Fostering the Use of AI for Power System Transformation

June 21, 2022

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Moderated by Priya Donti

Co-hosted by:

March 2022 webinar:
Open Discussion with Global Power System Operators: The AI Opportunity

Questions from the Global Power System Transformation Consortium (G-PST) Research Agenda:

- #12: What approaches can be taken to near real-time system modeling and control with large quantities of inverter-based resources (IBRs) that make designing for system stability sufficiently accurate and still tractable? [Control]
- #27: How do control rooms address uncertainties in weather conditions that impact loads and renewable energy output and rate of change (ramps)? How can probabilistic forecasting techniques be better incorporated into real-time operations? [Forecasting]
- #37: What additional probabilistic planning methods and tools are necessary for planning a power system with a high share of IBRs and, in particular, variable renewable energy resources? [Planning]

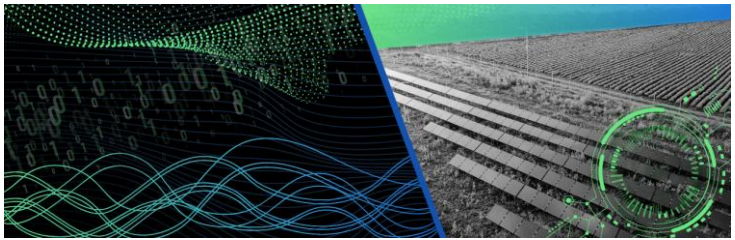
Today’s Agenda

- 5 min intro presentations from each speaker
- 20 min moderated Q&A
- 25 min open Q&A and discussion

EPRI's Artificial Intelligence (AI) Initiative

As a part of the focus on building the AI and Electric Power Industry Community, EPRI released a series of 5 Grand Challenges during its recent AI and Electric Power Summit. The purpose of these grand challenges is to help bring together a wide group of scientists, engineers, AI practitioners, decision-makers, regulators, and policymakers from across industry to accelerate development, benchmarking and deployment of AI and machine learning tools across industry.

1. Grid-Interactive Smart Communities
2. Energy System Resiliency
3. Environmental Impacts
4. Intelligent and Autonomous Power Plants
5. AI-Enhanced Cybersecurity

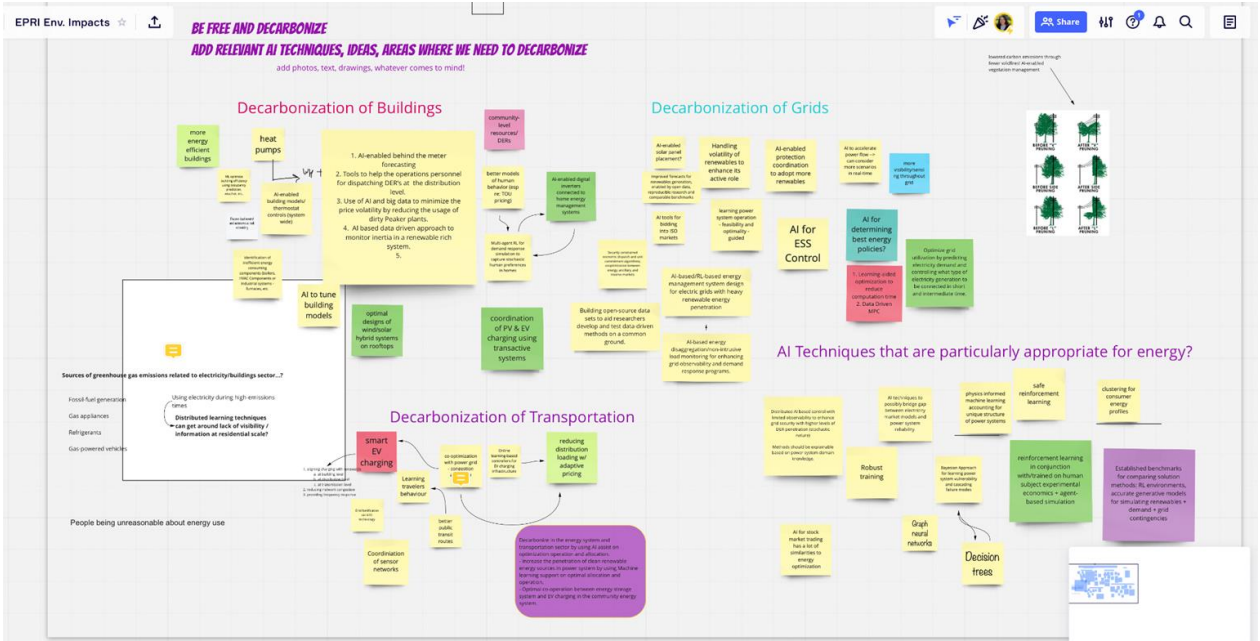


EPRI AI's Environmental Impacts Grand Challenge

The Environmental Impacts grand challenge seeks to utilize AI to rapidly decarbonize while tackling some of the most pressing environmental impacts.

Sign up for the mailing list: https://bit.ly/3JMJ7Db

Monthly meetings, seminars, and brainstorming activities



Climate Change AI

Catalyzing impactful work at the intersection of climate change and AI

- A global **network** of researchers, industry players, policymakers, etc.
- Digital **resources** for working in this space
- **Advice** for relevant stakeholders
- **Events** for knowledge-sharing

Climate Change AI

Catalyzing impactful work at the intersection of climate change and AI

Digital resources

Foundational report on climate change and AI (plus summaries and tutorials)

Resource Wiki w/ datasets and additional resources

Conferences & events

Workshop series

- Submit and/or attend
- Mentorship programs

Summer school (multiple tracks)

Funding programs

Global research funding for impactful projects

Community, newsletter, & blog

- Calls for Submissions
- Funding
- Projects & Courses
- Readings
- Jobs

Webinars & happy hours

Webinar series (monthly)

Virtual happy hours (biweekly)

Learn more & join in:

www.climatechange.ai

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