

MUHAMMAD ANWER

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CORE COMPETENCIES

- **Languages:** TypeScript, JavaScript, Python, SQL
- **Frameworks & Libraries:** React, Redux, NestJS, Next.js, Vite, Prisma, Tailwind CSS, Jest, React Testing Library, Scikit-learn
- **Architecture & Systems:** Microservices, event-driven systems, RabbitMQ, REST/OpenAPI (contract-first APIs), type-safe clients, cross-service integration
- **Reliability & Operations:** Incident management, production triage and mitigation, root cause analysis (RCA), runbooks, post-incident hardening, on-call rotations, Datadog (logs, monitors)
- **Cloud & DevOps:** AWS, Docker, Git, GitHub Actions, CI/CD, monitoring and alerting
- **Engineering Leadership:** System design (RFCs), design reviews, product/engineering collaboration, analytics instrumentation (Heap), roadmap input, code reviews, mentoring distributed teams
- **Stakeholder & Delivery:** Align non-technical stakeholders, manage upwards, and partner closely with product and design. Translate ambiguous requirements into scoped deliverables, surface tradeoffs early, and communicate risk before it becomes urgent. Comfortable in **agile** (sprints, standups, planning, retros); have led pilots, vendor demos, and post-incident reviews directly with customers and executives.
- **AI in Practice:** Force multiplier across the full SDLC, used every day. **Cursor + agentic coding** for feature scaffolding, refactors, and codebase navigation; **AI-assisted code review** to catch regressions before PR; **debugging triage** of incidents and stack traces; Production experience with OpenAI, Cursor, Cleric, Mendral, and Langbase; ML foundations in TensorFlow, PyTorch, Scikit-learn.

PROFESSIONAL EXPERIENCE

Senior Software Engineer (Contract)

Aug 2025 – Present

ESGTree

Remote

- Lead product engineering and full-stack development for a multi-tenant SaaS platform that helps financial institutions onboard SME portfolio companies, collect emissions data, and generate PCAF-aligned financed emissions reports. Stack: **Vite, React, TypeScript, Tailwind CSS, NestJS, Drizzle ORM, and PostgreSQL.**
- **0→1 MVP and pilot win:** led AI-assisted development of a full-stack MVP from prototype to production in under 4 weeks, guiding a team of 2 engineers while owning architecture, delivery, and key product tradeoffs. The product won a competitive vendor demo with Desjardins, securing a paid pilot with onboarding in progress.
- **AI-powered document parsing:** developed data ingestion workflows allowing SME users to upload CSV, Excel, and PDF files to auto-populate emissions forms through header matching, OpenAI-assisted extraction, post-AI validation, and human-in-the-loop review.
- **Dual-interface product design:** contributed across a data-dense financial firm dashboard for portfolio analysts and a guided step-by-step SME wizard, designing workflows around two distinct user personas while sharing a single backend architecture.
- **Production-grade backend refactor:** led a migration to modular **NestJS** architecture with clearer service boundaries, tenant-aware data access, session-based dual authentication, invitation flows, bulk import workflows, and stronger data integrity.
- **Scalable emissions data model:** established a database-driven activity model and hash-gated Excel seed system supporting 13 countries and bilingual English/French data entry, allowing emissions factors and sector data to be updated without code changes.
- **Testing and reliability:** built and maintained a 400+ test suite across 15 files covering unit, integration, and E2E flows, improving confidence as the system transitioned from rapid prototype to production-grade platform.

Full Stack Software Engineer

Jul 2022 – Present

LaunchGood

Remote

- Ship full-stack features for a global fundraising marketplace powering one-time donations and recurring giving across 150+ countries. Work across an **Nx monorepo** of 23 services and 17 shared libraries using **Next.js, React, TypeScript, Redux, Tailwind CSS, NestJS, Prisma, PostgreSQL, and RabbitMQ.**

