

# DINO SEJDINOVIC

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## ACADEMIC POSITIONS

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### School of Computer and Mathematical Sciences, Adelaide University

Professor 2022–

### Department of Statistics, University of Oxford

Associate Professor 2016–2022

Lecturer 2014–2015

### Mansfield College, Oxford

Fellow and Tutor in Statistics 2016–2022

### The Alan Turing Institute

Turing Faculty Fellow 2016–2021

### University College, Oxford

Senior College Lecturer 2014–2015

### Gatsby Computational Neuroscience Unit, University College London

Postdoctoral Fellow 2011–2014

### Institute for Statistical Science, University of Bristol

Brunel Postdoctoral Fellow 2009–2011

## OTHER EMPLOYMENT

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### Goldman, Sachs & Co, London

Vice President, Operations Strategies 2013–2014

## EDUCATION

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### University of Bristol

PhD in Electrical and Electronic Engineering 2006–2009

### University of Sarajevo

Diplom in Mathematics and Theoretical Computer Science 2003–2006

## PROFESSIONAL SERVICE

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Program Chair, Australian Data Science Network Conference (ADSN) 2023

Area Chair, International Conference on Machine Learning (ICML) 2017, 2018, 2020

Area Chair, Artificial Intelligence and Statistics (AISTATS) 2016, 2017, 2019

Area Chair, Neural Information Processing Systems (NeurIPS) 2015

Co-organiser, Workshop on Large Scale Kernel Learning, ICML, Lille 2015

Senior Associate Editor, *ACM Transactions on Probabilistic Machine Learning* 2023–

Editorial Board Member, *Journal of Machine Learning Research* 2020–

Selected peer-review activities:

- *Journal of Machine Learning Research*; *Journal of the Royal Statistical Society - Series B*; *Annals of Statistics*; *Biometrika*; *Journal of the American Statistical Association*; *Information and Inference*; *Statistical Science*; *Statistics and Computing*; *Geoscientific Model Development*; *IEEE Transactions on Information Theory*; *IEEE Transactions on Pattern Analysis and Machine Intelligence*; *Neural Computation*; *Journal of Causal Inference*; *Neural Information Processing Systems (NeurIPS)*; *International Conference on Machine Learning (ICML)*; *NSF: Methodology, Measurement, and Statistics Program*.

## INSTITUTIONAL SERVICE

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### **School of Computer and Mathematical Sciences, Adelaide University**

Steering Committee, Adelaide Data Science Centre, 2023–

Chair, Statistics and Data Science Curriculum Working Group, 2023

### **Department of Statistics, University of Oxford**

Equality, Diversity & Inclusion Committee, 2021–2022

IT Committee, 2021–2022

Management Team, StatML Centre for Doctoral Training, 2019–2022

Teaching Committee, 2017–2021

Chair, IT Provision Working Group, 2017–2018

MMath Mathematics & Statistics Part C Official Examiner, 2015–2018, 2021–2022

MSc in Statistical Science Admissions Committee, 2015–2022

Graduate Research Committee, 2015–2017

### **Mansfield College, Oxford**

Member of the Governing Body, 2016–2022

## GRANTS AND AWARDS

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- €4.18M; ERC: iMIRACLI - Horizon 2020 European Training Network on Innovative Machine Learning to Constrain Aerosol-Cloud Climate Impacts (co-CI) 2020–2023
- £6.16M; EPSRC: StatML - Centre for Doctoral Training in Modern Statistics and Statistical Machine Learning at Imperial College London and University of Oxford (co-I) 2019–2027
- £43.7k; Hennes & Mauritz AB: Causal Inference and Machine Learning for Clothing Retail Industry Applications (CI) 2018–2022
- £300k; Tencent: Collaboration on Large Scale Machine Learning (co-I) 2017–2020
  
