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Departmental Seminar

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Seminar Title	: Energy and Delay Optimization for Task Offloading in IoT-Fog Environment with Homogeneous Logical Instances on Fog Devices
Speaker	: Shyamapada Mukherjee
Supervisor	: Sumanta Pyne, PIC Seminar, CSE
Venue	: Convention Hall (CS 208), CSE Department
Date and Time	: 09 Jan 2025 (17:00)
Abstract	: Task offloading in the Internet of Things (IoT) - fog computing environment offers a substantial difficulty due to the requirement to balance offloading delay with energy consumption, which is known to be NP-hard problem. In this study, the challenging topic of optimizing task offloading to minimize delay as well as energy consumption is addressed. An unique offloading solution approach is proposed for intelligently distributing computational tasks among fog devices. The proposed approach effectively reduces processing burden on resource-constrained IoT devices, resulting in shorter offloading delay and reduced energy consumption. Given the NP-hard nature of the task offloading problem, we use an efficient heuristic approach to produce near-optimal results to address the problem. Extensive simulations reveal that the strategy greatly achieves minimum delay and energy consumption as compared to METO, SMETO and RANDOM algorithms while offloading tasks to fog devices.