneering center dedicated to fundamental scientific investigation.

The Raman Effect (Nobel Prize 1930)

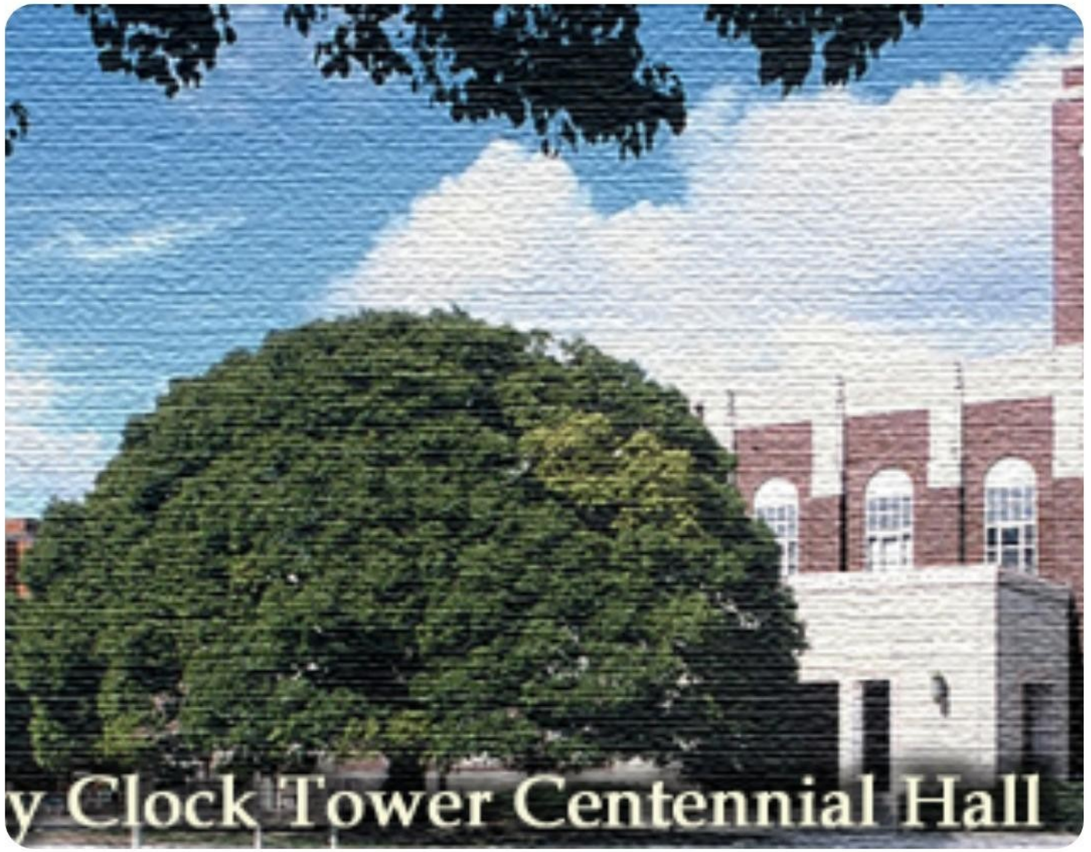
Where Sir C. V. Raman performed his historic scattering experiments.

PhD in CS

Formal methods and machine learning for CPS safety.

NEW ACADEMIC CHAPTER • KYOTO UNIVERSITY

Joined the Computer Software Group



World-Class Informatics

Renowned legacy in theoretical computer science and software systems.

To the Lab

Eager to collaborate closely with faculty, postdocs, and students.

Next Frontier: AI-enabled CPS

Expanding classical formal methods toward modern deep learning controllers.

CURRENT RESEARCH DIRECTION

Formal Methods for AI-Enabled Robotics

Predictive Safety Filter

PSF Runtime Shielding

Real-time optimization filter intervening only when safety is threatened.

Graph as Policy

Relational Task Planning

Structured graph representations governing high-level robotic tasks.

Code as Policy

Code Repair

Python code represents the policy of the robot's motion.

LIFE IN KANSAI • EXPLORATION

Weekend Journeys: Katsuo-ji Temple & Minoh Falls



⛩ Katsuo-ji Temple (勝尾寺)

Visited this September; famous mountain temple adorned with thousands of vibrant red Daruma dolls dedicated to victory and good fortune amidst early autumn foliage.



≋ Minoh Falls (箕面大滝)

A scenic 33-meter waterfall set within a lush forested valley in northern Osaka, famous for serene walking trails and traditional maple leaf snacks.

COMPUTER SOFTWARE GROUP • KYOTO UNIVERSITY

Thank You Very Much!

Looking forward to fruitful discussions, shared breakthroughs, and working together.

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Questions & Discussion