SRL Family Mission

We are a multicultural, multidisciplinary academic family focused on educating the next generation of professors. We provide an opportunity for each person to learn how to dream and rise to his/her full potential and contribute to the scholarship associated with the realization of complex engineered systems.

Research Focus

Define the emerging frontier for "intelligent" decision-based realization of complex (cyber-physical-social) systems when the computational models are incomplete and inaccurate.

SRL Family Learning Community

Anticipated Outcomes

A computational framework within PDSIDES to facilitate the vertical and horizontal integration of models by means of a goal-oriented, simulation-assisted, decision-based inverse design exploration of material hierarchy to satisfy a ranged set of product and manufacturing process-level performance requirements.

Contextual Assessment of Student Learning Through Reflection on Doing

A framework for evaluating student learning in engineering design, build and test courses through text mining learning in the form of Learning Statements.

Anticipated Outcome

A data-driven method for instructors to facilitate and interpret learning.

Anticipated Outcomes

A data-centric computational module within PDSIDES to monitor devices and manufacturing processes while making adjustments in multi-stage industrial operations to improve operating performance and quality across the system.

Knowledge-Based Dynamic Management of Multi-stage Complex Processes

A decision-based computational framework to manage (off-line and in real-time) complexity and risk associated with the realization of complex (cyber-physical-social) systems that necessitate the integration of information technology and operational technology.

Knowledge-based platform for Decision Support in the Design of Engineered Systems (PDSIDES)

Anticipated Outcome

A computational framework for corporate social responsibility and other financiers to work with social entrepreneurs to invest in the realization of smart nano-power in Indian off-grid villages, aimed at improving the quality of villagers’ lives to mainstream future generations and arrest environmental degradation.

Enterprise Modeling of Society Systems and Socio-Techno Systems for Rural Development

Anticipated Outcomes

A framework within PDSIDES to facilitate rapid execution of decision workflows associated with the realization of complex (cyber-physical-social) systems and the exploration of the solution space to manage risk.