

Darian Nwankwo, Ph.D.

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Summary

Founding engineer who architected and shipped a live production ML product end-to-end (React/Next.js front end, FastAPI back end, and a Python data pipeline on cloud infrastructure), backed by a CS PhD in machine learning and applied mathematics (named inventor on a patent; research internships at LinkedIn, AMD, IBM, and Adobe). Equal parts 0-to-1 builder and rigorous researcher: I turn hard technical problems into systems that run in production.

Technical Skills

Engineering & Infra: React/Next.js, FastAPI, SQLAlchemy, PostgreSQL, Docker, CI/CD, DigitalOcean (App Platform, managed Postgres, Arq + Valkey), Clerk, Doppler, Sentry, PostHog

Languages: Python, TypeScript/JavaScript, Julia, C++, SQL, Bash

ML & Modeling: Bayesian optimization, Gaussian processes, probabilistic ML, uncertainty quantification, numerical optimization, scientific computing

Experience

Founding Engineer (Contract), ArcScore AI

Oct 2025 – Present

NIL athlete-valuation platform

Remote

- Architected and built the entire product end-to-end as sole founding engineer (Next.js/React/TypeScript front end, FastAPI back end, and a provider-agnostic Python data pipeline), taking ArcScore from a rough MVP to a live, production-ready platform launched in June 2026.
- Designed and implemented the core valuation engine (Performance and Marketability Indices → ArcScore → NIL valuation) with two other modeling leads (PhDs in statistics and operations research), the company's primary intellectual property.
- Provisioned and operated production infrastructure end-to-end across ~10 managed services on DigitalOcean (App Platform, managed Postgres, Arq + Valkey job queue) with Clerk auth, Doppler secrets, and Sentry/PostHog observability; built CI/CD and separate staging and production environments with no dedicated ops support.
- Scaled delivery by scoping and directing a 2-engineer contract pod to harden the front end; planned and drove the full roadmap in Linear.
- Built the engineering foundation at a company that has raised \$1M and signed deals with top-tier brands while still pre-revenue.

Graduate Researcher (PhD, Machine Learning), Cornell University

Aug 2018 – Present

Advisor: David Bindel

Ithaca, NY

- Dissertation, *Practical Algorithms for Multi-Step Lookahead Bayesian Optimization*: built methods (adjoint-mode stochastic gradients, horizon scheduling, cost-aware policies) that make non-myopic Bayesian optimization computationally practical.

Earlier Research Experience

2018 – 2023

LinkedIn, AMD, IBM, Adobe

- **LinkedIn** (Applied Research, 2023): built a predictive model for a 9-figure hardware-allocation forecasting problem, improving performance **13.39%** over the existing methodology.
- **AMD Research** (Scientific ML, 2022): uncertainty quantification for ML surrogate models that accelerate physics-based simulations; named inventor on US Patent 2025/0005236 A1 and co-author of a NeurIPS 2022 ML4PS workshop paper.
- **IBM Research** (2021) and **Adobe Research** (2018): analog-AI mesh-routing control; and voice + gesture control for image manipulation (speech recognition, NLP).

Education

Ph.D., Computer Science, Cornell University (Machine Learning)

Aug. 2026 (defended July 2026)

M.S., Computer Science, Cornell University

B.S., Computer Science, Morehouse College

Publications & Patent

Named inventor on US Patent 2025/0005236 A1; publications at NeurIPS (ML4PS) and INFORMS, plus an arXiv preprint on non-myopic Bayesian optimization. Full list: Google Scholar.