

# Daniel Waxman

Department of Electrical & Computer Engineering  
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## EDUCATION

- Ph.D. Electrical Engineering, *In Progress, Expected May 2026*  
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

## EMPLOYMENT

- Sum'25 Research Intern, *Basis Research Institute*, New York, NY.  
I'll be working on probabilistic and causal machine learning.

## RESEARCH INTERESTS

Bayesian Machine Learning — particularly in online and continual problems  
Fusion Methods — particularly Bayesian model combination  
Causal Inference — particularly causal discovery and causality for dynamical systems

## PUBLICATIONS

\* denotes equal contribution

### Journal Papers

- 2025 **D. Waxman**, F. Llorente, P. M. Djurić, “Sequential Inference with Gaussian Processes: A Signal Processing Perspective.” *Submitted*.
- 2025 **D. Waxman**, F. Llorente, K. Lamer, P. M. Djurić, “Designing an Optimal Sensor Network via Minimizing Information Loss.” *In Revisions*.
- 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

- 2025 **D. Waxman**, P. M. Djurić. “Non-Stationary Casual Learning via Hierarchical Modeling.” Accepted to the 2025 Asilomar Conference on Signals, Systems, and Computers.
- 2025 **D. Waxman**, F. Llorente, P. M. Djurić. “Bayesian Ensembles: Insights from Online Optimization and Empirical Bayes.” Submitted.
- 2025 F. Llorente\*, **D. Waxman**\*, P. M. Djurić. “Decentralized Online Ensembles of Gaussian Processes for Multi-Agent Systems.” Accepted to 2025 *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2025.
- 2024 K. Butler\*, **D. Waxman**\*, P. M. Djurić. “Tangent Space Causal Inference: Leveraging Vector Fields for Causal Discovery in Dynamical Systems.” *Proceedings of the Thirty-eighth Conference on Neural Information Processing Systems (NeurIPS)*, 2024.  
[\[OpenReview\]](#) [\[arXiv\]](#) [\[code\]](#)
- 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

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

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, 2025]

Journal of Open Source Software (JOSS) [2024]

EURASIP Journal on Advances in Signal Processing [2023]

Conf.     Neural Information Processing Systems (NeurIPS) [2025]

International Conference on Representation Learning (ICLR) [2025]

International Conference on Machine Learning (ICML) [2025]

European Signal Processing Conference (EUSIPCO) [2024, 2025]

Advances in Neural Information Processing Systems (NeurIPS) Workshops [2024]

IEEE Statistical Signal Processing Workshop (SSP) [2025]

### University Service

2021-25     Stony Brook University Graduate Student Organization

Primary Senator, Department of Electrical & Computer Engineering

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

2022-25     CUNY Directed Reading Program

Mike Prebil, *Gaussian Processes and Bayesian Optimization*.

Edgar Cuapio Diaz, *Gaussian Processes and Bayesian Optimization*.

Jonathan Jaimangal, *Hamiltonian Monte Carlo*. **[Winner of Outstanding Poster Award.]**

Masroor Khonkhodzaev, *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 May 2025