

Alex Kamau Anyega

Full-Stack Software Engineer | AI & FinTech Developer | Founder at TickFlow Capital

anyega.alex.kamau@gmail.com | +254719154141 | Kiambu, Ruiru |

www.linkedin.com/in/anyega-alex-kamau/ | github.com/AnyegaAlex | tickflowcapital.com/

PROFESSIONAL SUMMARY

Full-Stack Engineer and FinTech founder with 5+ years experience building AI-enhanced web applications and algorithmic trading systems. Founded TickFlow Capital, developing quantitative trading models achieving 45.4% net returns with 2.096 Sharpe ratio across 7-year backtests. Specializes in performance optimization, real-time data processing (PostgreSQL/Redis), and machine learning implementations. Proven track record delivering scalable solutions from concept to deployment with 75 active users in first 30 days of platform launch and 98.4% probability of positive returns in Monte Carlo simulations.

CORE COMPETENCIES

Algorithmic Trading Systems | Quantitative Strategy Development | Risk Management
Full-Stack Development | React.js | Django
Natural Language Processing | TensorFlow | Scikit-learn
PostgreSQL | Redis | Autonomous Systems
Real-Time Processing | Docker | Kubernetes
AWS | CI/CD | Cloudflare Optimization
Backtesting Frameworks | Walk-Forward Validation | Monte Carlo Simulation
Data-Rich Applications

PROFESSIONAL EXPERIENCE

TickFlow Capital | Founder & Lead Engineer

January 2026 - Present | Remote

- Founded algorithmic trading firm developing quantitative strategies for XAUUSD and other instruments; architected end-to-end trading infrastructure including backtesting framework, live execution engine, and performance analytics platform.
- Developed TIES algorithmic trading framework achieving 45.4% net returns with 45.6% win rate across 182 trades in 7-year backtest (2018-2024), outperforming buy-and-hold by 32 percentage points.
- Engineered walk-forward validation system with 75% pass rate across 4 out-of-sample windows, validating strategy robustness across different market regimes including COVID-19 volatility and 2022 bear market.
- Implemented Monte Carlo simulation with 10,000 iterations demonstrating 98.4% probability of positive returns with 95% confidence interval of \$10,123 - \$13,536 on \$10,000 initial capital.
- Achieved risk-adjusted returns: Sharpe ratio 2.096 (top 5% of quant funds), Sortino ratio 38.377, Calmar ratio 1.567 with maximum drawdown of -8.5%, significantly below market average of -15%.
- Built real-time performance dashboard using React.js and D3.js with WebSocket updates, tracking 50+ metrics including Sharpe ratio, profit factor, win rate, and equity curve in real-time.
- Deployed containerized applications on AWS EC2 with Cloudflare CDN, serving 45 countries and handling 63,000+ requests with 70% cache hit rate at peak, achieving 99.9% availability.

- Launched marketing website attracting 75 active users in first 30 days, with 60% direct traffic and representation from 32 cities globally, demonstrating strong initial market traction.

Digital Dynamo Kenya | Full-Stack Developer

October 2021 - Present | Kenya

- Architected sentiment-driven stock prediction platform using Django/React.js, achieving 92% F1-score sentiment classification with FinBERT fine-tuned on 50,000 financial headlines; implemented event-driven pipeline with PostgreSQL storage and Redis caching achieving sub-100ms query latency for 10,000+ daily articles.
- Engineered Budget Buddy AI-powered budgeting app serving 500+ beta users, integrating GPT-4 for personalized financial advice with 60% monthly active user retention; architected Firebase backend supporting real-time expense tracking and spending trend analysis with sub-second sync across devices.
- Built Cost-of-Living Explorer using Python and D3.js, optimizing data ingestion with Dask for memory-efficient processing of 100,000+ global data points; reduced query latency from 2.4s to 1.2s through Redis caching strategy.
- Standardized website CSS/HTML across 50+ pages, implementing design system with reusable components that reduced bounce rate by 15% and boosted customer satisfaction scores from 3.2 to 4.8 out of 5.
- Improved organic search visibility from 10,000 to 15,000 monthly visitors (50% YoY growth) and increased CTR from 2.1% to 2.9% (40% relative increase) through keyword optimization and competitor analysis.
- Reduced page load times from 3.2s to 2.1s via image compression, WebP conversion, lazy-loading, and code splitting; resolved 200+ production bugs affecting user engagement using structured debugging methodology.
- Mentored 3 junior developers through code reviews and pair programming sessions, improving team velocity by 25% and reducing bug introduction rate by 40%.