- Best Paper Award Honorable Mention, AISTATS 2022 ([20])
- Best Paper Award Honorable Mention, ICML 2019 ([45])
- Best Paper Award, ICML 2019 Workshop “Climate Change: How Can AI Help?” ([120])
- Papers with plenary/oral presentations: NeurIPS 2013 ([76], top 1.4% of submissions), NeurIPS 2014 ([72], top 1.2%), AISTATS 2016 ([64], top 6.5%), UAI 2016 ([60], top 9.5%), AISTATS 2017 ([55], top 5.3%), AISTATS 2022 ([20], top 2.6%), ICML 2023 ([3], top 2.4%), NeurIPS 2023 ([11], top 0.62%)
- 2011 IEEE Trans. Multimedia Prize Paper Award Shortlist (Top 5) for [90]
- Toshiba Research PhD Scholarship (2006–2009)
- Golden Badge Award of the University of Sarajevo, 2007
- The Most Successful Student / Valedictorian of the '07 Class at the University of Sarajevo (1/4,517)

## SUPERVISION AND EXAMINATION OF RESEARCH

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### **Current Research Group**

Peter Moskvichev (MPhil, Adelaide), 2024–

Vivienne Niejalke (MPhil, Adelaide), 2023–

Jake Fawkes (DPhil, Oxford), 2020–

Veit Wild (DPhil, Oxford), 2020–

Shahine Bouabid (DPhil, Oxford), 2020–

Valerie Bradley (DPhil, Oxford), 2019–

### **Past Supervision of Doctoral Dissertations**

1. Siu Lun Chau, *Towards Trustworthy Machine Learning with Kernels*, DPhil, Department of Statistics, University of Oxford, 2023
2. Robert Hu, *Large Scale Methods for Kernels, Causal Inference and Survival Modelling*, DPhil, Department of Statistics, University of Oxford, 2022

3. Jean-Francois Ton, *Causal Reasoning and Meta Learning using Kernel Mean Embeddings*, DPhil, Department of Statistics, University of Oxford, 2022
4. Anthony Caterini, *Expanding the Capabilities of Normalizing Flows in Deep Generative Models and Variational Inference*, DPhil, Department of Statistics, University of Oxford, 2021
5. David Rindt, *Nonparametric Independence Testing and Regression for Time-to-Event Data*, DPhil, Department of Statistics, University of Oxford, 2021
6. Zhu Li, *On the Properties of Random Feature Methods*, DPhil, Department of Statistics, University of Oxford, 2021
7. Qinyi Zhang, *Kernel Based Hypothesis Tests: Large-Scale Approximations and Bayesian Perspectives*, DPhil, Department of Statistics, University of Oxford, 2020
8. Ho Chung Law, *Testing and Learning on Distributional and Set Inputs*, DPhil, Department of Statistics, University of Oxford, 2020
9. Jovana Mitrović, *Representation Learning with Kernel Methods*, DPhil, Department of Statistics, University of Oxford, 2019

