Theodore Papamarkou
Curriculum vitae

- ⚑ Greek and British citizenship
- 📍 Jinhua, China
- ✉ Email address available upon request
- ▢ Phone number available upon request
- ∞ www.theopapamarkou.com
- in linkedin.com/in/papamarkou
- ⌂ github.com/papamarkou

Work experience

Distinguished professor

Zhejiang Normal University

College of Mathematical Medicine

📅 September 2024 – present   📍 Jinhua, China

Conducting research on Bayesian deep learning, topological deep learning, and on their applications in biomedical data science and healthcare. Leading a research team in these areas.

Professor in the mathematics of data science

The University of Manchester

Department of Mathematics

📅 October 2023 – June 2024   📍 Manchester, UK

Research on Bayesian deep learning and topological deep learning. Supervised undergraduate and postgraduate students. Advisor of studies of undergraduate and postgraduate students. Board member of the Data Science and Artificial Intelligence Institute.

Reader in the mathematics of data science

The University of Manchester

Department of Mathematics

📅 October 2020 – September 2023   📍 Manchester, UK

Conducted research on Bayesian deep learning and topological deep learning. Taught 'longitudinal data analysis' module. Supervised undergraduate and postgraduate students. Advisor of studies of undergraduate and postgraduate students. Lead of the advanced mathematics cluster of the Centre for Digital Trust and Security. Board member of the Data Science and Artificial Intelligence Institute. Chair of the Mathematics Department forum.

Research scientist

Oak Ridge National Laboratory

Computer Science and Engineering Division

📅 April 2019 – September 2020   📍 Oak Ridge, USA

Strategic hire in artificial intelligence. Principal investigator of two-year laboratory directed research and development (LDRD) project 'Scalable Bayesian uncertainty quantification for neural networks'. Conducted research on Bayesian inference for artificial neural networks.

Assistant professor in statistics

University of Glasgow

School of Mathematics and Statistics

📅 September 2015 – March 2019   📍 Glasgow, UK

Conducted research on Markov chain Monte Carlo methodology. Taught three courses, namely 'big data analytics', 'data analysis' and 'statistical methods'. Supervised undergraduate and postgraduate students. Advisor of studies of undergraduate and postgraduate students. Head of taught postgraduate programme in statistics and data analytics. Organizer of statistics seminar.

Research fellow in statistics

University of Warwick

Department of Statistics

📅 July 2014 – August 2015   📍 Coventry, UK

Conducted research on two projects. One project was related to Bayesian modelling of single-cell RNA sequencing data. The other project was related to Bayesian inference for rough differential equations.

Research associate in statistics (80% of time)
Administrator of NCSML (20% of time)

University of Warwick

Department of Statistics

📅 January 2014 – June 2014   📍 Coventry, UK

For 80% of work time, conducted research on Bayesian model selection via population Markov chain Monte Carlo for a biochemical pathway of Ewing sarcoma. For the remaining 20% of work time, administrated the UK-wide network on computational statistics and machine learning (NCSML).

Research associate in statistics

UCL

Department of Statistical Science

📅 December 2011 – December 2013   📍 London, UK

Conducted research on variance reduction for differential geometric Markov chain Monte Carlo methods.

Research associate in statistics

University of Cambridge

Department of Public Health and Primary Care

📅 February 2010 – November 2011   📍 Cambridge, UK

Performed statistical analysis of big genomic data sets to identify genetic determinants of blood lipid levels. Provided support for data filtering, bioinformatics and computing tasks.

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Research statistician

Queen Mary University of London

Barts and The London School of Medicine and Dentistry

📅 July 2009 – October 2009 📍 London, UK

Researched epidemiological associations between alcohol abstinence and personality disorders.

Education

PhD in statistics

University of Warwick

Department of Statistics

📅 September 2005 – June 2009 📍 Coventry, UK

Thesis title: 'Statistical developments in chaos communications'.

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MSc in statistics

University of Warwick

Department of Statistics

📅 September 2004 – August 2005 📍 Coventry, UK

Graduated with distinction. Dissertation title: 'Aspects of chaos and chaos communications'.

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BSc in mathematics

University of Ioannina

Department of Mathmeatics

📅 September 2000 – August 2004 📍 Ioannina, Greece

Graduated with the second highest mark of 72.3%. Completed the concentration 'Statistics and operations research'.