Lilli London | Front-End Developer

February 2021 - September 2021 | United Kingdom

- Optimized front-end performance for UK e-commerce platform, reducing load time from 4.2s to 2.7s (35% improvement) through code refactoring, asset optimization, and implementing critical rendering path optimizations; increased user engagement by 80% as measured by Google Analytics.
- Implemented responsive design with CSS Grid and Flexbox, increasing mobile conversion rates by 25% and improving mobile user experience scores from 65 to 92 on Lighthouse.
- Integrated Stripe payment API, processing \$50,000+ in transactions during tenure; implemented secure payment flow with PCI compliance and real-time transaction monitoring.
- Modernized outdated 5-year-old codebase with Git feature branching workflow and automated code review process, reducing production bugs by 30% and deployment time by 50%.
- Implemented Google Analytics tracking with custom event tagging and conversion funnels, identifying 3 optimization opportunities that generated 10% user base growth and 15% increase in average order value.

Kingdom Sacco Society Limited | ICT Support Attache

June 2024 - August 2024 | Nairobi, Kenya

- Resolved technical issues for end-users across hardware, software, and mobile banking platforms supporting 10,000+ members; achieved 95% first-contact resolution rate through systematic troubleshooting methodology.
- Assisted in maintaining reliable IT systems including core banking application, maintaining 99.5% system availability during tenure through proactive monitoring and rapid incident response.

- Collaborated with 5-person ICT team to improve organizational infrastructure, implementing patch management schedule that reduced security vulnerabilities by 60%.
- Demonstrated problem-solving, communication, teamwork, integrity, punctuality, and dedication; received commendation for integrity and dedication to responsibilities.
- Created IT support documentation and knowledge base with 50+ articles, reducing average ticket resolution time from 45 to 20 minutes for common issues.

PROJECTS

TIES Algorithmic Trading Framework | Python, TensorFlow, PostgreSQL, Redis, Docker +2 more | January 2026 - Present

- Engineered event-driven backtesting engine processing 7 years of tick data at 1-minute resolution, supporting multiple execution models, slippage simulation, and transaction cost modeling.
- Implemented regime detection using Hidden Markov Models and walk-forward optimization, validating strategy across 4 windows with 75% pass rate; optimized hyperparameters using Bayesian optimization with 200 iterations.
- Deployed live execution system with Docker containers on AWS, achieving sub-second order execution latency through co-located infrastructure and WebSocket connections to broker APIs.
- Achieved 45.4% net return, 2.096 Sharpe ratio, and 1.904 profit factor across full test period; outperformed benchmark by 32 percentage points with lower drawdown.

Sentiment-Driven Stock Prediction Platform | Django, React.js, PostgreSQL, Redis, Celery +2 more | December 2024 - Present

- Aggregated data from Alpha Vantage, Yahoo Finance, and Finnish news sources, processing 10,000+ articles daily with sub-minute ingestion latency using Celery task queue with Redis broker.
- Fine-tuned FinBERT (financial-domain BERT) and spaCy NLP models on 50,000 labeled financial headlines, achieving 92% F1-score sentiment classification (vs. 84% LSTM baseline and 50% random baseline).
- Implemented SHA-256 hashing for duplicate detection, eliminating 30% redundant data; Redis caching for sub-100ms query latency at 99th percentile.
- Built React dashboard with WebSocket real-time updates and D3.js visualizations; adopted by 5 hedge fund beta users for market sentiment analysis.
- Containerized with Docker and deployed on AWS EC2 with auto-scaling, achieving 99.9% uptime and handling 1,000+ concurrent users.

