Christopher J. Warner II, Ph.D.

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Summary

Computational neuroscientist and biophysicist with a passion for data science and machine learning. With a decade of expertise in the field, I enjoy systems level thinking and excel where technical ability and creativity are both required to bring various inputs together into algorithm solutions.

Skills

Expertise: Building machine learning algorithms (neural networks, regression, classification, clustering), dynamical systems modelling, Graph Theory, Bayesian inference, visual neuroscience and image processing, time-series analysis

Technology: Python, MATLAB, Labview, Mathematica, R, C++, Git, Docker, AWS, [Pytorch, Scikit-learn, Pandas, ...]

Experience

Lawrence Berkeley Laboratory — Oct 2023 - Present

***Postdoctoral Researcher**, Affiliate*

- Characterized vocal complexity by computing Predictive Information on human speech TIMIT dataset
- Trained CNN model to classify spoken phoneme based on from recorded spectrogram from TIMIT dataset

CODA Biotherapeutics — Jul 2021 - Mar 2022

***Machine Learning Engineer**, Consultant*

- Delivered full ML algorithm to predict interactions between proteins and drugs including NLP implementation
- Interfaced with biologists to guide protein synthesis; incorporating their feedback to guide model development
- Transitioned project into production by leveraging cloud computing, containerization and process engineering

University of California, Berkeley — Sep 2011 - Sep 2019

***Redwood Center for Theoretical Neuroscience**, Graduate Student Researcher*

- Pioneered retina-like image segmentation algorithm based on network modularity and anisotropic diffusion
- Built Bayesian latent variable model to infer unobserved cell assembly structure in spiking neural data
- Mentored undergrad students, guiding them in projects analyzing real world social network and global trade data

MIT, Lincoln Laboratory — Sep 2005 - Feb 2009

***Advanced RF Techniques & Systems Group**, Electrical Engineer*

- Spearheaded radar program through hardware dev, software integration, testing, data collection, analysis and results
- Created statistical analysis pipeline to detect and classify moving targets under foliage using radar signature
- Tested, maintained and fielded electronic moving target simulator hardware units for radar system calibration

Education

University of California, Berkeley — **Berkeley, CA**
Ph.D., Biophysics and Computational Neuroscience — *Sep 2011 – Sep 2019*

Ohio State University — **Columbus, OH**
B.S., Physics — *Sep 2001 – Jul 2005*

Selected Publications

Warner, C., Ruda, K., Sommer, F.: *Probabilistic latent variable model to detect structure in binary data.* (2022)

Warner, C., Sommer, F.: *A Model for Image Segmentation in Retina.* (2020)

Extras

I self-produced and engineered an album of original songs I wrote, performed and recorded.
I operate a stealth startup exploring computational poetry and lyric analysis in phoneme space.
I am passionate about mindfulness - with a growth mindset, geared towards embracing challenge.