CYCUS PECTUS

SENIOR DATA AND AI ENGINEER + SECURITY

Data & AI Engineer with **6+ years** of experience building intelligent, secure data systems that combine robust data engineering with machine learning, LLM integration, and cybersecurity expertise. Proven track record of architecting scalable ETL pipelines, deploying production ML models, and implementing AI-powered solutions that process millions of records daily. Strong foundation in security-first development, vulnerability assessment, and ethical hacking with active bug bounty contributions to Fortune 500 companies.

LinkedIn | GitHub | Portfolio | Articles | Twitter

CORE SKILLS

Data Engineering & ETL

- Apache Airflow, ETL Pipeline Design
- BigQuery, Data Warehousing
- Streaming Data Processing (Kafka)
- Data Quality & Validation
- Real-time Data Processing

AI & Machine Learning

- LLM Integration (GPT-4, RAG Systems)
- ML Model Development & Deployment
- Recommendation Systems
- Data Science (Python, R)
- NLP & Document Intelligence

Cybersecurity & Testing

- Penetration Testing (Web & Mobile)
- Vulnerability Assessment (OWASP)
- Security Tool Development (Go, Python, Bash)
- Ethical Hacking (HackerOne/Bugcrowd)
- Secure Architecture Design

Cloud & Development

- GCP (BigQuery, Cloud Run, GCS)
- AWS (EC2, S3, RDS, Lambda)
- Python (Advanced), Go, R
- Docker, Kubernetes, CI/CD
- PostgreSQL, MongoDB, MySQL

PROFESSIONAL EXPERIENCE

SENIOR DATA AND AI ENGINEER

June 2025 - Sept 2025

Plancave LTD

Nairobi, Kenya

- Spearheaded **cloud migration to GCP**, implementing AI-ready data infrastructure with Google Cloud Storage and BigQuery for scalable analytics serving **100K+ architectural plans**
- Developed **LLM-powered document parsing system** using **GPT-4 API** and advanced prompt engineering to automatically extract and structure Bill of Quantities (BoQ) from PDF documents, achieving **95% accuracy** and **70% reduction in manual data entry**
- Built **ML recommendation engine** with feature engineering pipelines and embeddings-based similarity search, driving **35% increase in customer engagement** and **22% boost in conversion rates**
- Implemented **end-to-end ML data pipelines** with automated validation, quality checks, and anomaly detection using statistical methods and supervised learning models
- Designed **RAG (Retrieval-Augmented Generation) system** combining LLMs with vector databases for intelligent search across architectural documents and design specifications
- Created automated **data quality frameworks** ensuring **99.9% accuracy** across multiple data sources including structural drawings, BoQ entries, and designer profiles
- Implemented **security-first architecture** with encrypted data pipelines, IAM policies, and compliance monitoring for sensitive architectural data

LEAD CLOUD DATA & OPERATIONS ENGINEER

Sep 2024 - Apr 2025

Firebird Music

Nashville, TN, USA

- Architected **ETL infrastructure** processing **10M+ music analytics records daily** using Apache Airflow and BigQuery, enabling real-time insights for 5,000+ artists
- Built intelligent **automation workflows** using Selenium and Python for third-party platform authentication (Spotify, Apple Music, Amazon Music), eliminating manual data collection
- Designed **RESTful APIs with Flask** to deliver real-time analytics dashboards, enabling data-driven decision making for artists and record labels
- Implemented **predictive analytics workflows** using ML models to identify trending songs, artist growth patterns, and revenue forecasts
- Deployed production applications on **Google Cloud Run and Compute Engine** with auto-scaling, achieving **99.95% uptime**
- Developed internal **CLI tools in Python** for pipeline monitoring, automated deployment, and Airflow job orchestration

SOFTWARE ENGINEER

Ticket Wallet - The Best Place to Sell Tickets

Delaware, USA

- Built platform enabling users to **sell smarter with AI-powered pricing and distribution**, processing thousands of ticket transactions with intelligent price optimization
- Developed **Django-based analytics platform** for ticket sales data, providing **ML-driven insights** for revenue optimization and demand forecasting
- Optimized **PostgreSQL databases on AWS RDS**, improving query performance by **20%** through indexing and query optimization strategies
- Implemented **automated testing and CI/CD pipelines** with GitHub Actions, reducing deployment time by **50%**
- Developed **real-time monitoring dashboards** using AWS CloudWatch for system health tracking and anomaly detection

SENIOR SOFTWARE ENGINEER

June 2021 - Jan 2023

Intel-Effect Business Solutions

Ouagadougou, Burkina Faso

- Developed **data analytics and visualization workflows** using Python and R, creating automated business intelligence reports with **predictive insights**
- Built **machine learning models** for **inventory forecasting and demand prediction** in e-commerce platforms, improving supply chain efficiency
- Designed **RESTful APIs** for real-time data exchange and analytics delivery, enabling data-driven decision making
- Leveraged **PL/SQL and Oracle EBS** for complex data transformations and backend business logic implementation
- Managed **GCP infrastructure** with automated deployment pipelines for ML models and data services

SOFTWARE ENGINEER | PENETRATION TESTER

Jan 2020 - Jan 2023

Cyteque Technologies

Nairobi, Kenya

- Designed **scalable backend systems on AWS** with focus on data processing efficiency and secure ML model deployment
- Performed **full-scope penetration testing** (physical and remote) to identify vulnerabilities and deliver security improvements across systems
- Administered **PostgreSQL databases** optimized for analytics workloads and ML training data with security-first configuration
- Built data pipelines for **security analytics and threat intelligence** aggregation, processing vulnerability data in real-time

ETHICAL HACKER

Jan 2020 - Present (Part-time)

HackerOne & Bugcrowd

San Francisco, USA (Remote)

- Active **bug bounty hunter** specializing in web and mobile application security, identifying critical vulnerabilities across high-profile organizations
- Reported security findings to **Fortune 500 companies** including Safaricom, Harvard University, IKEA, FBS Forex, and Wamba.com
- Developed **custom offensive security tools** using Go, Python, and Bash for automated vulnerability discovery and exploitation
- Leveraged **advanced Linux command-line techniques** and automation scripting to streamline penetration testing workflows
- Contributed to cybersecurity awareness through **security writeups and responsible disclosure** practices

SOFTWARE ENGINEER

Nov 2018 - March 2020

Yaxen Construction LTD

Nairobi, Kenya

- Led development of company websites and applications using **Python, Flask, Django, JavaScript**, with strong focus on data security
- Built **data management systems** with MySQL for project tracking, inventory, and workflow optimization
- Implemented **security measures** including input validation, SQL injection prevention, and secure authentication

FREELANCE BACKEND DEVELOPER

Oct 2018 - June 2021

Upwork | Various Clients

Remote, Global

- Specialized in **backend development using Python (Django, Flask)**, delivering high-quality solutions for diverse client projects
- Built **data processing pipelines**, web scraping tools, and automated ETL workflows for data migration and extraction
- Optimized application performance and database queries, improving load times and system efficiency

EDUCATION

BSC MATHEMATICS AND COMPUTER SCIENCE

Taita Taveta University