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CAREER: Towards Optimized Operation of Cost-Constrained Complex Cyber-Physical-Human Systems



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Challenges:

- Resource constraints
- Heterogeneous data fusion
- Communication/sensing errors
- Humans-in-the-loop

Solution:

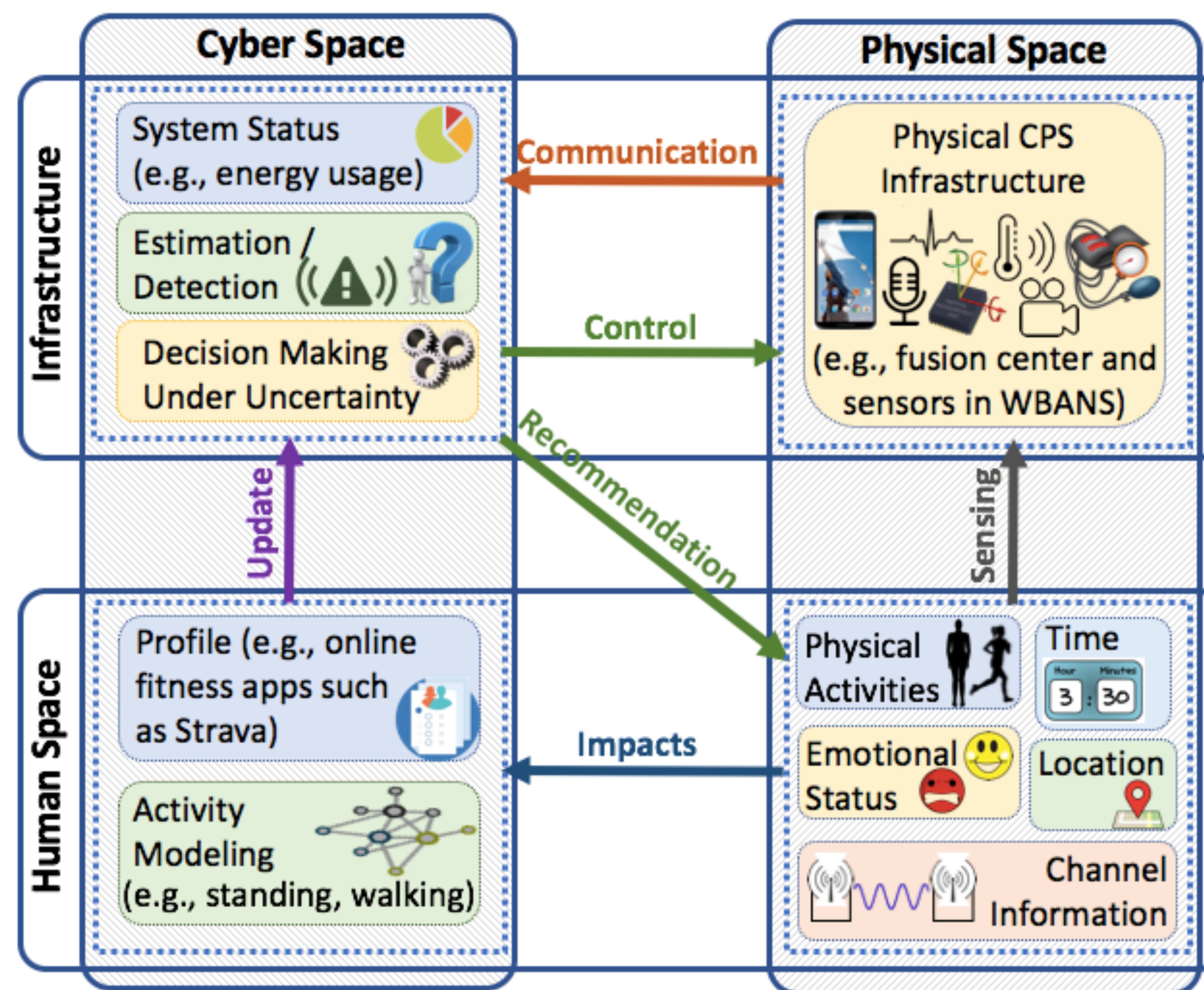
- Comprehensive system model
- Dynamic estimation and control in structured environments under single / multi-view settings

Scientific Impact:

- Realistic CPHS modeling
- Dynamic fine-grained estimation
- Fundamental limits
- Controlled sensing, communication and user interaction

Broader Impact:

- Better understanding and optimization of CPHS
- Benefit engineers, system designers, scientists, general public
- Students training and mentoring in CPHS



Cyber-physical-human Systems (CPHS) Schematic