REPORT

"Introduction to Nature Inspired Computing"

The Department of Computer Science and Department of Computer Application at St. Xavier's College, Burdwan hosted an engaging webinar titled **"Introduction to Nature Inspired Computing"** on June 18, 2022. The session, conducted in a hybrid mode to accommodate both offline and online participants, aimed to explore the transformative potential of nature-inspired algorithms in solving complex optimization problems. This initiative highlighted the growing significance of computational intelligence rooted in natural phenomena.

Professor Sourav Samanta, Assistant Professor at the University Institute of Technology, The University of Burdwan, served as the keynote speaker for the webinar. His expertise in the field provided attendees with a comprehensive introduction to nature-inspired computing, emphasizing how algorithms derived from natural processes mimic evolutionary strategies to achieve optimal solutions.

The webinar commenced with a foundational discussion on the conceptual framework of nature-inspired computing. Professor Samanta eloquently described how algorithms such as Genetic Algorithm (GA), Particle Swarm Optimization (PSO), Cuckoo Search (CS), and Firefly Algorithm (FA) draw inspiration from biological systems and collective behaviours observed in nature.

Throughout the session, practical applications of these algorithms were showcased through compelling case studies. Professor Samanta illustrated their successful deployment in diverse domains including engineering design, logistics optimization, financial modeling, and more. These examples underscored the algorithms' capability to address complex real-world challenges with superior efficiency compared to traditional computational methods.

An interactive Q&A session followed, where participants actively engaged with Professor Samanta. Discussions ranged from the nuances of algorithmic implementations to potential avenues for future research and development in nature-inspired computing. The exchange of ideas further enriched the webinar's educational value, fostering a dynamic learning environment both offline and online.

In conclusion, the webinar on "Introduction to Nature Inspired Computing" provided a

thought-provoking exploration into the innovative applications and theoretical foundations of nature-inspired algorithms. It highlighted their potential to revolutionize problem-solving methodologies across various disciplines, paving the way for advancements in computational intelligence. The Department of Computer Science and Department of Computer Application express its sincere gratitude to Professor Sourav Samanta for his insightful presentation and to all participants for their enthusiastic involvement, contributing to the success of this enlightening academic event.