

Call for Papers:

Special Issue on Statistical Science in Artificial Intelligence

Issue Theme: "Bridging Statistics and AI: Innovative Approaches to Core Challenges"

We are excited to announce a call for papers for a special issue dedicated to exploring the intersection of statistical theory, methods and applications with core problems in Artificial Intelligence (AI). This issue aims to map the evolving landscape of innovative statistical research inspired and motivated by the rapid developments in AI, and to pioneer integrated statistical AI methods to advance scientific discovery and trustworthy AI.

Scope and Objectives: This special issue seeks original research papers that address the following key aspects:

- **Identification of Core AI Problems:** Papers should clearly outline a core problem in contemporary AI that statistics can play a critical role. This could include, but is not limited to, issues related to modern AI-related study design, deep learning, reinforcement learning, representation learning, federated learning, transfer learning, generative AI algorithms, neural network, data quality and privacy, ethical considerations, interoperability, interpretability, and scalability.
- **Statistical Contributions to AI:** The focus should be on how statistical theories and methodologies can offer unique insights or solutions to the identified AI problems, and empower AI methods and tools to advance real world science. Contributions should be grounded in statistical rigor and demonstrate a clear link to addressing the AI challenges and its practical applications.
- **Innovative Statistical Theory, Method and Applications:** Each submission should not only highlight the intersection of statistics and AI but also propose specific contributions to statistical theory, methodology, and application within the chosen area. This could include new statistical models, inventive analysis methods, novel approaches to existing statistical techniques, or innovative data analysis and statistical AI applications aimed at addressing real-world problems that AI endeavors to solve.

Submission Guidelines:

- Manuscripts must be original and not currently under review by other journals.
- Submissions should follow the journal's formatting and submission guidelines.

- Authors should explicitly mention in their cover letter that the manuscript is being submitted for consideration in this special issue.

Important Dates:

- Submission Deadline: **Dec. 31, 2024**

Editors: Jianqing Fan, Xihong Lin, Susan Murphy, Annie Qu, and Dylan Small
(with Xihong Lin and Susan Murphy as the guest editors)

We look forward to receiving your contributions and to fostering discussions that bridge the gap between statistical science and the rapidly evolving field of Artificial Intelligence, advancing scientific discovery and benefiting humanity.

For any inquiries, please contact Annie Qu at aqu2@uci.edu.