Solar grid-connected power generation agent

Solar energy, as a prominent clean energy source, is increasingly favored by nations worldwide. However, managing numerous photovoltaic (PV) power generation units via wired ...

We introduce a multi-agent framework that integrates LLM-based planning with numerical validation, enabling autonomous grid violation detection and remediation without human intervention. Adaptive ...

Integration of a single-phase distributive generation system, such as solar PV with the utility grid, introduces various concerns with power quality issues, including ...

In a hybrid microgrid, the application of a Multi-Agent System (MAS) emerges as a robust solution to optimization challenges. MAS facilitates decentralized decision-making among ...

Abstract: The increasing use of renewable energy in the power system results in strong stochastic disturbances and degrades the control performance of the distributed power grids.

This paper investigates the role of AI agents powered by LLMs and domain specific retrieval systems in optimizing smart grid operations, including load balancing, demand forecasting, outage diagnostics, ...

Addressing the challenges of integrating photovoltaic (PV) systems into power grids, this research develops a dual-phase optimization model incorporating deep learning techniques.

Managing multiple utility-scale solar projects across diverse grid environments presents complex challenges in power system integration.

With a grid-connected system, when your renewable energy system generates more electricity than you can use at that moment, the electricity goes onto the electric grid for your utility to use elsewhere.

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Agents at dispatchable DGs and ESS buses tackle the optimal economical operation. Other agents regulate the nodes voltages and remove line congestions. A parallel computing-based ...

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