STEVEN SHEPARD

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AI/ML Research Engineer, Product Architect, Product Manager

EXPERIENCE

Relevant Experience

Consultant, AI Engineer May 2023- Dec. 2024
Freelance Santa Clara, CA
Consulted business owners and investors on generative and agentic AI technologies. Prototyped LLM and agent applications incorporating techniques like knowledge graph RAG for information retrieval. Applied diffusion model variants for deep unsupervised image generation. Investigated model compression using quantization and knowledge distillation. Deployed models using local and cloud compute resources. Designed UI wireframes, design systems, and user journeys. Launched beta web applications.

Chief Technology Officer, Co-Founder Jan. 2018- Oct. 2020
Terroir AI Palo Alto, CA
Led R&D and product development for AI-powered crop management for vineyards. Designed and built field-rad imaging system. Integrated computer vision for SLAM and video object detection and tracking using deep neural networks. Trained models on AWS cloud and deployed models to NVIDIA edge-compute for inference. Applied autoregressive machine learning models for yield prediction. Serviced wine regions in Northern California and Mendoza, Argentina.

Machine Learning/AI Graduate Researcher Sept. 2017- June 2021
Redwood Center for Theoretical Neuroscience, UC Berkeley Berkeley,CA
Investigated unsupervised neural network models to learn efficient representations of image and video data, inspired by visual neuroscience. Models had application for image/video compression, generation, visual scene analysis and medical imaging.

Researcher Summer 2014
Fraunhofer Institute for Biomedical Engineering Saarbruken, Germany
Modeled and developed novel electrodes for surgical neuromonitoring.

Other Experience

Chief Product Officer, Co-Founder Dec. 2021 - April 2023
Quasar Finance Berkeley, CA
Led product development and business strategy for a digital asset management software application using machine learning. Assisted fundraising over $11M in seed. Grew team 3x. Managed technical R&D and marketing efforts.

Product Architect, Investor Partner Dec. 2020- Dec. 2021
Advanced Blockchain AG International
Sourced and analyzed investing opportunities for decentralized finance applications. Led product architecture and product design for internal incubator portfolio companies.

Research Analyst Intern Summer 2020
Struck Capital Los Angeles, CA
Developed and evaluated sourcing channels, built internal deal-flow optimization, and conducted due-diligence research for decentralized finance and DAO software products.

UX Design Consultant Summer 2016
Stanford d.School + Autodesk San Francisco, CA
Conducted market and user research for interactive CAD software. Built prototypes for human-centric, generative AI software for 3D CAD modeling.

EDUCATION

PhD. University of California Berkeley | 2017-2020 (on leave)
B.S. Stanford University | 2011-2015

SKILLS

Disciplines: Machine Learning, AI, Data Science, Product Design
Programming Languages: Python, Javascript/Typescript, SQL, Rust, Go, Matlab
ML/AI Frameworks: PyTorch, Tensorflow
Data Analysis: Jupyter Notebooks, NumPy, SciPy, Excel
Web Frameworks: Node, ReactJS, NextJS, Angular, FastAPI
Development Tools: Git, Docker, AWS
Design: Adobe Creative Suite, Figma, Blender
Audio/Visual Production: Adobe After Effects, Adobe Premiere, Abelton
Languages: English (native), Spanish, Portuguese, German

PUBLICATIONS

Subspace Locally Competitive Algorithms (2020) Neurally Inspired Computational Elements.

Dopamine Receptor Expression Among Local And Visual Cortex-Projecting Frontal Eye Field Neurons (2020) Cerebral Cortex, Oxford University Press.

Differential Expression Of Dopamine D5 Receptors Across Neuronal Subtypes In Macaque Frontal Eye Field (2018) FrontierS In Neural Circuits.

Linking ADHD To The Neural Circuitry Of Attention (2017) Cell, Trends Cognitive Science.

Intelligent Technologies As Assistive Tools During Pelvic Intraoperative Neuromonitoring (2015) Technically Assisted Rehabilitation Conference.

AWARDS

UC Berkeley Chancellor Fellowship (2017-2019)
Rick Bay Student Innovator Award Recipient (2018)
Stanford in Berlin Krupp Fellowship (2014)
Emma Bowen Scholar (2012)
Sigma Phi Boule Scholar (2011-2015)