### Past Supervision of Master and Undergraduate Research Dissertations

1. Fu Chuen Li, *Computational Efficiency of Shapley Value Estimation*, Master of Data Science, Adelaide University, 2023
2. Nguyen Phuc Thai, *A Review of Methods for Uncertainty Quantification when Estimating Shapley Values*, Master of Data Science, Adelaide University, 2023
3. Anubhav Dattagupta, *Shapley Values for Explaining Machine Learning Models: Understanding the Impact of Rule Changes in Cricket*, Master of Data Science, Adelaide University, 2023
4. Ka Man Becky Pang, *SHAP Explanation for Horse Racing Predictive Models*, Master of Data Science, Adelaide University, 2023
5. Hanyue Zhang, *Shapley Values for Explaining Formula One Racing Predictive Models*, Master of Data Science, Adelaide University, 2023
6. Tashreque Mohammed Haq, *Assessing Player Contributions in Soccer via the use of Shapley Values*, Master of Data Science, Adelaide University, 2023
7. Diego Martinez Taboada, *Uncertainty Quantification for the Multi-Armed Bandit and the Off-Policy Evaluation Problems*, MSc in Statistical Science, University of Oxford, 2022
8. Ewan Yeaxlee, *Estimation of Stratum Means via Weight Estimation Methods and Conditional Mean Embeddings*, MSc in Statistical Science, University of Oxford, 2022
9. Qi Chen, *A HSIC-based Test for Causal Association on Verma Graph*, MMath Mathematics & Statistics (Part C Dissertation), University of Oxford, 2022
10. Oscar Yung, *MMD Two-Sample Testing in Regression Discontinuity Design*, MMath Mathematics & Statistics (Part C Dissertation), University of Oxford, 2022
11. Aidan Sabety-Mass, *Quantile Modelling with Kernel Methods and Meta Learning*, MSc in Statistical Science, University of Oxford, 2021
12. Ziru Zhou, *Demand and Capacity Modelling in Health and Social Care Services*, MSc in Statistical Science, University of Oxford, 2021
13. Samuel Cohen, *Learning Coupled Deep Generative Models*, MSc in Statistical Science, University of Oxford, 2019
14. Veit Wild, *On the Connections between Reproducing Kernel Hilbert Spaces and Gaussian Processes in Large Scale Approximations*, MSc in Statistical Science, University of Oxford, 2019
15. Enis Nazif, *Musical Source Separation using Neural Networks and Non-Negative Matrix Factorisation*, MSc in Statistical Science, University of Oxford, 2018
16. Yuanheng Tang, *Distribution Regression for Ecological Inference with an Application to Historical Voting Records*, MSc in Statistical Science, University of Oxford, 2018
17. Daniel Thorns, *Distribution Regression for Crop Yield Prediction*, MSc in Statistical Science, University of Oxford, 2018

18. Nicholas Yung, *Expectation Propagation and its Application to Ranking Models*, MMath Mathematics & Statistics (Part C Dissertation), University of Oxford, 2018
19. Yun Kang, *Determinantal Point Processes and Their Scalable Sampling Algorithms*, MMath Mathematics & Statistics (Part C Dissertation), University of Oxford, 2018
20. Jean-Francois Ton, *Nonstationary Spectral Features for Spatio-Temporal Modelling*, MSc in Applied Statistics, University of Oxford, 2017
21. Danai Antoniou, *Text Mining and Spatial Modelling for Airbnb Pricing Prediction*, MSc in Applied Statistics, University of Oxford, 2017
22. Thomas Uriot, *Predicting Conflict Intensity Fitting Neural Networks on Real-World Video Data*, MSc in Applied Statistics, University of Oxford, 2017
23. Tim Rudner, *Doubly Stochastic Variational Fourier Features for Deep Gaussian Processes*, MSc in Applied Statistics, University of Oxford, 2017
24. Kezia Burke, *Multilevel Analysis of Population in Ireland*, MSc in Applied Statistics, University of Oxford, 2017
25. Jake Stockwin, *Gaussian Processes for Bayesian Optimisation: Principles and Application to a Two-Agent Dose Finding Problem*, MMath Mathematics & Statistics (Part C Dissertation), University of Oxford, 2017
26. Nikola Konstantinov, *Kernel Dependence Measures for Unsupervised Learning*, MMath Mathematics & Statistics (Part C Dissertation), University of Oxford, 2017
27. Gabriel Zucker, *Using Machine Learning to Improve Targeting of Reemployment Programs in the United States*, MSc in Applied Statistics, University of Oxford, 2016
28. Thomas Lewin, *Difficulty and Skill in a Mobile Match-Three Game: A Machine Learning Approach*, MSc in Applied Statistics, University of Oxford, 2016
29. Hiroaki Imai, *Quadrature Rules Based on Determinantal Point Processes*, MSc in Applied Statistics, University of Oxford, 2016
30. Lukas Kobis, *Inference and Learning for Hidden Markov Models: Methodological and Computational Considerations*, MMath Mathematics & Computer Science (Part B Extended Essay), University of Oxford, 2016
31. Qinyi Zhang, *Kernel-Based Association Tests and Applications to Genomic Data*, MSc in Applied Statistics, University of Oxford, 2015
32. Artur Kotlicki, *Fast Kernel Adaptive Metropolis-Hastings Algorithm*, MSc in Applied Statistics, University of Oxford, 2015
33. Rishabh Kabra, *Prediction of Trip Outcomes from Initial Partial Trajectories*, MSc in Applied Statistics, University of Oxford, 2015