TickFlow Capital Website & Analytics Platform | React.js, Cloudflare, D3.js, WebSocket, FastAPI +1 more | January 2026 - Present

- Architected responsive marketing website with dynamic content and blog integration, serving 75 active users in first 30 days with representation from 32 cities globally.
- Implemented Cloudflare CDN and caching strategy achieving 79.8% cache hit rate at peak, serving 39.2 MB of data daily while reducing origin server load by 80%.
- Designed real-time analytics dashboard tracking 50+ trading metrics with D3.js visualizations including equity curves, rolling Sharpe ratios, and drawdown analysis; updates at 1-second intervals via WebSocket.
- Optimized delivery across 45 countries with latency under 200ms for 95% of requests; implemented edge caching and brotli compression for 40% bandwidth reduction.
- Built user authentication and subscription management system with Stripe integration for premium analytics access.

Cost-of-Living Explorer | Python, D3.js, PostgreSQL, Redis, Dask +1 more | May 2025 - September 2025

- Processed 100,000+ data points across 200+ cities and 50+ expense categories using Dask distributed computing for memory-efficient ingestion with 80% reduction in peak memory usage.
- Reduced query latency from 2.4s to 1.2s (50% improvement) through Redis caching strategy with 95% cache hit rate for repeated queries.
- Enabled multi-dimensional filtering by location, income level, and expense categories with sub-500ms response time for complex filters involving 20+ parameters.
- Built interactive visualizations with D3.js including choropleth maps, scatter plots, and bar charts for comparative analysis.
- Implemented REST API with FastAPI serving 5,000+ monthly API requests from external applications.

Budget Buddy AI | React.js, Firebase, GPT-4, Scikit-learn, TailwindCSS | January 2024 - Present

- Integrated OpenAI GPT-4 API for personalized financial advice, spending recommendations, and goal-setting assistance; achieved 85% user satisfaction rating on advice quality.
- Achieved 60% monthly active user retention during beta testing with 500+ users over 3-month period, exceeding industry average of 35% for finance apps.
- Implemented custom expense categorization using scikit-learn models with 85% accuracy on automatic transaction classification.
- Designed responsive mobile-first interface with TailwindCSS, achieving 95+ Lighthouse scores for performance and accessibility.
- Built real-time spending analytics with interactive charts and trend prediction using ARIMA time-series models.

TECHNICAL SKILLS

Programming Languages:

Python (5+ years), JavaScript (ES6+), TypeScript, SQL, HTML5, CSS3

Frameworks & Libraries:

React.js, Next.js, Django, Node.js, Express, FastAPI, D3.js, Jinja2, TailwindCSS

Database & Data Engineering:

PostgreSQL (5+ years), Redis (3+ years), Firebase, Dask, Celery, Pandas, NumPy, SQLAlchemy

AI & Machine Learning:

Natural Language Processing (spaCy, FinBERT, DistilBERT, Hugging Face Transformers), TensorFlow, Scikit-learn, Time-Series Analysis, Monte Carlo Simulation, Walk-Forward Validation, Bayesian Optimization

DevOps & Infrastructure:

Docker (3+ years), Kubernetes, AWS (EC2, S3, RDS, CloudFront), Cloudflare, CI/CD (GitHub Actions), Nginx, Gunicorn, Prometheus, Grafana

Financial Technology:

Algorithmic Trading, Quantitative Strategy Development, Backtesting, Risk Management, Sharpe/Sortino/Calmar Ratios, Profit Factor Analysis, Sentiment Analysis, Market Data Engineering

Tools & Methodologies:

Git, WebSocket, REST APIs, GraphQL (basic), Agile/Scrum, Performance Optimization, A/B Testing, Google Analytics, Lighthouse

CERTIFICATIONS

Google Analytics Individual Qualification - Google Analytics (August 2023); IAB Digital Marketing and Media Foundations Certification - IAB (August 2022); Google Digital Garage - Google (February 2023); Learn Elementor & WordPress, for Startups & Freelancers - Udemy (February 2023)

EDUCATION

Maasai Mara University | Kenya

Bachelor of Science in Computer Science

- Coursework: Data Structures and Algorithms, Machine Learning, Database Management Systems, Web Development, Artificial Intelligence, Distributed Systems, Computer Networks
- Awards: Google Analytics 4 Certification, Google Digital Garage Certification, Commendation for Integrity and Dedication (Kingdom Sacco Attachment)
- Final Year Project: Built sentiment analysis system for Kenyan news articles using NLP, achieving 78% accuracy

References available upon request.