- **Guest checkout and conversion lift:** delivered subscription guest checkout end-to-end in 1 week as a leadership priority, building the Next.js, Redux, Tailwind, and NestJS flow for subscription creation and one-click account completion. Identified security risks in the initial proposal and implemented safer alternatives; after launch, over 50% of new subscribers used guest checkout, improving conversions by ~40%.
- **Multi-step subscription onboarding funnels:** led technical direction for recurring-giving funnels across subscription programs, partnering with product to translate ambiguous requirements into shipped flows. Refactored legacy funnel logic, reviewed PRs, shipped reusable UI components, and added test coverage with **Jest** and **React Testing Library**.
- **Performance-oriented frontend architecture:** improved funnel performance using an app-shell pattern that combined server-side layouts with a client-side interactive shell, enabling faster initial loads while preserving complex multi-step subscription state in Redux.
- **Public profiles and partner dashboards:** built social-media-style public profile pages for partners and influencers, along with companion admin dashboards for engagement and audience insights. Owned end-to-end delivery across Next.js, NestJS services, database schema design, REST APIs, and automated tests covering critical paths.
- **Recurring fundraising management:** improved information architecture and dashboard workflows for charities managing recurring giving programs. Built reusable Next.js components and status-driven dashboard views surfacing configuration, subscription health, and key metrics at a glance.
- **Event-driven microservices:** implemented and maintained RabbitMQ producers and consumers across donation, charge, payout, settlement, and notification domains, helping keep async service boundaries explicit through publisher-owned exchanges and consumer-owned queues.
- **Incident response and production reliability:** led production triage using **Datadog**, **AWS**, and staging validation to isolate and resolve runtime errors, redirect loops, unstable API behavior, fragile error handling, and user-facing failure paths. Authored runbooks and led retrospectives to standardize mitigation and improve release safety.
- **Proactive Retool operations tooling:** built internal tools without a formal request, including a donor lookup console aggregating transactions, subscriptions, failed charges, and recharge actions across multiple data sources. Shipped scheduled-giving KPI dashboards with hourly breakdowns for scheduled, processing, succeeded, and failed donations, reducing on-call billing triage from hours to minutes.
- **Product analytics and experimentation:** defined and implemented end-to-end **Heap** instrumentation for checkout flows, subscription funnels, key user actions, A/B experiments, and failure points under a consistent event model. Partnered with product and growth teams to validate launches, measure funnel performance, and convert insights into roadmap priorities.
- **System design, RFCs, and safe releases:** authored and contributed to RFCs for recurring-giving, subscription billing, settlement workflows, and event-driven messaging. Coordinated CI-gated monorepo releases through **GitHub Actions**, upheld a high bar in code reviews, and mitigated regression risk through risk-aware decisions including reverts and safer follow-up plans.
- **Service contract standardization:** contributed to a client-library pattern centralizing per-service RPC contracts, DTOs, and Prisma schemas, reducing cross-service coupling and improving maintainability across the platform.

Owner, E-Commerce Ventures

Jan 2010 – Dec 2019

Self-employed

Remote

- Bootstrapped and scaled two online ventures over a decade: an e-learning platform and an Amazon FBA storefront, ultimately exiting with ongoing royalty income.
- **Product design and merchandising:** defined the catalog, designed packaging and listing imagery, and shaped the customer-facing brand end-to-end - acting as solo product manager, designer, and copywriter to ship a coherent line of digital and physical goods.
- **Supplier sourcing and negotiation:** qualified overseas manufacturers, negotiated unit economics and MOQs, and coordinated quality control and logistics to keep margins healthy as volume scaled.
- **Customer acquisition and retention:** ran SEO, paid acquisition, email funnels, and Amazon listing optimization to grow a global customer base; iterated on copy and creative based on conversion data to lift repeat purchase rates.
- **Content production:** authored and produced the full course library for the e-learning venture (video, written lessons, assessments), then maintained it through multiple revisions as the curriculum matured.
- **Operations and P&L:** owned inventory planning, cash flow, taxes, returns, and customer support across both ventures; turned operating discipline into a profitable steady-state that supported a successful exit.
- **Outcomes:** grew both ventures to sustainable profitability, sold the e-learning platform to a strategic acquirer with continuing royalty income, and built the systems thinking and product instincts I bring to engineering work today.

EDUCATION

Honours Bachelor of Computer Science

University of Waterloo

Waterloo ON

Graduate Certificate in AI & Machine Learning

Fanshawe College

London ON

Full-Stack Web Development Diploma

Lighthouse Labs

Online

INTERESTS & AFFILIATIONS

- Personal interests: badminton, basketball, swimming, strength training, parenting, finance, history
- Founder & President, London Badminton Club (2022-2026) - organize weekly sessions and local tournaments