Selected publications

M. Hajij, M. Papillon, F. Frantzen, J. Agerberg, I. AlJabea, R. Ballester, C. Battiloro, G. Bernárdez, T. Birdal, A. Brent, P. Chin, S. Escalera, S. Fiorellino, O. H. Gardaa, G. Gopalakrishnan, D. Govil, J. Hoppe, M. R. Karri, J. Khouja, M. Lecha, N. Livesay, J. Meißner, S. Mukherjee, A. Nikitin, T. Papamarkou, J. Prílepok, K. N. Ramamurthy, P. Rosen, A. Guzmán-Sáenz, A. Salatiello, S. N. Samaga, S. Scardapane, M. T. Schaub, L. Scofano, I. Spinelli, L. Telyatnikov, Q. Truong, R. Walters, M. Yang, O. Zaghen, G. Zamzmi, A. Zia, and N. Miolane. "TopoX: a suite of Python packages for machine learning on topological domains". In: *Journal of Machine Learning Research* 25.374 (2024), pp. 1–8.

T. Papamarkou, T. Birdal, M. Bronstein, G. Carlsson, J. Curry, Y. Gao, M. Hajij, R. Kwitt, P. Liò, P. D. Lorenzo, V. Maroulas, N. Miolane, F. Nasrin, K. N. Ramamurthy, B. Rieck, S. Scardapane, M. T. Schaub, P. Veličković, B. Wang, Y. Wang, G.-W. Wei, and G. Zamzmi. "Position: topological deep learning is the new frontier for relational learning". In: *International Conference on Machine Learning (ICML)*. PMLR, 2024.

T. Papamarkou, M. Skoularidou, K. Palla, L. Aitchison, J. Arbel, D. Dunson, M. Filippone, V. Fortuin, P. Hennig, J. M. H. Lobato, A. Hubin, A. Immer, T. Karaletsos, M. E. Khan, A. Kristiadi, Y. Li, S. Mandt, C. Nemeth, M. A. Osborne, T. G. J. Rudner, D. Rügamer, Y. W. Teh, M. Welling, A. G. Wilson, and R. Zhang. "Position: Bayesian deep learning is needed in the age of large-scale AI". In: *International Conference on Machine Learning (ICML)*. PMLR, 2024.

E. Sommer, L. Wimmer, T. Papamarkou, L. Bothmann, B. Bischl, and D. Rügamer. "Connecting the dots: is mode-connectedness the key to feasible sample-based inference in Bayesian neural networks?" In: *International Conference on Machine Learning (ICML)*. PMLR, 2024.

T. Papamarkou. "Approximate blocked Gibbs sampling for Bayesian neural networks". In: *Statistics and Computing* 33 (5 2023).

J. G. Wiese, L. Wimmer, T. Papamarkou, B. Bischl, S. Günnemann, and D. Rügamer. "Towards efficient MCMC sampling in Bayesian neural networks by exploiting symmetry". In: *Joint European Conference on Machine Learning and Knowledge Discovery in Databases (ECML PKDD): Research Track*. 2023, pp. 459–474.

T. Papamarkou, J. Hinkle, M. T. Young, and D. Womble. "Challenges in Markov chain Monte Carlo for Bayesian neural networks". In: *Statistical Science* 37.3 (2022), pp. 425–442.

M. Besançon, T. Papamarkou, D. Anthoff, A. Arslan, S. Byrne, D. Lin, and J. Pearson. "Distributions.jl: definition and modeling of probability distributions in the JuliaStats ecosystem". In: *Journal of Statistical Software* 98 (16 2021).

D. Agrawal, T. Papamarkou, and J. Hinkle. "Wide neural networks with bottlenecks are deep Gaussian processes". In: *Journal of Machine Learning Research* 21.175 (2020), pp. 1–66.

C. J. Oates, T. Papamarkou, and M. Girolami. "The controlled thermodynamic integral for Bayesian model evidence evaluation". In: *Journal of the American Statistical Association* 111 (2016), pp. 634–645.

