Jeremy HENG

Assistant Professor
Department: Information Systems, Decision
Sciences and Statistics
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RESEARCH INTERESTS

Bayesian inference, Computational statistics, Computational statistics (such as sequential Monte

EDUCATION

| 2017 | PhD in Statistics, University of Oxford, United Kingdom |
| 2012 | BSc in Statistics, University College London, United Kingdom |

EMPLOYMENT

Full-time academic positions

2019 - Present   Assistant Professor, ESSEC Business School, Singapore

Other affiliations and appointments

2017 - 2019   Postdoctoral Fellow, Harvard University, United States of America

GRANTS AND HONORS

Awards and Honors

2022   2022 Blackwell-Rosenbluth Award, International Society for Bayesian Analysis,,
United States of America

PUBLICATIONS

Journal Articles

HENG, J., JASRA, A., LAW, K. and TARAKANOV, A. (2023). On Unbiased Estimation for Discretized Models. *SIAM/ASA Journal on Uncertainty Quantification*, 11(2), pp. 10.1137/21M1460788.

FULOP, A., HENG, J., LI, J. and LIU, H. (2022). Bayesian Estimation of Long-Run Risk Models Using Sequential Monte Carlo. *Journal of Econometrics*, 228(1), pp. 62-84.

JASRA, A., HENG, J., XU, Y. and BISHOP, A.N. (2022). A Multilevel Approach for Stochastic Nonlinear Optimal Control. *International Journal of Control*, 95(5), pp. 1290-1304.

JASRA, A., HENG, J., XU, Y. and BISHOP, A.N. (2022). A Multilevel Approach for Stochastic Nonlinear Optimal Control. *International Journal of Control*, 95(5), pp. 1290-1304.

DAI, C., HENG, J., JACOB, P. and WHITELEY, N. (2022). An invitation to sequential Monte Carlo samplers. *Journal of the American Statistical Association*, 117(539), pp. 1587-1600.

HENG, J., DOUCET, A. and POKERN, Y. (2021). Gibbs flow for approximate transport with applications to Bayesian computation. *Journal of the Royal Statistical Society: Series B (Statistical Methodology)*, 83(1), pp. 157-187.

HENG, J., YU, F. and HENG, J. (2020). Multilevel Particle Filters for the Non-Linear Filtering Problem in Continuous Time. *Statistics and Computing*, 30, pp. 1381-1402.

HENG, J., YU, F. and HENG, J. (2020). Multilevel Particle Filters for the Non-Linear Filtering Problem in Continuous Time. *Statistics and Computing*, 30, pp. 1381-1402.

HENG, J. and JACOB, P. (2019). Unbiased Hamiltonian Monte Carlo with couplings. *Biometrika*, 106(2), pp. 287-302.

HENG, J., BISHOP, A.N., DELIGIANNIDIS, G. and DOUCET, A. (2019). Controlled Sequential Monte Carlo. *Annals of Statistics*, 48(5), pp. 2904-2929.

Conference proceedings

CHOPIN, N., FULOP, A., HENG, J. and THIERY, A.H. (2023). Computational Doob's h-transforms for Online Filtering of Discretely Observed Diffusions. In: *Fortieth International Conference on Machine Learning*. Honolulu.

DE BORTOLI, V., THORNTON, J., HENG, J. and DOUCET, A. (2021). Diffusion Schrödinger Bridge with Applications to Score-Based Generative Modeling. In: *NeurIPS 2021*. Proceedings of Machine Learning Research.

LIN, A., ZHANG, Y., HENG, J., ALLSOP, S.A., TYE, K.M. and JACOB, P. (2019). Clustering Time Series with Nonlinear Dynamics: A Bayesian Non-Parametric and Particle-Based Approach. In: *Proceedings of Machine Learning Research*.

JACOB, P., LIN, A., ZHANG, Y., HENG, J., ALLSOP, S.A., TYE, K.M. and BA, D. (2019). Clustering Time Series with Nonlinear Dynamics: A Bayesian Non-Parametric and Particle-Based Approach. In: *The 22nd International Conference on Artificial Intelligence and Statistics*. Proceedings of Machine Learning Research, pp. 2476-2484.

Conferences

HENG, J. (2022). Diffusion Schrodinger Bridge with Applications to Score-based Generative Modeling. In: 5th International Conference on Econometrics and Statistics (EcoSta) 2022. Kyoto.

NIANQUIOA, J., HENG, J. and JACOB, P. (2022). Artificial Intelligence, Data challenges. In: 2022 Institute of Mathematical Statistics (IMS) Annual Meeting in Probability and Statistics. London.

FULOP, A., HENG, J. and LI, Y. (2021). Efficient Likelihood-based Estimation via Annealing for Dynamic Structural Macrofinance Models. In: 2021 European Winter Meetings of the Econometric Society. Barcelona.

HENG, J., POKERN, Y. and DOUCET, A. (2019). Gibbs Flow for Approximate Transport with Applications to Bayesian Computation. In: International Conference on Scientific Computation and Differential Equations (SciCADE 2019).

OTHER RESEARCH ACTIVITIES

Editorial Board Membership

2022 - 2023   Statistics and Computing