## Examination of Research Dissertations

1. Emiliano Diaz Salas-Porras, *Towards Causal Discovery for Earth System Sciences*, PhD, School of Engineering, University of Valencia (external examiner), 2023
2. David Widmann, *Reliable Uncertainty Quantification in Statistical Learning*, PhD, Department of Information Technology, Uppsala University (external examiner / opponent), 2023
3. Alexander Camuto, *Understanding Gaussian Noise in Neural Networks*, DPhil, Department of Statistics, University of Oxford (internal examiner), 2022
4. Simone Rossi, *Improving Scalability and Inference in Probabilistic Deep Models*, PhD, Sorbonne University / EURECOM (external examiner), 2022
5. Fredrik Hallgren, *Kernel PCA and the Nyström method*, PhD, Department of Statistical Science, University College London (external examiner), 2021
6. Edward Wagstaff, *Exploiting Prior Knowledge in Machine Learning Model Design*, DPhil, Department of Engineering Science, University of Oxford (internal examiner), 2021
7. Alex Lambert, *Learning Function-Valued Functions in Reproducing Kernel Hilbert Spaces with Integral Losses: Application to Infinite Task Learning*, PhD, Institut Polytechnique de Paris / Telecom Paris (external examiner), 2021

8. Dominic Richards, *Multi-Agent Learning*, DPhil, Department of Statistics, University of Oxford (internal examiner), 2021
9. Kelvin Hsu, *Bayesian Perspectives on Conditional Kernel Mean Embeddings: Hyperparameter Learning and Probabilistic Inference*, PhD, School of Computer Science, University of Sydney (external examiner), 2020
10. Eszter Vertes, *Probabilistic Learning and Computation in Brains and Machines*, PhD, Gatsby Computational Neuroscience Unit, University College London (external examiner), 2020
11. Hyunjik Kim, *Interpretable Models in Probabilistic Machine Learning*, DPhil, Department of Statistics, University of Oxford (internal examiner), 2019
12. Toni Karvonen, *Kernel-Based and Bayesian Methods for Numerical Integration*, PhD, Department of Electrical Engineering and Automation, Aalto University (external examiner), 2019
13. Kurt Cutajar, *Broadening the Scope of Gaussian Processes for Large-Scale Learning*, PhD, Sorbonne University / EURECOM (external examiner), 2019
14. Xiaoyu Lu, *Modelling, Inference and Optimization in Probabilistic Machine Learning*, DPhil, Department of Statistics, University of Oxford (internal examiner), 2019
15. Mark McLeod, *Optimizing Bayesian Optimization*, DPhil, Department of Engineering Science, University of Oxford (internal examiner), 2018
16. Tammo Rukat, *Logical Factorisation Machines: Probabilistic Boolean Factor Models for Binary Data*, DPhil, Department of Statistics, University of Oxford (internal examiner), 2018
17. Martin Stražar, *Learning the Kernel by Low-Rank Matrix Approximation*, PhD, Faculty of Computer and Information Science, University of Ljubljana (external examiner), 2018
18. Yves-Laurent Kom Samo, *Advances in Kernel Methods: Towards General-Purpose and Scalable Models*, DPhil, Department of Engineering Science, University of Oxford (internal examiner), 2017
19. Bertrand Nortier, *Second Order Proximal Methods Applied to Elastic Net Penalised Vector Generalised Linear Models*, MSc by Research, Department of Statistics, University of Oxford (internal examiner), 2016

