Optimization and Control of Networks: From Theory to Practice

Reunion Workshop on Prof. Steven Low's 60th Birthday

May 24-25, 2024, California Institute of Technology

Friday, May 24, 2024

7:45 am–8:30 am: **Breakfast**

8:30 am–8:35 am: **Welcome Remarks**

8:35 am–8:40 am: **Remarks by S. Low**

8:45 am–9:30 am: **Keynote I: Learning and Control in Countable State Spaces**
R. Srikant, University of Illinois at Urbana Champaign

9:30 am–10:00 am: **Global Networks for Data Intensive Sciences**
H. Newman, California Institute of Technology

10:00 am–10:25 am: **Coffee break**

10:25 am–10:40 am: **Large-Scale Optimization of Convex-Concave Games in Networks**
C. W. Tan, Nanyang Technological University

10:40 am–11:55 am: **Load Balancing at Google**
B. Wydrowski, Google

11:55 am–11:10 am: **Recent Work on AI Systems**
Z. Liu, Stony Brook University

11:10 am–11:25 am: **Privacy & Security of Learning Algo: A Control Theory Perspective**
K. Dvijotham, Google Brain

11:25 am–11:40 am: **Humans vs. Autonomous Systems: Robustness and Intelligence**
Y. Nakahira, Carnegie Mellon University

11:40 am–11:55 am: **LLM Training**
D. Wei, Turing

11:55 am–1:25 pm: **Lunch**

1:25 pm–2:10 pm: **Keynote II: New Paradigm of Power System Operation and Control**
J. Bialek, Imperial College London

2:10p m–2:40 pm: **TBD**
A. Wierman, California Institute of Technology

2:40 pm–2:50 pm: **Coffee break**

2:50 pm– 3:05pm: **How Much Should We Trust ML Agents in Power Systems?**
T. Li, Chinese University of Hong Kong, Shenzhen

3:05 pm–3:20 pm: **Market Power & Withholding Behavior of Energy Storage Units**
J. Anderson, Columbia University

3:20 pm–3:35 pm: **Caltech Digital Twin: a Distribution System Model and Testbed**
Y. Xie, California Institute of Technology

3:35 pm–3:50 pm: **Dollar, Second, and kg CO2**
M. Chen, City University of Hong Kong

3:50 pm–4:00 pm: **Coffee Break**

4:00 pm–5:15 pm: **Startup Panel: Crossing the Gap**
C. Jin (Powerflex), G. Lee (PowerFlex), K. Tang (Cornell University), D. Wei (Turing), S. Low (Caltech, moderator)

6:00 pm–9:30 pm: **Reception and dinner (The Athenaeum)**

6:15 pm–7:00 pm: **Special Keynote: My Favorite Architect** (J. Doyle, Caltech)

Saturday, May 25, 2024

7:00 am–8:45 am: **Breakfast**

8:45 am–9:30 am: **Keynote III: Analyzing Spatially Distributed EV Charging Dynamics with Optimization and Duality**
F. Paganini, Universidad ORT Uruguay

9:30 am–9:45 am: **Approaches to Integrate Distributed Energy Resources**
S. Bose, University of Illinois at Urbana Champaign

9:45 am–10:00 am: **TBD**
N. Christianson, California Institute of Technology

10:00 am–10:15 am: **Coffee break**

10:15 am–10:30 am: **Model-free Analysis of Dynamical Systems Using Recurrent Set**
E. Mallada, John Hopkins University

10:30 am–10:45 am: **Distributionally Robust Regret Optimal Control**
E. Bitar, Cornell University

11:45 am–11:00 am: **TBD**
G. Qu, Carnegie Mellon University

11:00 am–12:00 pm: **Random updates (all)**

12:00 pm–1:00 pm: **Lunch**

1:00 pm–5:00 pm: **Huntington Library tour, Echo mountain hiking**