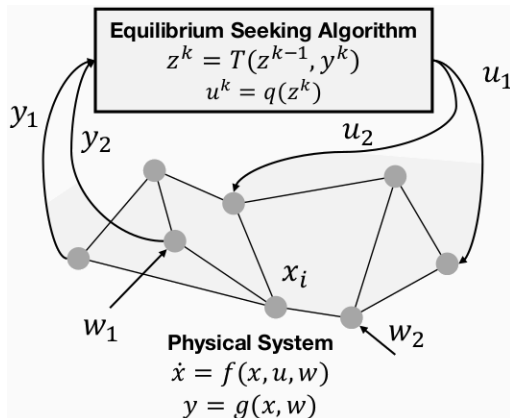


Distributed Control for Multi-Agent Systems

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1. Networks & Control Theory
 - a. **Focus Areas:** graph theory, network analysis
 - b. **Goals:** Resilient physical and virtual (eg., communication, control) network design
2. Multi-Agent Aerospace Systems
 - a. **Focus Areas:** Formation control for drones
 - b. **Goals:** Autonomous guidance/navigation/control for swarms
3. Infrastructure Networks
 - a. **Focus Areas:** smart buildings (thermal energy management), virtual power plants, district heating networks
 - b. **Goals:** City-scale distributed optimal control for energy grids



Machine Learning + Control for Smart Buildings, Cities, & Energy

- Modeling/Digital Twins of city infrastructure
- Game theory for energy markets
- Distributed model-predictive control

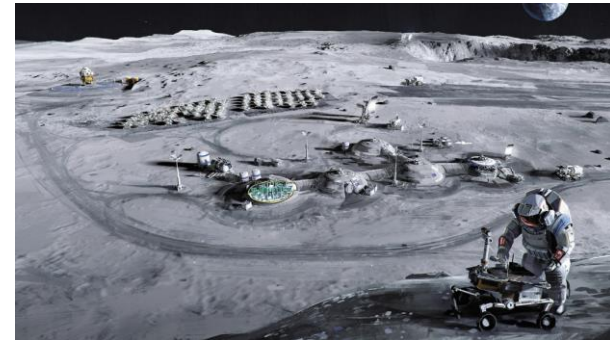
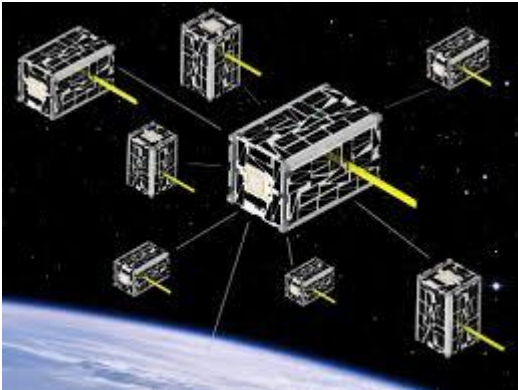
Opportunities to work with:

- Lillestrøm Municipality
- ETH Zurich/Empa



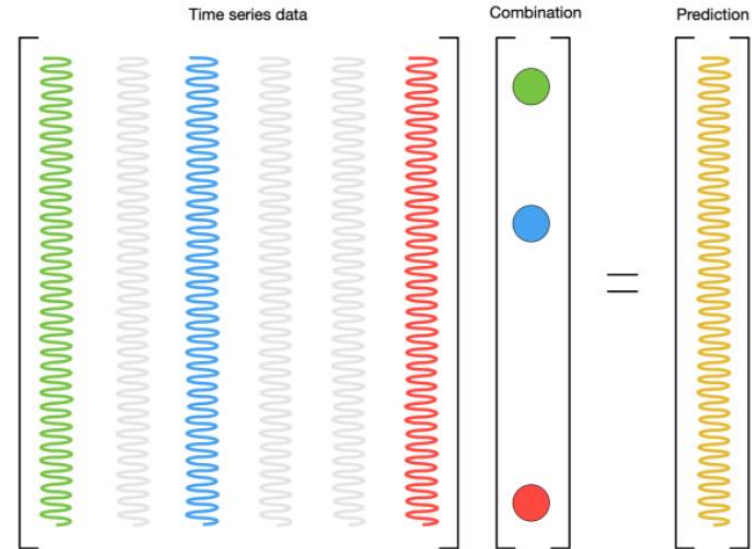
Distributed Control and Optimization of Aerospace Systems

- Guidance/navigation/control/estimation for swarms of satellites (eg, telescopes)
- Optimal reorientation maneuvering
- Exotic spacecraft: tethers, habitats, etc
- Formation control of drone swarms
- Resilience to jamming/gps attacks
- Autonomous trajectory planning



Reinforcement Learning for Underwater Vehicles (with FFI)

Autonomous motion control of UVs using some tools from data-driven control, model-predictive control, and RL



Student Pub



We are planning to renovate the basement to include a pub.

We need students to help design and run the pub!

Contact myself, Tønnes, Ulysse

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(Not a master's thesis project, but we can figure something out)