## TEACHING

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### Adelaide University

<i>STATS 3006/4106/7059 Mathematical Statistics</i> (3rd year)	2024
<i>STATS 2107/7107 Statistical Modelling and Inference</i> (2nd year)	2023–2024
<i>MATHS 2203 Advanced Mathematical Perspectives II</i> (2nd year)	2023–2024

### University of Oxford

<i>Computational Statistics</i> (Part B/3rd year+MSc)	2021/22
<i>Statistics and Data Analysis</i> (Prelims/1st year)	2017/18–2021/22
<i>Machine Learning</i> (Centre for Doctoral Training)	2016/17, 2019/20–2021/22
<i>Foundations of Statistical Inference</i> (Part B/3rd year+MSc)	2019/20
<i>Advanced Topics in Statistical Machine Learning</i> (Part C/4th year+MSc)	2017/18–2018/19
<i>Statistical Data Mining and Machine Learning</i> (Part C/4th year+MSc)	2014/15–2016/17
Tutor (Mansfield College), <i>Probability, Statistics</i>	2015/16–2021/22
Tutor (University College), <i>Probability, Statistics, Graph Theory</i>	2014/15–2015/16

### University College London

<i>Advanced Topics in Machine Learning: Theory of Kernel Methods</i> (MSc)	2011/12–2013/14
<i>Adaptive Modelling of Complex Data: Classification</i> (an introductory graduate course)	2013/14

### University of Bristol

<i>Graphical Models and Complex Stochastic Systems</i> (Centre for Doctoral Training)	2010/11
Tutor, <i>Linear Algebra and Geometry, Probability I, Statistics I</i>	2010/11
Tutor, <i>Analysis I, Further Topics in Analysis</i>	2009/10
Demonstrator, <i>Computing, Software Engineering in C</i>	2007/08–2008/09

## SELECTED INVITED TALKS

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Business Analytics Seminar, University of Sydney	02/2024
Data 61, CSIRO, Sydney	02/2024
Institute of Mathematical Statistics Asia-Pacific Rim Meeting, Melbourne (invited session)	01/2024
Australian Institute for Machine Learning, Adelaide	06/2023
Department of Information Technology, Uppsala University	06/2023
NIASRA, University of Wollongong	03/2023
Workshop on Functional Inference and Machine Intelligence, Tokyo	03/2023
Adelaide Data Science Centre, Adelaide University	03/2023
Mathematical Sciences Colloquium, Adelaide University	11/2022
CSIRO MARS 2022, ML & AI Future Science Platform Conference, Sydney (keynote)	05/2022
KTH Royal Institute of Technology, Stockholm	03/2022
Data Science Seminar, London School of Economics	03/2022
Secondmind, Cambridge	12/2021
ELLIS Workshop on Machine Learning in Earth and Climate Sciences, Oberwolfach	03/2020
Workshop on Functional Inference and Machine Intelligence, Sophia Antipolis	02/2020
Northern Lights Deep Learning Workshop (NLDL), Tromsø (keynote)	01/2020
Statistics Seminar, School of Mathematics, Cardiff University	01/2020
NeurIPS Meetup, Oxford (keynote)	12/2019
Royal Statistical Society Discussion Meeting (seconding the vote of thanks)	10/2019
European Meeting of Statisticians, Palermo (invited session)	07/2019
Gatsby Unit 21st Birthday Symposium, London	07/2019
Machine Learning Meetup, London	06/2019
Google DeepMind, London	06/2019
EURECOM, Sophia Antipolis	04/2019
Workshop on Functional Inference and Machine Intelligence, Tokyo	03/2019
KERMES - Advances in Kernel Methods for Structured Data, UPM Madrid	02/2019
CSML Seminar, University College London	01/2019
Machine Learning Tutorial, Dept of Computing, Imperial College London	11/2018
Advances in Kernel Methods Workshop, Sheffield	09/2018
Intelligent Systems Laboratory Seminar, University of Bristol	06/2018
The Institute of Science and Technology Austria	06/2018
SFB Data Assimilation Colloquium, Universität Potsdam	05/2018
Statistical Scalability Programme, Isaac Newton Institute, University of Cambridge	05/2018
Theory and Algorithms in Data Science Seminar, Alan Turing Institute	10/2017
School of Mathematics and Statistics, University of Sheffield	10/2017
Mathematical, Physical and Life Sciences Division Summer Reception, Oxford	06/2017
Max Planck Institute for Intelligent Systems, Tübingen	05/2017
Regularization Methods for Machine Learning Workshop, Oslo	05/2017
OxWaSP-Amazon Workshop, Amazon Development Centre, Berlin	03/2017
Statistical Learning Workshop, Lancaster	03/2017
Dagstuhl Seminar 16481, Leibniz-Zentrum für Informatik, Schloss Dagstuhl	12/2016
Royal Statistical Society Conference, Manchester (invited session)	09/2016
The Institute of Statistical Mathematics, Tokyo	03/2016
Dept of Statistics, University of Leeds	11/2015
OxWaSP Symposium, Dept of Statistics, University of Warwick	10/2015
Dept of Power, Electronics and Communication Engineering, University of Novi Sad	06/2015
Dagstuhl Seminar 15152, Leibniz-Zentrum für Informatik, Schloss Dagstuhl	04/2015
Dept of Statistics, London School of Economics	02/2015
UCL Workshop on the Theory of Big Data, London	01/2015
Machine Learning Group, Technische Universität Berlin	07/2014



