

Daniel Waxman

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EDUCATION

- Ph.D. Electrical Engineering, *In Progress*
Stony Brook University
Thesis: *On Fusion, Learning, and Planning with Gaussian Processes*
Advisor: Petar Djurić
- B.S. Mathematics & Applied Mathematics and Statistics (*cum laude*), 2021
Stony Brook University

RESEARCH INTERESTS

Bayesian Machine Learning — particularly for time series and dynamic environments
Fusion Methods — particularly Bayesian model combination
Online Learning — particularly scalable streaming algorithms

PUBLICATIONS

* denotes equal contribution

Journal Papers

- 2024 **D. Waxman**, P. M. Djurić. “Dynamic Online Ensembles of Basis Expansions.” *Transactions on Machine Learning Research (TMLR)*, 2024.
[\[OpenReview\]](#) [\[arXiv\]](#) [\[code\]](#)
- 2024 **D. Waxman**, K. Butler, P. M. Djurić. “DAGMA-DCE: Interpretable, Non-Parametric Differentiable Causal Discovery.” *IEEE Open Journal of Signal Processing*, vol. 5, pp. 393-401, 2024.
[\[IEEE Xplore\]](#) [\[arXiv\]](#) [\[code\]](#)

Conference Papers

- 2024 F. Llorente*, **D. Waxman***, P. M. Djurić. “Decentralized Online Ensembles of Gaussian Processes for Multi-Agent Systems.” Submitted.
- 2024 **D. Waxman**, F. Llorente, P. M. Djurić. “Online Bayesian Stacking is a Portfolio Selection Problem.” Submitted.
- 2024 K. Butler*, **D. Waxman***, P. M. Djurić. “Tangent Space Causal Inference: Leveraging Vector Fields for Causal Discovery in Dynamical Systems.” Accepted to the *Proceedings of the Thirty-eighth Conference on Neural Information Processing Systems (NeurIPS)*, 2024.
- 2024 **D. Waxman**, P. M. Djurić. “A Gaussian Process-based Streaming Algorithm for Prediction of Time Series With Regimes and Outliers.” *Proceedings of the 2024 27th International Conference on Information Fusion (FUSION)*, Venice, Italy, 2024.
[\[IEEE Xplore\]](#) [\[arXiv\]](#) [\[code\]](#)

- 2023 M. Ajirak, **D. Waxman**, F. Llorente, P. M. Djurić. “Fusion of Gaussian Process Predictions with Monte Carlo Sampling.” *Proceedings of the 2023 57th Asilomar Conference on Signals, Systems, and Computers, Pacific Grove, CA, USA, 2023.*
[IEEE Xplore] [arXiv]
- 2023 Y. Liu, C. Cui, **D. Waxman**, K. Butler, P. M. Djurić. “Detecting Confounders in Multivariate Time Series Using Strength of Causation.” *Proceedings of the 2023 31st European Signal Processing Conference (EUSIPCO), Helsinki, Finland, 2023.*
[IEEE Xplore] [pdf] [video]

Medical Conference Abstracts

- 2024 D. Chernoff, **D. Waxman**, G. Brite, L. Langman, C Rabeno, L. Czerwonka, P. M. Djurić. “The Development of an Automated Algorithm to Identify and Manage Post-thyroidectomy Hypocalcemia.” *American Head and Neck Society 2024 General Meeting.*

RESEARCH TALKS

- 2024 2024 SIAM New York-New Jersey-Pennsylvania Section Conference
Talk Title: Optimizing Observation Locations via Minimizing Information Loss
- 2023 Acoustics Research Institute of the Austrian Academy of Sciences (Institut für Schallforschung der Österreichische Akademie der Wissenschaften)
Talk Title: “Causal Discovery via Quantifying Influences” [link] [slides]
- 2023 Bellairs Workshop on Machine Learning and Statistical Signal Processing for Data on Graphs
Talk Title: “Bayesian Combination”

TEACHING

As Instructor of Record

- Spr’25 Understanding Machine Learning (ESE 188 @ SBU)

As Teaching Assistant

- Sum’22 Random Signals and Systems (ESE 306 @ SBU)
- Spr’22 Random Signals and Systems (ESE 306 @ SBU)
- Fall’21 Programming Fundamentals (ESE 124 @ SBU)

OUTREACH & SERVICE

Reviewing

- Journals Transactions on Machine Learning Research (TMLR) [2024]
Journal of Open Source Software (JOSS) [2024]
EURASIP Journal on Advances in Signal Processing [2023]
- Conf. International Conference on Representation Learning (ICLR) [2024]
European Signal Processing Conference (EUSIPCO) [2024]
Advances in Neural Information Processing Systems (NeurIPS) Workshops [2024]

University Service

- 2021-24 Stony Brook University Graduate Student Organization
Primary Senator, Department of Electrical & Computer Engineering
Member of Diversity, Equity, and Inclusion Committee
Graduate Student Representative for the Graduate Council
Reviewer for the Distinguished Travel Award
- 2022-23 SBU Strategic Planning Committee [\[link\]](#)
Member of the Strategic Planning Committee, helping to identify priorities for upcoming strategic plan.
Member of Project REACH Visioning Committee and helped draft a new vision statement for the University

Expository Talks

- 2024 SBU Electrical and Computer Engineering Honors Seminar
Ensembling and Fusion: Perspectives and Solutions from Signal Processing
- 2022 Stony Brook University Math Club
Making Markov Chains with Metropolis [\[video\]](#)

Mentoring

- 2022-24 CUNY Directed Reading Program
Edgar Cuapio Diaz, *Gaussian Processes and Bayesian Optimization*.
Jonathan Jaimangal, *Hamiltonian Monte Carlo*. Winner of Outstanding Poster Award.
Masroor Khonkhodzhaev, *Dynamic Programming and Reinforcement Learning*.
Percy Martinez, *Fourier Analysis and Its Applications*.
Isabella Chittumuri, *Elements of Statistical Learning*.
- 2023 Stony Brook University Directed Reading Program
Shailen Smith, *Probabilistic Machine Learning*.
- 2022 Bayesian Data Analysis for the Global South (GSU)
Volunteer Teaching Assistant for online course aimed at the Global South and other underrepresented groups taught by Aki Vehtari [\[certificate\]](#)

Updated December 2024