Grants

Manchester-Melbourne research fund

The University of Manchester

📅 October 2021 – September 2022 📍 Manchester, UK

Funding body: The University of Manchester. Duration: 12 months. Budget: £4,776. Role: co-investigator. Title: 'FinTech and financial crimes: methods, applications, and regulations'. Collaborative partners: The University of Manchester and University of Melbourne. Principal investigator: R. Allmendinger. Co-investigators: M. Zachariadis, D. Buil Gil, E. Barrett, N. Lord, A. Freitas, M. Joshi, and T. Papamarkou.

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LDRD grant

Oak Ridge National Laboratory

Computer Science and Engineering Division

📅 April 2019 – March 2021 📍 Oak Ridge, USA

Funding body: laboratory directed research and development (LDRD) program of Oak Ridge National Laboratory. Duration: 24 months. Budget: $466,300. Role: principal investigator. Title: 'Scalable Bayesian uncertainty quantification for neural networks'.

Scholarships

PhD scholarship

University of Warwick

Department of Statistics

🗓 September 2005 – June 2009   📍 Coventry, UK

Funding body: Centre for Research in Statistical Methodology (CRiSM) of the Department of Statistics, University of Warwick. Duration: 45 months. Scholarship amount: £45,000.

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BSc scholarship for studies at the third year

University of Ioannina

Department of Mathematics

🗓 September 2002 – August 2003   📍 Ioannina, Greece

Funding body: Greek Institute of State Scholarships. Scholarship amount: €600. Awarded due to highest third year mark of 78.2%.

Teaching experience

Longitudinal data analysis

The University of Manchester

Department of Mathematics

🗓 February 2021 – April 2023   📍 Manchester, UK

Teaching this module to fourth year undergraduate and postgraduate students.

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Theory of statistical inference

University of Liverpool

Department of Mathematics

🗓 February 2022 – April 2022   📍 Liverpool, UK

Developed and taught this module to third year undergraduate students.

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Big data analytics

University of Glasgow

School of Mathematics and Statistics

🗓 January 2017 – March 2019   📍 Glasgow, UK

Developed and taught this module to fourth year undergraduate and postgraduate students.

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Data analysis

University of Glasgow

School of Mathematics and Statistics

🗓 January 2016 – March 2018   📍 Glasgow, UK

Taught this module to third year undergraduate and postgraduate students.

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Statistical methods

University of Glasgow

School of Mathematics and Statistics

🗓 September 2015 – December 2015   📍 Glasgow, UK

Taught this module to first year undergraduate students.

Supervisory experience

Post-doctoral researchers

Danny Wood (The University of Manchester)

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PhD students

- George Livesey (The University of Manchester)
- Amr Mousa (The University of Manchester)
- Marcos Negre Saura (The University of Manchester)
- Jana Stella (The University of Manchester)

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MSc by research students

Alan Lazarus (University of Glasgow)

Administrative experience

Board member of IDSAI

The University of Manchester

Digital Futures Network

🗓 September 2022 – June 2024   📍 Manchester, UK

Board member of the Data Science and Artificial Intelligence Institute (IDSAI). IDSAI delivers the activities of the Data Science and Artificial Intelligence theme, which is one of the six themes under the umbrella of the Digital Futures Network at The University of Manchester.

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Chair of the Mathematics Department forum

The University of Manchester

Department of Mathematics

🗓 October 2021 – August 2023   📍 Manchester, UK

Chairing the Mathematics Department forum. The purpose of the forum is to discuss matters pertaining to the Department.

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Advanced mathematics cluster lead of CDTS

The University of Manchester

Digital Futures Network

🗓 October 2021 – June 2023   📍 Manchester, UK

Lead of the Advanced Mathematics cluster of the Centre for Digital Trust and Security (CDTS). CDTS is one of six themes under the umbrella of the Digital Futures Network at The University of Manchester.

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Head of taught postgraduate programme

University of Glasgow

School of Mathematics and Statistics

📅 August 2018 – March 2019   📍 Glasgow, UK

Managed the on-campus programme in statistics and data analytics consisting of five postgraduate taught degrees, namely the MSc in statistics, MSc in data analytics, MSc in biostatistics, MSc in environmental statistics and MRes in advanced statistics.

Organizer of statistics seminar series

University of Glasgow

School of Mathematics and Statistics

📅 September 2016 – July 2018   📍 Glasgow, UK

Administrator of NCSML

University of Warwick

Department of Statistics

📅 January 2014 – June 2014   📍 Coventry, UK

Administrated the UK-wide network on computational statistics and machine learning (NCSML). Coordinated mailing lists and social media to disseminate NCSML activities. Maintained a website for NCSML using Django, HTML and CSS.