The Shogun Machine Learning Toolbox Workshop, c-base, Berlin	07/2014
Workshop on Kernel Methods for Big Data, Université Lille	03/2014
Dept of Statistical Science, University College London	11/2012
CSML Seminar, University College London	10/2012
Signal Processing and Communications Laboratory, University of Cambridge	02/2012
International Conference of the ERCIM WG on Computing & Statistics (invited session)	12/2011
Dept of Electrical and Electronic Engineering, Imperial College London	07/2011
Hausdorff Center for Mathematics, University of Bonn	02/2011
Gatsby Unit, University College London	02/2011
Dept of Statistics, University of Oxford	12/2010
Institute for Statistical Science, University of Bristol	02/2010
International Mobile Multimedia Communications Conference (invited session)	09/2009
Toshiba Research Europe Telecommunications Research Laboratory, Bristol	08/2009
Centre for Communications Research, University of Bristol	11/2008

## PUBLICATIONS

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Google Scholar profile, ORCID: 0000-0001-5547-9213

### Published / In Press

- [1] D. Craig, H. Moon, F. Fedele, *et al.*, “Bridging the Reality Gap in Quantum Devices with Physics-Aware Machine Learning,” *Physical Review X*, vol. 14, p. 011001, 1 2024. DOI: 10.1103/PhysRevX.14.011001.
- [2] R. Tsuchida, C. S. Ong, and D. Sejdinovic, “Exact, Fast and Expressive Poisson Point Processes via Squared Neural Families,” in *Proceedings of the AAAI Conference on Artificial Intelligence*, 2024.
- [3] S. Bouabid, J. Fawkes, and D. Sejdinovic, “Returning The Favour: When Regression Benefits From Probabilistic Causal Knowledge,” in *International Conference on Machine Learning (ICML)*, 2023, PMLR 202:2885–2913.
- [4] S. L. Chau, K. Muandet, and D. Sejdinovic, “Explaining the Uncertain: Stochastic Shapley Values for Gaussian Process Models,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2023.
- [5] T. Fernandez, A. Gretton, D. Rindt, and D. Sejdinovic, “A Kernel Log-Rank Test of Independence for Right-Censored Data,” *Journal of the American Statistical Association*, vol. 118, no. 542, pp. 925–936, 2023. DOI: 10.1080/01621459.2021.1961784.
- [6] R. Hu and D. Sejdinovic, “Towards Deep Interpretable Features,” *Journal of Computational Mathematics and Data Science*, vol. 6, p. 100067, 2023. DOI: 10.1016/j.jcmds.2022.100067.
- [7] Z. Li, W. Su, and D. Sejdinovic, “Benign Overfitting and Noisy Features,” *Journal of the American Statistical Association*, vol. 118, no. 544, pp. 2876–2888, 2023. DOI: 10.1080/01621459.2022.2093206.
- [8] A. Perez-Suay, P. Gordaliza, J.-M. Loubes, D. Sejdinovic, and G. Camps-Valls, “Fair Kernel Regression through Cross-Covariance Operators,” *Transactions on Machine Learning Research*, 2023, ISSN: 2835-8856.
- [9] J. Schuff, D. T. Lennon, S. Geyer, *et al.*, “Identifying Pauli Spin Blockade using Deep Learning,” *Quantum*, vol. 7, p. 1077, 2023, ISSN: 2521-327X. DOI: 10.22331/q-2023-08-08-1077.
- [10] R. Tsuchida, C. S. Ong, and D. Sejdinovic, “Squared Neural Families: A New Class of Tractable Density Models,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2023.
- [11] V. D. Wild, S. Ghalebikesabi, D. Sejdinovic, and J. Knoblauch, “A Rigorous Link between Deep Ensembles and (Variational) Bayesian Methods,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2023.

