

## Summary

Statistical learning researcher with theoretical focus and software skill to implement novel algorithms. Passionate about open source, reproducible AI/ML research. Topics of interest include Bayesian inference, statistical signal processing, reinforcement learning, and optimization.

## Education

- 2013–Present **Doctor of Philosophy**, *The George Washington University*, Washington, D.C.  
Electrical Engineering, *GPA – 4.0*
- 2010–2011 **Master of Engineering**, *Cornell University*, Ithaca, N.Y.  
Electrical and Computer Engineering, *GPA – 3.6, Cum Laude*
- 2006–2010 **Bachelor of Science**, *Cornell University*, Ithaca, N.Y.  
Electrical and Computer Engineering, *GPA – 3.0*, Minor in Engineering Management

## Experience

### Vocational

- 2022–Present **Electronics Engineer**, *U.S. Naval Research Laboratory*, Washington, D.C.  
Navy Center for Applied Research in Artificial Intelligence
- Designed supervised/reinforcement learning algorithms and Python software packages for cognitive resource management
  - Researched novel Bayesian learning functions to enable consistent model estimation with maximally flexible regularization
- 2011–2022 **Electronics Engineer**, *U.S. Naval Research Laboratory*, Washington, D.C.  
Radar Division, Advanced Signal Processing Section
- Generalized the Viterbi algorithm for Markov processes of any order, developed a computationally efficient implementation
  - Used deep learning to implement sequential classifiers for speech recognition using reflected radar transmissions
  - Developed automatic target identification software, including feature extractors and ensemble decision functions
- 2009 **Engineering Intern**, *Northrop Grumman Corporation*, Melville, N.Y.  
Wrote MATLAB programs to perform pulse-Doppler analysis of corrupted test data and automate repairs

## Computer skills

- Programming Python, MATLAB
- Development Git, L<sup>A</sup>T<sub>E</sub>X
- Libraries PyTorch, Tensorflow, Gym, Scikit-Learn, Numpy, SciPy, Pandas

## Distinctions

- Recipient of George Washington University High Academic Performance Award
- Recipient of Cornell University John McMullen Dean's Scholarship
- Recipient of National Merit Scholarship from Northrop Grumman Corporation

## Select Publications

Paul Rademacher and Miloš Doroslovački. Bayesian learning for classification using a uniform Dirichlet prior. In *2019 IEEE Global Conference on Signal and Information Processing (GlobalSIP)*, pages 1–5, 2019.

Paul Rademacher and Miloš Doroslovački. Predictive distribution estimation for Bayesian machine learning using a Dirichlet process prior. In *2019 53rd Asilomar Conference on Signals, Systems, and Computers*, pages 1941–1945, 2019.

Paul Rademacher and Kevin Wagner. Efficient Bayesian sequential classification under the Markov assumption for various loss functions. *IEEE Signal Processing Letters*, 27:401–405, 2020.

Paul Rademacher and Miloš Doroslovački. Bayesian learning for regression using Dirichlet prior distributions of varying localization. In *2021 IEEE Statistical Signal Processing Workshop (SSP)*, pages 236–240, 2021.

Taylor George, Kevin Wagner, and Paul Rademacher. Deep Q-network for radar task-scheduling problem. In *2022 IEEE Radar Conference (RadarConf22)*, pages 1–5, 2022.