Chair of staff student liaison committee

University of Warwick

Department of Statistics

📅 September 2006 – August 2007   📍 Coventry, UK

Reviewer experience

Reviewer for journal articles

Journal of Statistical Software, Neurocomputing, Statistics and Computing.

Reviewer for conference articles

AAAI 2020, NeurIPS 2018, AISTATS 2018.

Editorial experience

Co-editor-in-chief for ACM TOPML

Association for Computing Machinery (ACM)

📅 June 2023 – Present

Associate editor for Journal of Statistical Software

Foundation for Open Access Statistics

📅 October 2021 – Present

Associate editor for Foundations of Data Science

American Institute of Mathematical Sciences (AIMS)

📅 November 2019 – Present

Associate editor for RSS Series C

John Wiley and Sons

📅 January 2020 – January 2022

Associate editor for Neurocomputing

Elsevier

📅 January 2019 – September 2020

Software development

Python packages

- Contributed to `TopoNetX`.
- Contributed to `TopoEmbedX`.
- Contributed to `TopoModelX`.
- Developed `kanga`.
- Developed `eeyore`.

Julia packages

- Developed `DualNumbers`.
- Contributed to `ForwardDiff`.
- Contributed to `StatsBase`.
- Contributed to `Distributions`.

Languages

Greek   Native and first language

English   Primary language

Research visits

PhD visitor

Electronic and Information Engineering Department

Polytechnic University, Hong Kong

📅 July 2008 - August 2008   📍 Hong Kong, China

Honors and awards

Best paper award for the research track

ECML PKDD

📅 2023

The paper 'Towards efficient MCMC sampling in Bayesian neural networks by exploiting symmetry' has been selected among the 196 accepted papers of the research track as best paper by the ECML PKDD best paper award chairs.

ELLIS member

The University of Manchester

📅 December 2022 – Present

Member of the European Laboratory for Learning and Intelligent Systems (ELLIS).

Committee member of RSS CSML

The University of Manchester

📅 November 2022 – Present

Committee member of the Computational Statistics and Machine Learning Section of the Royal Statistical Society (RSS CSML).

Among 30% highest scoring reviewers

NeurIPS

📅 2018

Evaluated by the area chairs as one of the top 30% highest scoring reviewers for NeurIPS 2018.

Published journal articles

M. Hajij, M. Papillon, F. Frantzen, J. Agerberg, I. AlJabea, R. Ballester, C. Battiloro, G. Bernárdez, T. Birdal, A. Brent, P. Chin, S. Escalera, S. Fiorellino, O. H. Gardaa, G. Gopalakrishnan, D. Govil, J. Hoppe, M. R. Karri, J. Khouja, M. Lecha, N. Livesay, J. Meißner, S. Mukherjee, A. Nikitin, T. Papamarkou, J. Prílepok, K. N. Ramamurthy, P. Rosen, A. Guzmán-Sáenz, A. Salatiello, S. N. Samaga, S. Scardapane, M. T. Schaub, L. Scofano, I. Spinelli, L. Telyatnikov, Q. Truong, R. Walters, M. Yang, O. Zaghen, G. Zamzmi, A. Zia, and N. Miolane. "TopoX: a suite of Python packages for machine learning on topological domains". In: *Journal of Machine Learning Research* 25.374 (2024), pp. 1–8.

F. Nasrin, T. Papamarkou, A. Lawson, N. Gong, O. Rios, and V. Maroulas. "Bayesian random persistence diagram generation: an application to material microstructure analysis". In: *Foundations of Data Science* 6.3 (2024), pp. 361–378.

D. Wood, T. Papamarkou, M. Benatan, and R. Allmendinger. "Model-agnostic variable importance for predictive uncertainty: an entropy-based approach". In: *Data Mining and Knowledge Discovery* 38.6 (2024), pp. 4184–4216.

S. Karmakar, A. Mukherjee, and T. Papamarkou. "Depth-2 neural networks under a data-poisoning attack". In: *Neurocomputing* 532 (2023), pp. 56–66.

T. Papamarkou. "Approximate blocked Gibbs sampling for Bayesian neural networks". In: *Statistics and Computing* 33 (5 2023).

