

# Kamélia DAUDEL

Assistant Professor

Department: Information Systems, Data

Analytics and Operations

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## RESEARCH INTERESTS

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Approximate inference, Variational inference methods

## EDUCATION

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|------|---|
| 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

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### Full-time academic positions

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

## GRANTS AND HONORS

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### Awards and Honors

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| 2022 | First prize of Institut Polytechnique de Paris Best Thesis Award 2022 |
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## PUBLICATIONS

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### Journal Articles

- 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. (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.

## TEACHING EXPERIENCE

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2023	Statistical Inference, ESSEC Business School, France
2023	Business Statistics & Introduction to Analytics, ESSEC Business School, France