ALLIOT C. NAGLE

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EDUCATION

University of Texas at Austin   Aug. 2022 – Present
PhD Electrical Engineering

University of Wisconsin-Madison   Sept. 2019 – Dec. 2021
MS Electrical Engineering

University of Wisconsin-Madison   Sept. 2014 – May 2019
BS Electrical Engineering

RESEARCH EXPERIENCE

Graduate Researcher, University of Texas at Austin   Aug. 2022 – Present
Advisor: Hyeji Kim
- Research interests include (1) A.I. foundation models and their domain-specific applications, and (2) efficient methods for training/fine-tuning and inference

Graduate Researcher, University of Wisconsin-Madison   May 2021 – Present
Advisor: Barry Van Veen and Matthew Banks
- Modeled brain function/stimulus response captured from EEG data as a multivariate auto-regressive model with a group LASSO penalty based on fMRI data
- Utilized high-throughput computing and meta-scheduler DAGman to pipeline large-scale cross validation and model selection jobs in MATLAB
- Wrote a set of MATLAB functions to quickly assemble a submission to HTCondor systems, capable of launching up to hundreds of thousands of CPU jobs

Graduate Researcher, University of Wisconsin-Madison   Sept. 2019 – Present
Advisor: Dimitris Papailiopoulos
- Designed and implement deep learning experiments in Python using the PyTorch framework
- Researched sparse and low-rank neural networks

PUBLICATIONS & PREPRINTS

Alliot Nagle, Josh P. Gerrelts, Bryan M. Krause, Aaron D. Boes, Joel E. Bruss, Kirill V. Nourski, Matthew I. Banks, Barry Van Veen. *Improved high-dimensional multivariate autoregressive model estimation of human electrophysiological data using fMRI priors*. Preprint.

Kartik Sreenivasan, Jy-yong Sohn, Liu Yang, Matthew Grinde, **Alliot Nagle**, Hongyi Wang, Eric Xing, Kangwook Lee, Dimitris Papailiopoulos. *Rare Gems: Finding Lottery Tickets at Initialization*. NeurIPS 2022.

Ankit Pensia, Shashank Rajput, **Alliot Nagle**, Harit Vishwakarma, Dimitris Papailiopoulos. *Optimal Lottery Tickets via SubsetSum: Logarithmic Over-Parameterization is Sufficient*. NeurIPS 2020 spotlight.

AWARDS

- ECE Gerald Holdridge Outstanding Teaching Assistant Award   Dec. 2019
- Cockrell School of Engineering Multi-Year Fellowship   Aug. 2022 – Aug. 2026

TEACHING EXPERIENCE

Graduate Teaching Assistant, University of Wisconsin-Madison   Sept. 2019 – May 2021
ECE 331 (Intro to Random Signal Analysis and Statistics) and ECE 204 (Data Science and Engineering)
- Recipient of the *ECE Gerald Holdridge Outstanding Teaching Assistant Award* for ECE 331
- Answer students' questions during in-class activities and office hours. Engage with students in a flipped-classroom active learning environment to better facilitate their understanding of course content
- Responsible for reviewing and editing all in-class activities, homeworks, and quizzes, and then implementing them in Canvas, our online learning tool

Undergraduate Teaching Assistant, University of Wisconsin-Madison   Sept. 2018 – May 2018
ECE 203 (Signals, Information, and Computation) and ECE 330 (Signals and Systems)
- Answered students' questions in a flipped-classroom active learning environment in these introductory-level signal processing courses
- ECE 203 topics included Fourier Series, FT, DTFT, DFT, sampling, LTI systems, FIR filters, discrete and continuous-time systems, difference and differential equations
- ECE 330 topics included complex numbers, convolution, LTI systems, Fourier Series, DFT, sampling, filtering, image processing

TECHNICAL SKILLS

Programming Languages	Python (Sci-kit Learn, PyTorch), C/C++ (CUDA, OpenMP, MPI), MATLAB, Java, Julia
Software & Tools	Amazon EC2, Slurm, HTCondor, LaTeX, Altium Designer, Git

SELECTED COURSEWORK

UT Austin: Convex Optimization, Probability and Stochastic Processes I, Advanced Topics in Computer Vision, Advanced Topics in Unsupervised Learning

UW-Madison: Introduction to Optimization, Matrix Methods in Machine Learning, Introduction to Artificial Intelligence, Theory of Information Processing and Transmission, High Performance Computing for Engineering Applications, Machine Learning, Mathematical Foundations of Machine Learning, Theoretical Foundations of Machine Learning