T. Papamarkou, J. Hinkle, M. T. Young, and D. Womble. "Challenges in Markov chain Monte Carlo for Bayesian neural networks". In: *Statistical Science* 37.3 (2022), pp. 425–442.

T. Papamarkou, F. Nasrin, A. Lawson, N. Gong, O. Rios, and V. Maroulas. "A random persistence diagram generator". In: *Statistics and Computing* 32 (5 2022).

A. Spannaus, T. Papamarkou, S. Erwin, and J. B. Christian. "Inferring the spread of COVID-19: the role of time-varying reporting rate in epidemiological modelling". In: *Scientific Reports* 12 (2022).

M. Besançon, T. Papamarkou, D. Anthoff, A. Arslan, S. Byrne, D. Lin, and J. Pearson. "Distributions.jl: definition and modeling of probability distributions in the JuliaStats ecosystem". In: *Journal of Statistical Software* 98 (16 2021).

T. Papamarkou, H. Guy, B. Kroencke, J. Miller, P. Robinette, D. Schultz, J. Hinkle, L. Pullum, C. Schuman, J. Renshaw, and S. Chatzidakis. "Automated detection of corrosion in used nuclear fuel dry storage canisters using residual neural networks". In: *Nuclear Engineering and Technology* 53 (2021), pp. 657–665.

T. Papamarkou, A. Lindo, and E. B. Ford. "Geometric adaptive Monte Carlo in random environment". In: *Foundations of Data Science* 3.2 (2021), pp. 201–224.

D. Agrawal, T. Papamarkou, and J. Hinkle. "Wide neural networks with bottlenecks are deep Gaussian processes". In: *Journal of Machine Learning Research* 21.175 (2020), pp. 1–66.

N. W. Tuchow, E. B. Ford, T. Papamarkou, and A. Lindo. "The efficiency of geometric samplers for exoplanet transit timing variation models". In: *Monthly Notices of the Royal Astronomical Society* 484 (2019), pp. 3772–3784.

A. J. Lawrance, T. Papamarkou, and A. Uchida. "Synchronized laser chaos communication: statistical investigation of an experimental system". In: *IEEE Journal of Quantum Electronics* 53 (2017), pp. 1–10.

B. Radic-Sarikas, M. Halasz, K. V. M. Huber, G. E. Winter, K. P. Tsafou, T. Papamarkou, S. Brunak, W. Kolch, and G. Superti-Furga. "Lapatinib potentiates cytotoxicity of YM155 in neuroblastoma via inhibition of the ABCB1 efflux transporter". In: *Scientific Reports* 7 (2017).

B. Radic-Sarikas, K. P. Tsafou, K. B. Emdal, T. Papamarkou, K. V. Huber, C. Mutz, J. A. Toretsky, K. L. Bennett, J. V. Olsen, S. Brunak, H. Kovar, and G. Superti-Furga. "Combinatorial drug screening identifies Ewing sarcoma-specific sensitivities". In: *Molecular Cancer Therapeutics* 16 (2017), pp. 88–101.

D. Harjanto, T. Papamarkou, C. J. Oates, V. Rayon-Estrada, F. N. Papavasiliou, and A. Papavasiliou. "RNA editing generates cellular subsets with diverse sequence within populations". In: *Nature Communications* 7 (2016), p. 12145.

H. Kovar, J. Amatruda, E. Brunet, S. Burdach, F. Cidre-Aranaz, E. de Alava, U. Dirksen, W. van der Ent, P. Grohar, T. G. P. Grünewald, L. Helman, P. Houghton, K. Iljin, E. Korsching, M. Ladanyi, E. Lawlor, S. Lessnick, J. Ludwig, P. Meltzer, M. Metzler, J. Mora, R. Moriggl, T. Nakamura, T. Papamarkou, B. Radic-Sarikas, F. Rédini, G. H. S. Richter, C. Rossig, K. Schadler, B. W. Schäfer, K. Scotlandi, N. C. Sheffield, A. Shelat, E. Snaar-Jagalska, P. Sorensen, K. Stegmaier, E. Stewart, A. Sweet-Cordero, K. Szuhai, O. M. Tirado, F. Tirode, J. Toretsky, K. Tsafou, A. Üren, A. Zinovyev, and O. Delattre. "The second European interdisciplinary Ewing sarcoma research summit - a joint effort to deconstructing the multiple layers of a complex disease". In: *Oncotarget* 7 (2016), pp. 8613–8624.