- [12] S. L. Chau, M. Cucuringu, and D. Sejdinovic, “Spectral Ranking with Covariates,” in *European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML-PKDD)*, 2022. DOI: 10.1007/978-3-031-26419-1\_5.
- [13] S. L. Chau, J. Gonzalez, and D. Sejdinovic, “Learning Inconsistent Preferences with Gaussian Processes,” in *International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2022, PMLR 151:2266–2281.
- [14] S. L. Chau, R. Hu, J. Gonzalez, and D. Sejdinovic, “RKHS-SHAP: Shapley Values for Kernel Methods,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2022.
- [15] J. Cortés-Andrés, G. Camps-Valls, S. Sippel, E. M. Székely, D. Sejdinovic, E. Díaz, A. Pérez-Suay, Z. Li, M. D. Mahecha, and M. Reichstein, “Physics-aware nonparametric regression models for earth data analysis,” *Environmental Research Letters*, vol. 17, no. 5, p. 054 034, 2022. DOI: 10.1088/1748-9326/ac6762.
- [16] J. Fawkes, R. Evans, and D. Sejdinovic, “Selection, ignorability and challenges with causal fairness,” in *Conference on Causal Learning and Reasoning (CLear)*, 2022, PMLR 177:275–289.
- [17] R. Hu, S. L. Chau, J. F. Huertas, and D. Sejdinovic, “Explaining Preferences with Shapley Values,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2022.
- [18] R. Hu, S. L. Chau, D. Sejdinovic, and J. A. Glaunes, “Giga-scale Kernel Matrix Vector Multiplication on GPU,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2022.
- [19] Z. Li, A. Perez-Suay, G. Camps-Valls, and D. Sejdinovic, “Kernel Dependence Regularizers and Gaussian Processes with Applications to Algorithmic Fairness,” *Pattern Recognition*, vol. 132, p. 108 922, 2022. DOI: 10.1016/j.patcog.2022.108922.
- [20] D. Rindt, R. Hu, D. Steinsaltz, and D. Sejdinovic, “Survival regression with proper scoring rules and monotonic neural networks,” in *International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2022, PMLR 151:1190–1205.
- [21] A. Schrab, W. Jitkrittum, Z. Szabo, D. Sejdinovic, and A. Gretton, “Discussion of ‘Multiscale Fisher’s Independence Test for Multivariate Dependence’,” *Biometrika*, vol. 109, no. 3, pp. 597–603, 2022. DOI: 10.1093/biomet/asac028.
- [22] V. D. Wild, R. Hu, and D. Sejdinovic, “Generalized Variational Inference in Function Spaces: Gaussian Measures meet Bayesian Deep Learning,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2022.
- [23] Q. Zhang, V. Wild, S. Filippi, S. Flaxman, and D. Sejdinovic, “Bayesian Kernel Two-Sample Testing,” *Journal of Computational and Graphical Statistics*, vol. 31, no. 4, pp. 1164–1176, 2022. DOI: 10.1080/10618600.2022.2067547.
