Challenge:

 How to provide a functioning CPS without relying on assumptions of trust, but instead developing trust among components..

Solution:

- Automated Security Domain Construction
 - Semantic Bridges
 - -Oracle Owls
- Design-Centric
 - Port Hamiltonian System models
- State Estimation
 - Algebraic, Spatio-temporal & Real-time Dynamic state estimation with error tolerance
- Data Science
 - -Co-learn time series with design approach
- Experimentation on real infrastructures
 - -Power
 - -Water
 - Manufacturing
 - -Aviation

Broader Impacts:

- National Security
 - Improved resilience for critical infrastructures
 - Industrial/National Lab partnerships



CPS: Medium: Collaborative Research: Trusted CPS from Untrusted Components Bruce McMillin, Jonathan Kimball, Rui Bo, Jennifer Leopold, Missouri University of Science and Technology



Informing Future Society K-12 Outreach Cyber-Physical Games Experiential Learning



CPS are not widely deployed to their maximum potential. \bullet Push the boundaries to improve societal impacts of autonomy and cybersecurity while increasing trust.

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