C. J. Oates, T. Papamarkou, and M. Girolami. "The controlled thermodynamic integral for Bayesian model evidence evaluation". In: *Journal of the American Statistical Association* 111 (2016), pp. 634–645.

R. Schwentner, T. Papamarkou, M. O. Kauer, V. Stathopoulos, F. Yang, S. Bilke, P. S. Meltzer, M. Girolami, and H. Kovar. "EWS-FLI1 employs an E2F switch to drive target gene expression". In: *Nucleic Acids Research* 43 (2015), pp. 2780–2789.

T. Papamarkou and A. J. Lawrance. "Nonlinear dynamics of trajectories generated by fully-stretching piecewise linear maps". In: *International Journal of Bifurcation and Chaos* 24 (2014), p. 1450071.

T. Papamarkou, A. Mira, and M. Girolami. "Zero variance differential geometric Markov chain Monte Carlo algorithms". In: *Bayesian Analysis* 9 (2014), pp. 97–128.

Global Lipids Genetics Consortium. "Common variants associated with plasma triglycerides and risk for coronary artery disease". In: *Nature Genetics* 45 (2013), pp. 1345–1352.

Global Lipids Genetics Consortium. "Discovery and refinement of loci associated with lipid levels". In: *Nature Genetics* 45 (2013), pp. 1274–1285.

T. Papamarkou and A. J. Lawrance. "Paired Bernoulli circular spreading: attaining the BER lower bound in a CSK setting". In: *Circuits, Systems, and Signal Processing* 32 (2013), pp. 143–166.

E. H. Young, T. Papamarkou, N. W. J. Wainwright, and M. S. Sandhu. "Genetic determinants of lipid homeostasis". In: *Best Practice and Research Clinical Endocrinology and Metabolism* 26 (2012), pp. 203–209.

ENGAGE Consortium. "A genome-wide screen for interactions reveals a new locus on 4p15 modifying the effect of waist-to-hip ratio on total cholesterol". In: *PLOS Genetics* 7 (Oct. 2011), pp. 1–8.

D. Zabaneh, M. Kumari, M. Sandhu, N. Wareham, N. Wainwright, T. Papamarkou, J. Hopewell, R. Clarke, K. Li, J. Palmen, P. J. Talmud, F. Kronenberg, C. Lamina, M. Summerer, B. Paulweber, J. Price, G. Fowkes, M. Stewart, F. Drenos, S. Shah, T. Shah, J.-P. Casas, M. Kivimaki, J. Whittaker, A. D. Hingorani, and S. E. Humphries. "Meta analysis of candidate gene variants outside the LPA locus with Lp(a) plasma levels in 14,500 participants of six white European cohorts". In: *Atherosclerosis* 217 (2011), pp. 447–451.

Published conference articles

T. Papamarkou, T. Birdal, M. Bronstein, G. Carlsson, J. Curry, Y. Gao, M. Hajij, R. Kwitt, P. Liò, P. D. Lorenzo, V. Maroulas, N. Miolane, F. Nasrin, K. N. Ramamurthy, B. Rieck, S. Scardapane, M. T. Schaub, P. Veličković, B. Wang, Y. Wang, G.-W. Wei, and G. Zamzmi. "Position: topological deep learning is the new frontier for relational learning". In: *International Conference on Machine Learning (ICML)*. PMLR, 2024.

T. Papamarkou, M. Skoularidou, K. Palla, L. Aitchison, J. Arbel, D. Dunson, M. Filippone, V. Fortuin, P. Hennig, J. M. H. Lobato, A. Hubin, A. Immer, T. Karaletsos, M. E. Khan, A. Kristiadi, Y. Li, S. Mandt, C. Nemeth, M. A. Osborne, T. G. J. Rudner, D. Rügamer, Y. W. Teh, M. Welling, A. G. Wilson, and R. Zhang. "Position: Bayesian deep learning is needed in the age of large-scale AI". In: *International Conference on Machine Learning (ICML)*. PMLR, 2024.

T. Papamarkou and A. Lindo. "Probability-generating function kernels for spherical data". In: *International Conference on Artificial Neural Networks (ICANN)*. Springer-Verlag, 2024, pp. 41–59.

