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Summary

I am a graduate student at the ***Predictive Science Lab*** at **Purdue University**. My research deals with high dimensional Uncertainty Quantification. Learning high dimensional functions is a problem of massive importance in various areas of engineering (flow in porous media, contact mechanics in granular crystals, molecular dynamics, for instance). At the same time, it is a computationally intensive problem and the computational cost rises exponentially with an increase in the number of dimensions (*curse of dimensionality*). We seek to devise probabilistic surrogate models based on Bayesian principles that reduce the computational expense of learning these high dimensional mappings and quantifies model-form uncertainties. In order to do so, we utilize *Gaussian Processes (GP)*, a non-parametric kernel based regression methodology. We also seek to understand how the model form uncertainty propagates through the model (*Uncertainty Propagation* problem).

Work Experience

Education

Technical Interests

Skills

Publications

Projects

Courses

Volunteering