



## **Bayesian Analysis in Pumas - (Almost) everything a Bayesian needs**

Presented by Pumas-AI, Inc

Thursday, November 3, 2022 (A Two Day Course)

At the end of the workshop, participants will: Understand Bayesian inference concepts. Use Pumas for Bayesian workflows - model development, statistical inference, prior and posterior predictive distributions sampling, convergence diagnostics.

Schedule November 3, 2022

8:30 - 9:00 - Introduction and overview of Bayesian inference  
9:00 - 9:15 - Overview of the Bayesian workflow  
9:15 - 10:00 - Defining probabilistic hierarchical models and choosing priors  
10:00 - 10:15 - Coffee break.  
10:15 - 11:45 - Sampling from the prior predictive distribution  
11:45 - 12:30 - Overview of MCMC and Hamiltonian Monte Carlo  
12:30 - 13:30 - Lunch break  
13:30 - 14:30 - Sampling from the posterior in Pumas and parallelism  
14:30 - 14:45 - Coffee break.  
14:45 - 15:30 - Overview of MCMC convergence diagnostics

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8:30 - 9:00 - Overview of MCMC convergence diagnostics  
9:00 - 10:00 - Posterior predictive checks and diagnostics  
10:00 - 10:15 - Coffee break.  
10:15 - 11:45 - Sampling from the posterior predictive distribution  
11:45 - 12:30 - Information criteria and model selection  
12:30 - 13:30 - Lunch break  
13:30 - 14:30 - Model aggregation  
14:30 - 14:45 - Coffee break.  
14:45 - 15:30 - Updating the posterior given new observations

Fees: \$1,200 for Industry, \$1000 for ISoP Members, \$300 for Trainees