Kamélia DAUDEL

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RESEARCH INTERESTS

Approximate inference, Variational inference methods, Monte Carlo methods

EDUCATION

2021	PhD in Applied Mathematics, Télécom Paris, France
2018	MSc in Mathematical and Computational Finance, University of Oxford, United Kingdom
2018	Diplôme d'Ingénieur, Télécom Paris, France

EMPLOYMENT

Full-time academic positions

2023 - Present	Assistant Professor, ESSEC Business School, France
2021 - 2022	Post-Doctorate, University of Oxford, United Kingdom

Other affiliations and appointments

2026 - 2027	Head of the track BUSINESS ANALYTICS METHODS (BAM), ESSEC Business School, France

GRANTS AND HONORS

Awards and Honors

2022	First prize of Institut Polytechnique de Paris Best Thesis Award 2022

Grants

2024	CY Initiative Emergence (Université Cergy-Pontoise, France)

PUBLICATIONS

Journal Articles

DAUDEL, K. and ROUEFF, F. (2026). Learning with Importance Weighted Variational Inference. *Journal of Machine Learning Research*, 27(228), pp. 1−83.

DAUDEL, K., DOUC, R. and ROUEFF, F. (2023). Monotonic Alpha-divergence Minimisation for Variational Inference. *Journal of Machine Learning Research*, 24(62), pp. 1-76.

DAUDEL, K., BENTON, J., SHI, Y. and DOUCET, A. (2023). Alpha-divergence Variational Inference Meets Importance Weighted Auto-Encoders: Methodology and Asymptotics. *Journal of Machine Learning Research*, 24(243), pp. 1-83.

DAUDEL, K., DOUC, R. and PORTIER, F. (2021). Infinite-dimensional gradient-based descent for alpha-divergence minimisation. *Annals of Statistics*, 49(4), pp. 2250 - 2270.

Conference proceedings

DAUDEL, K. and DOUC, R. (2021). Mixture weights optimisation for Alpha-Divergence Variational Inference. In: *35th Conference on Neural Information Processing Systems (NeurIPS 2021)*. Curran Associates, Inc. pp. 4397–4408.

Conferences

DAUDEL, K. and ROUEFF, F. (2025). Learning with Importance Weighted Variational Inference: Asymptotics for Gradient Estimators of the VR-IWAE Bound. In: 2025 BIRS Workshop "Efficient Approximate Bayesian Inference". Banff.

DAUDEL, K. and ROUEFF, F. (2025). Learning with Importance Weighted Variational Inference. In: CFE-CMStatistics 2025. London.

DAUDEL, K. and ROUEFF, F. (2025). Learning with Importance Weighted Variational Inference: Asymptotics for Gradient Estimators of the VR-IWAE Bound. In: 2025 BayesComp. Singapore.

DAUDEL, K. and ROUEFF, F. (2025). Learning with Importance Weighted Variational Inference: Asymptotics for Gradient Estimators of the VR-IWAE Bound. In: 24th International Conference on Robust Statistics 2025. Stresa.

DAUDEL, K. and ROUEFF, F. (2024). Learning with Importance Weighted Variational Inference: Asymptotics for Gradient Estimators of the VR-IWAE Bound. In: 2024 Rethinking the Role of Bayesianism in the Age of Modern AI. Saarbrücken.

DAUDEL, K., BENTON, J., SHI, Y. and DOUCET, A. (2023). Alpha-divergence Variational Inference Meets Importance Weighted Auto-Encoders: Methodology and Asymptotics. In: 37th Conference on Neural Information Processing Systems 2023 (NeurIPS 2023). New-Orleans.

Working Papers

DAUDEL, K. and ROUEFF, F. (2024). *Learning with Importance Weighted Variational Inference: Asymptotics for Gradient Estimators of the VR-IWAE Bound*. arXiv.

OTHER RESEARCH ACTIVITIES

PhD Supervision

2026	E. GRIESBAUER, Thesis referee
2026	E. M. KHRIBCH (ESSEC Business School), Thesis jury member
2026	M. NOBLE, Thesis jury member
2024	T. HUIX (Ecole Polytechnique, IP Paris, LIX UMR 7161), Thesis jury member

TEACHING EXPERIENCE

2023	Statistical Inference, ESSEC Business School, France