E. Sommer, L. Wimmer, T. Papamarkou, L. Bothmann, B. Bischl, and D. Rügamer. "Connecting the dots: is mode-connectedness the key to feasible sample-based inference in Bayesian neural networks?" In: *International Conference on Machine Learning (ICML)*. PMLR, 2024.

M. Hajij, G. Zamzmi, T. Papamarkou, A. Guzmán-Sáenz, T. Birdal, and M. T. Schaub. "Combinatorial complexes: bridging the gap between cell complexes and hypergraphs". In: *57th Asilomar Conference on Signals, Systems, and Computers*. 2023, pp. 799–803.

J. Watts, E. Allen, A. Mitoubsi, A. Khojandi, J. Eales, and T. Papamarkou. "Towards faster gene expression prediction via dimensionality reduction and feature selection". In: *45th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*. 2023, pp. 1–4.

J. G. Wiese, L. Wimmer, T. Papamarkou, B. Bischl, S. Günnemann, and D. Rügamer. "Towards efficient MCMC sampling in Bayesian neural networks by exploiting symmetry". In: *Joint European Conference on Machine Learning and Knowledge Discovery in Databases (ECML PKDD): Research Track*. 2023, pp. 459–474.

J. Watts, E. Allen, A. Mitoubsi, A. Khojandi, J. Eales, F. Jalali-Najafabadi, and T. Papamarkou. "Adapting random forests to predict obesity-associated gene expression". In: *44th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*. 2022, pp. 4407–4410.

M. Baucum, A. Khojandi, and T. Papamarkou. "Hidden Markov models as recurrent neural networks: an application to Alzheimer's disease". In: *IEEE 21st International Conference on Bioinformatics and Bioengineering (BIBE)*. 2021.

A. Lazarus, D. Husmeier, and T. Papamarkou. "Multiphase MCMC sampling for parameter inference in nonlinear ordinary differential equations". In: *International Conference on Artificial Intelligence and Statistics (AISTATS)*. Vol. 84. PMLR, 2018, pp. 1252–1260.

E.-A. Horvat and T. Papamarkou. "Gender differences in equity crowdfunding". In: *5th AAAI Conference on Human Computation and Crowdsourcing (HCOMP)*. AAAI Press, 2017, pp. 51–60.

T. Papamarkou and A. J. Lawrance. "Optimal spreading sequences for chaos-based communication systems". In: *Nonlinear Theory and Its Applications (NOLTA)*. 2007, pp. 208–211.

A. J. Lawrance and T. Papamarkou. "Higher order dependency of chaotic maps". In: *Nonlinear Theory and Its Applications (NOLTA)*. 2006, pp. 695–698.

Published workshop articles

G. Bernárdez, L. Telyatnikov, M. Montagna, F. Baccini, M. Papillon, M. F. Galmés, M. Hajij, T. Papamarkou, M. S. Bucarelli, O. Zaghen, J. Mathe, A. Myers, S. Mahan, H. Lillemark, S. P. Vadgama, E. J. Bekkers, T. Doster, T. Emerson, H. Kvinge, K. Agate, N. K. Ahmed, P. Bai, M. Banf, C. Battiloro, M. Beketov, P. Bogdan, M. Carrasco, A. Cavallo, Y. Y. Choi, G. Dasoulas, M. Elphick, G. Escalona, D. Filipiak, H. Fritze, T. Gebhart, M. Gil-Sorribes, S. Goomanee, V. Guallar, L. Imasheva, A. Irimia, H. Jin, G.

Johnson, N. Kanakaris, B. Koloski, V. Kovac, M. Lecha, M. Lee, P. Leroy, T. Long, G. Magai, A. Martinez, M. Masden, S. Meznar, B. Miquel-Oliver, A. Molina, A. Nikitin, M. Nurisso, M. Piekenbrock, Y. Qin, P. Rygiel, A. Salatiello, M. Schattauer, P. Snopov, J. Suk, V. Sánchez, M. Tec, F. Vaccarino, J. Verhellen, F. Wantiez, A. Weers, P. Zajec, B. Skrlj, and N. Miolane. "ICML topological deep learning challenge 2024: beyond the graph domain". In: *CoRR*. 2024.

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