Christopher Warner, Ph.D.

AI Engineer | Palo Alto, CA | (510) 730-9758 | cwarner@berkeley.edu | **US Citizen**
portfolio | linkedin | github | scholar

Professional Summary

Scrappy, hard-working AI Engineer/Scientist with expertise in generative diffusion models, biophysics and neural networks applied to vision, audio, text, EEG. I thrive at the intersection of technical ability and creativity, and on the collaborative edge where both participants are simultaneously teacher and student.

Education

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

Technical Proficiencies

- **Expertise**: Diffusion models, Computer Vision, Audio signal processing, Protein design, LLMs, State-space models, Autoencoders
- **Programming**: Python, SQL, MATLAB, C++, R, Shell, HTML, Labview, Mathematica
- **Libraries**: Pytorch, Lightning, Lingua, TorchTitan, Tensorflow, Tensorboard, WandB, Scikit-learn, Pandas, NLTK
- **Platforms**: Git, Docker, AWS, Slurm, Apache Airflow, Linux, Bash

Professional Experience

Zyphra Technologies Inc. — **Jun 2024 - Present**
***Member of Technical Staff**, Training Multimodal AI Foundation Models*

- Trained diffusion autoencoder model on EEG data as part of Brain Computer Interface foundation model
- Led audio dataset processing and contributed to architecture & multi-node training for Zonos TTS model
- Explored diffusion language models, including encorporating phoneme-representations into them

Diffusion AI — **Feb 2024 - Jun 2024**
***Cofounder & AI Researcher**, Generative AI Startup with Diffusion Models*

- Built conditional image generation pipeline with Denoising Diffusion Probabilistic Models (DDPMs) and Diffusion Autoencoders (DiffAE) to generate faces conditioned on identity and pose
- Explored application of diffusion models for phoneme-conditioned text generation and protein design

Lawrence Berkeley National Laboratory — **Oct 2023 - Jun 2024**
***Postdoctoral AI Researcher & Data Scientist**, Neural Systems Data Science Lab*

- Built ASR model in PyTorch to perform phoneme classification based on CNN architecture
- Characterized temporal complexity of bird & human vocalizations with 'Predictive Information'
- Improved algorithm runtime with efficient sparse matrix multiplication in Python with C++ libraries

CODA Biotherapeutics — **Jul 2021 - Mar 2022**
***AI Engineer & Data Scientist**, Receptor Modeling Group (Consulting Contract)*

- Developed AI model to predict protein-drug affinity by fine tuning protein transformer with company data
- Collaborated with biology team - communicating results and suggesting candidate proteins for synthesis
- Transitioned project into production by leveraging AWS Cloud, Docker containerization & Apache Airflow

University of California, Berkeley — **Sep 2011 - Sep 2019**
***Ph.D. AI Researcher**, Redwood Center for Theoretical Neuroscience*

- Built Bayesian latent variable model to infer hidden structure in binary data & fit it to retinal spike trains
- Pioneered image segmentation algorithm leveraging clustering & community detection, inspired by retina
- Mentored undergraduate students, guiding them in collaborative projects, and taught courses in mathematics, biology, neuroscience, statistics, data analysis & computational models of cognition

Personal

I value creativity, competence, collaboration and courage.
I embrace challenge with a growth mindset.