

Paul Yao Kudaya

Software Engineer | AI Enabled Products | React, TypeScript & Machine Learning

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SUMMARY

Software Engineer with 6+ years of experience delivering web, mobile, analytics, and enterprise software solutions. Experienced in React, Next.js, TypeScript, React Native, PostgreSQL, and cloud-native architectures. Currently pursuing an MSc in Computer Science at the University of East London with strong academic performance in Artificial Intelligence, Big Data Analytics, and Advanced Software Engineering. Interested in AI-enabled systems, scalable software architecture, and data-driven product development.

EXPERIENCE

Software Engineer

BoxPower

July 2024 - Present, California, USA

- Developed an AI-powered document generation and editing platform leveraging multimodal LLMs, tool-calling workflows, and image-based inputs, enabling users to generate client proposals and technical documents from screenshots, dashboards, and structured project data.
- Architected and developed high-precision internal tools for energy profile manipulation, enabling engineers to simulate complex electrical load configurations and microgrid designs with real-time feedback.
- Engineered a dual-stream analytics pipeline using Mixpanel and Next.js, providing end-to-end visibility into user interactions and application lifecycle events.
- Modernized legacy application security by refactoring authentication workflows, implementing secure session management, and improving system reliability through modular service-oriented architecture.
- Spearheaded the integration of complex data visualizations, converting raw energy interval data into actionable insights via interactive dashboards and custom charting components.

Software Engineer (Frontend)

EnvisoLive

January 2023 - June 2024, Accra, Ghana

- Developed web and frontend applications for diverse clients, collaborating within a team of three developers.
- Spearheaded the frontend overhaul of Fichi, a real-time application utilized by startups in the airline industry for booking involving fauna, introducing a new design pattern for enhanced efficiency.
- Led the migration of Tierpass; a live animal identity suite used by airline industry startups, from native builds to React Native, facilitating cross-platform accessibility.
- Delivered production-grade web and mobile applications using React, React Native, Next.js, TypeScript, PostgreSQL, Prisma, and Docker.

Software Engineer (Frontend)

Smatpet Logistics

September 2019 - December 2022, Tver, Russia

- Contributed to the design and development of a robust freight forwarding application for live animal logistics, ensuring a high-quality user experience for enterprise users.
- Designed and implemented an analytics dashboard to visualize key user behavior metrics, guiding iterative improvements for an enhanced user experience.
- Utilized HTML, CSS, JavaScript, Ajax, jQuery, and React in project development.

Quality Assurance Specialist

Blue Skies

September 2018 - September 2019, Nsawam, Ghana

- Implemented an in-process quality control system, improving product accuracy from 85% to 97%.
- Developed and executed comprehensive test plans, including functional, regression, and performance testing, to identify and rectify defects, enhancing product reliability.
- Streamlined testing processes through automation tools, reducing human error, and accelerating testing cycles, resulting in cost and time efficiencies.
- Documented, executed, and tracked test cases to meet company-wide audit requirements.

PROJECTS

DermaMNIST Skin Lesion Classification | Machine Learning & Computer Vision

- Developed and evaluated a CNN multi-class skin lesion classifier for 7 dermatological categories using the DermaMNIST dataset.
- Designed controlled ML experiments evaluating learning rates, training duration, network depth, and data augmentation, reporting mean $\pm$ std across 3 random seeds.
- Evaluated performance using balanced accuracy, macro F1, macro precision, OvR AUC, ROC/PR curves, and confusion matrices to counter severe class imbalance (67% majority class).
- Improved validation balanced accuracy from 0.255 to 0.309, a gain of 5.4 percentage points by identifying undertraining and scaling training duration.
- Conducted error analysis to identify majority-class bias and analyze the impact of low image resolution (28x28) on lesion feature extraction.

EDUCATION

Master's Degree (MSc), Computer Science

University of East London • (Expected 2027)

Selected Academic Performance

- Big Data Analytics (85%)
- Advanced Software Engineering (84%)
- Artificial Intelligence & Machine Vision (82%)

International Summer School: Trustworthy AI – Machine Learning Meets Blockchain (6 ECTS)

OTH Regensburg • 2026

Bachelor's Degree (BSc), Agricultural Biotechnology

Kwame Nkrumah University of Science and Technology • 2018

SKILLS

Languages: JavaScript (ES6+), TypeScript, Python, Java

Frontend: React, Next.js, React Native, Tailwind CSS, Framer Motion

Backend & APIs: Node.js, REST APIs, GraphQL, WebSockets, JWT, OAuth

Databases & Data: PostgreSQL, Hive, Hadoop

Backend Platforms: Firebase, Supabase

Devops & Tools: Git, Linux, Docker, Jest

AI & Machine Learning: PyTorch, Scikit-Learn, Analytics, CNNs, Computer Vision, Data Visualization, Machine Learning, Artificial Intelligence

PROFESSIONAL DEVELOPMENT

- DeepLearning.AI - Pytorch Fundamentals (2026)
- University of Pittsburgh - Linear Algebra and Regression Fundamentals for Data Science (2026)
- Udacity - AWS & ML Scholars Challenge (2026)
- Harvard University - CS50 Introduction to Computer Science (2025)
- IBM - Enterprise Design Thinking Practitioner (2022)