# Port Edge: AI-Driven Sustainable Workload Coordination for Smart Port Operations

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The integration of AI in ports is increasingly reliant on edge-cloud networks, which serve as the essential infrastructure for deploying intelligent applications that demand both energy efficiency and rapid processing. Traditional approaches often depend on static resource information, limiting their adaptability to the dynamic environment typical of port operations. This paper introduces PortEdge, a novel framework designed to optimize workload coordination by considering both application-level requirements and energy consumption during the deployment of AI tasks in ports. The core innovation of PortEdge is its use of Reinforcement Learning with Human Feedback (RLHF), inspired by human-in-the-loop methodologies, to enhance both processing speed and energy efficiency. Real-world evaluations show that PortEdge significantly outperforms existing methods, marking a major step forward in the implementation of sustainable and intelligent port operations.