Dependable Cyber-Physical Systems

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Abstract. Cyber-physical systems are integrations of computation, communication networks, and physical dynamics. Applications include manufacturing, transportation, energy production and distribution, biomedical, smart buildings, and military systems, to name a few. Increasingly, today, such systems leverage Internet technology, despite a significant mismatch in technical objectives. A major challenge today is to make this technology reliable, predictable, and controllable enough for “important” things, such as safety-critical and mission-critical systems. In this talk, I will analyze how emerging technologies can translate into better models and better engineering methods for this evolving Internet of Important things.