- [24] G. S. Blair, R. Bassett, L. Bastin, *et al.*, “The role of digital technologies in responding to the grand challenges of the natural environment: The Windermere accord,” *Patterns*, vol. 2, no. 1, p. 100 156, 2021, ISSN: 2666-3899. DOI: <https://doi.org/10.1016/j.patter.2020.100156>.
- [25] V. C. Bradley, S. Kuriwaki, M. Isakov, D. Sejdinovic, X.-L. Meng, and S. Flaxman, “Unrepresentative Big Surveys Significantly Overestimated US Vaccine Uptake,” *Nature*, no. 600, pp. 695–700, 2021. DOI: 10.1038/s41586-021-04198-4.
- [26] A. Caterini, R. Cornish, D. Sejdinovic, and A. Doucet, “Variational Inference with Continuously-Indexed Normalizing Flows,” in *Uncertainty in Artificial Intelligence (UAI)*, 2021, PMLR 161:44–53.
- [27] S. L. Chau, S. Bouabid, and D. Sejdinovic, “Deconditional Downscaling with Gaussian Processes,” in *Advances in Neural Information Processing Systems (NeurIPS)*, vol. 34, 2021, pp. 17 813–17 825.
- [28] S. L. Chau, J.-F. Ton, J. Gonzalez, Y. W. Teh, and D. Sejdinovic, “BayesIMP: Uncertainty Quantification for Causal Data Fusion,” in *Advances in Neural Information Processing Systems (NeurIPS)*, vol. 34, 2021, pp. 3466–3477.
- [29] R. Hu, G. K. Nicholls, and D. Sejdinovic, “Large Scale Tensor Regression using Kernels and Variational Inference,” *Machine Learning*, vol. 111, pp. 2663–2713, 2021. DOI: 10.1007/s10994-021-06067-7.



- [30] R. Hu and D. Sejdinovic, “Robust Deep Interpretable Features for Binary Image Classification,” in *Proceedings of the Northern Lights Deep Learning Workshop*, vol. 2, 2021. DOI: 10.7557/18.5708.
- [31] Z. Li, J.-F. Ton, D. Oglic, and D. Sejdinovic, “Towards A Unified Analysis of Random Fourier Features,” *Journal of Machine Learning Research*, vol. 22, no. 108, pp. 1–51, 2021.
- [32] V. Nguyen, S. B. Orbell, D. T. Lennon, *et al.*, “Deep reinforcement learning for efficient measurement of quantum devices,” *npj Quantum Information*, vol. 7, no. 100, 2021. DOI: 10.1038/s41534-021-00434-x.
- [33] X. Pu, S. L. Chau, X. Dong, and D. Sejdinovic, “Kernel-based Graph Learning from Smooth Signals: A Functional Viewpoint,” *IEEE Transactions on Signal and Information Processing over Networks*, vol. 7, pp. 192–207, 2021. DOI: 10.1109/TSIPN.2021.3059995.
- [34] D. Rindt, D. Sejdinovic, and D. Steinsaltz, “A kernel and optimal transport based test of independence between covariates and right-censored lifetimes,” *International Journal of Biostatistics*, vol. 17, no. 2, pp. 331–348, 2021. DOI: 10.1515/ijb-2020-0022.
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