Christopher Warner, Ph.D.

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

Professional Summary

Collaborative & hard-working AI Engineer/Data Scientist with expertise in generative diffusion models, biophysics and neural networks for vision, audition and text applications. I thrive at the intersection of technical ability and creativity, and the edge where both are teacher and learner.

Education

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

Technical Proficiencies

- **Expertise**: Diffusion for Generative AI, Computer Vision, Protein design, LLMs, Autoencoders, LoRA
- **Programming**: Python, SQL, MATLAB, C++, R, Shell, HTML, Labview, Mathematica
- **Libraries**: Pytorch, Lightning, Tensorflow, Keras, Tensorboard, WandB, Scikit-learn, Pandas, NLTK
- **Platforms**: Git, Docker, AWS, Slurm, Apache Airflow

Professional Experience

Diffusion AI — **Feb 2024 - Present**
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 - Present**
Postdoctoral AI Researcher & Data Scientist, *Neural Systems Data Science Lab*
- Built automatic speech recognition (ASR) model in PyTorch to perform 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

University of Arizona — **Sep 2010 - Jul 2011**
Computer Vision & Robotics Researcher, *Electrical & Computer Engineering*
- Developed computer vision 'visual odometry' algorithm to geolocate ground objects from aerial images
- Coordinated semi-autonomous robot platforms using 'tier-scalable reconnaissance' for space exploration

Massachusetts Institute of Technology, Lincoln Laboratory — **Sep 2005 - Feb 2009**
Signal Processing Engineer, *Advanced RF Techniques & Systems Group*
- Spearheaded POC radar through entire project lifecycle; hardware build, software control & data analysis
- Created signal processing pipeline to detect & classify moving targets under foliage from radar returns

Personal

I value creativity, competence, collaboration, connection and courage.
I am passionate about mindfulness and embracing challenge with a growth mindset.