



## Bayesian Inference: Algorithms and Challenges in Machine Learning

Guest Editor:

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Deadline for manuscript  
submissions:

**closed (3 December 2024)**

### Message from the Guest Editor

We are inviting submissions to a Special Issue on “Bayesian Inference: Algorithms and Challenges in Machine Learning”. We welcome original research, in the form of methodological and/or theoretical studies, as well as state-of-the-art review papers. Application-oriented studies can also fit if the Bayesian treatment of the application depicts sufficient novelty.

Topics of interest include (but are not limited to) the following:

- Approximate inference algorithms: Variational inference, Markov chain Monte Carlo (MCMC)-based inference, etc.
- Bayesian neural networks: Modelling epistemic and/or aleatoric uncertainty, scalability issues, etc.
- Bayesian approaches to fairness, interpretability, and robustness in machine learning.
- Bayesian approaches to transfer learning and related paradigms, e.g., domain adaptation, meta-learning, lifelong learning and multi-task learning.
- Probabilistic graphical models (PGMs): Bayesian networks, undirected graphical models, etc.
- Bayesian optimization: Gaussian processes (GPs), acquisition functions, etc.
- Likelihood-free inference.

We look forward to receiving your contributions.





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## Editor-in-Chief

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## Message from the Editor-in-Chief

The journal *Mathematics* publishes high-quality, refereed papers that treat both pure and applied mathematics. The journal highlights articles devoted to the mathematical treatment of questions arising in physics, chemistry, biology, statistics, finance, computer science, engineering and sociology, particularly those that stress analytical/algebraic aspects and novel problems and their solutions. One of the missions of the journal is to serve mathematicians and scientists through the prompt publication of significant advances in any branch of science and technology, and to provide a forum for the discussion of new scientific developments.

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