



针对电力系统各类业务场景，提出了多智能体、安全、鲁棒、图等各类强化学习算法，实现优化运行。

电力需求响应

[illegible]

配网电压控制

The diagram illustrates a distributed voltage control system for a power distribution network. It consists of several key components and data flows:

- 配电网网络 (Distribution Network):** A schematic of a power grid with nodes and branches.
- 目标网络 Q_0 (Target Network):** A network that receives a target value Q_0 and outputs a target value Q_0 to the TD 损失 (TD Loss) module.
- 协同优化网络 Q_1 (Collaborative Optimization Network):** A network that receives a collaborative optimization target Q_1 and outputs a collaborative optimization value Q_1 to the TD 损失 (TD Loss) module.
- TD 损失 (TD Loss):** A module that calculates the TD loss based on the target and collaborative optimization values.
- 控制指令生成区 (Control Instruction Generation Area):** A module that generates control instructions based on the TD loss.
- 协同优化网络 Q_2 (Collaborative Optimization Network):** A network that receives a collaborative optimization value Q_2 and outputs a collaborative optimization value Q_2 to the TD 损失 (TD Loss) module.
- 标准网络 Q_3 (Standard Network):** A network that receives a standard value Q_3 and outputs a standard value Q_3 to the TD 损失 (TD Loss) module.
- TD 损失 (TD Loss):** A module that calculates the TD loss based on the target, collaborative optimization, and standard values.
- 控制指令生成区 (Control Instruction Generation Area):** A module that generates control instructions based on the TD loss.

The diagram also includes three line graphs showing the convergence of voltage levels over time (0 to 500) for different methods:

- 图 1 (Top Left):** Shows the convergence of voltage levels for the target network, collaborative optimization network, and standard network. The y-axis ranges from 0.6 to 1.0. The x-axis ranges from 0 to 500. The legend includes: 基准 (Baseline), Rule, DDP, DDPF, DDPH, DDPHDP, and TD 损失 (TD Loss).
- 图 2 (Top Right):** Shows the convergence of voltage levels for the target network, collaborative optimization network, and standard network. The y-axis ranges from 0.6 to 1.0. The x-axis ranges from 0 to 500. The legend includes: 基准 (Baseline), Rule, DDP, DDPF, DDPH, DDPHDP, and TD 损失 (TD Loss).
- 图 3 (Bottom):** Shows the convergence of voltage levels for the target network, collaborative optimization network, and standard network. The y-axis ranges from 0.6 to 1.0. The x-axis ranges from 0 to 500. The legend includes: 基准 (Baseline), Rule, DDP, DDPF, DDPH, DDPHDP, and TD 损失 (TD Loss).

The legend for all graphs is:

- 基准 (Baseline): Solid line
- Rule: Dashed line
- DDP: Dotted line
- DDPF: Dash-dot line
- DDPH: Long-dashed line
- DDPHDP: Short-dashed line
- TD 损失 (TD Loss): Red dashed line



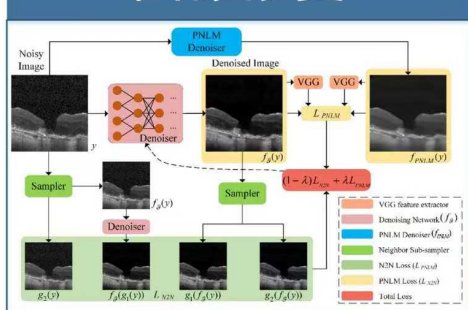
基于人工智能的机器视觉算法



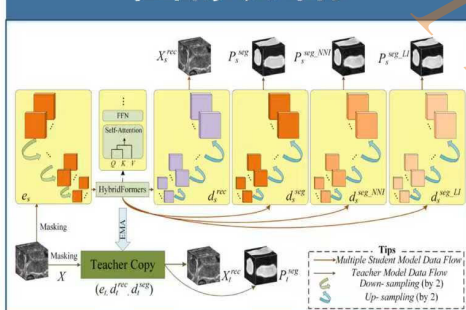
基于人工智能的机器视觉算法研究及部署

针对视觉图像/视频序列，提出面向各类场景的机器视觉算法，并实现无人系统（无人机、车）的部署。

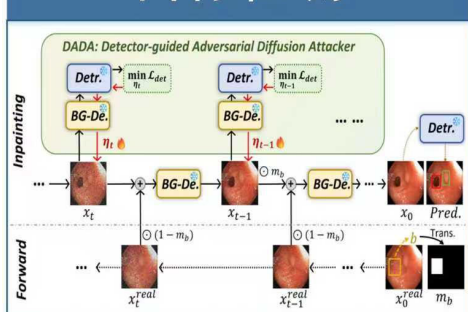
图像修复



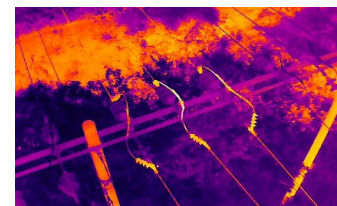
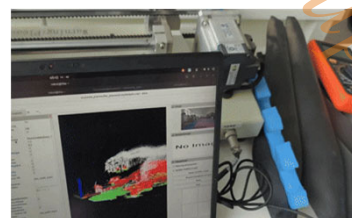
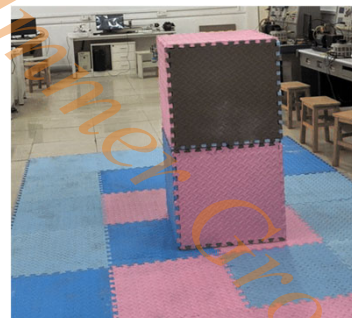
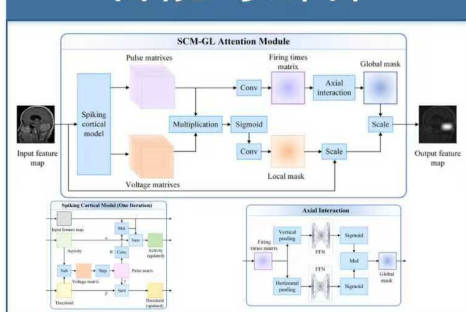
图像分割



目标检测



智能可解释



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