

Ziad Elsherif

AI Systems | Machine Learning | Data Infrastructure | Technical Leadership

Building AI infrastructure, teams and production systems for a multi-industry group.

B2B + B2C Systems across enterprise, product and consumer contexts	Research to Production Data, ML, validation, APIs, automation and monitoring	Founder + CTO Technical architecture plus operational leadership
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Electronics & Communications Engineering graduate (2026), CTO & Head of Data Management at Ace Virtual Assistance, and current M.Sc. Financial Economics student. This portfolio covers six systems I have built or led. Each entry describes what the system does, how it is put together, and what my role was.

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CONTENTS

What is in this portfolio

PART I / SYSTEMS

	Overview	3
01	AVA Enterprise Operations Platform	4
02	REIP - Automated B2B Data Intelligence	5
03	TRIVMIRI - Quantitative Trading & ML Infrastructure	6
04	Plateful - AI Menu Intelligence Platform	7
05	Wi-Fi Human Activity Recognition	8
06	Community X	9

PART II / CLOSING

	What I bring	10
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Overview

Capability map

Enterprise AI AVA operations platform and CRM	Data Intelligence REIP acquisition, enrichment and scoring	AI Product Plateful B2B2C menu intelligence
Quantitative ML TRIVMIRI research and execution stack	IoT / Signals ESP32 Wi-Fi activity recognition	Founder Ops Community X

Breadth across business models

Environment	Systems	Scope of work
B2B / Enterprise	AVA CRM + REIP	Internal operations, data pipelines, integrations, workflow automation
B2B2C	Plateful	Commercial AI product, analytics, recommendations, full-stack engineering
Research / Applied	ESP32 HAR, TRIVMIRI	Signal processing, feature engineering, validation, automated execution
Consumer / Venture	Community X	Founder operations, product coordination and execution

AVA Enterprise Operations Platform

Enterprise B2B | CTO & Head of Data Management | 2024-Present

AVA is a full-stack CRM and operations platform for a U.S.-focused business. It is not a single-purpose tool; it runs the day-to-day work of the company. I own its architecture, data operations and automation, and I lead the technical team building it.

System architecture

React / Vite UI	FastAPI / Python	PostgreSQL / Supabase	External integrations	Real-time + background jobs
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What the platform covers

- Identity and access. Role-based authentication with separate admin and agent experiences.
- Revenue operations. Lead and pipeline management, campaign workflows, CSV and bulk data ingestion.
- Communications. CallTools telephony integration, call recording and transcription, operational messaging.
- Workforce. Chat, tickets, unified inbox, payslip and payroll workflows, presence, shift and break-state handling.
- Reliability. Reporting, monitoring, backups and scheduled jobs.

My role

Technical architecture and build-versus-buy decisions. Data model and pipeline design. Integration strategy with external services. Team leadership, and turning operational requirements from the business into engineering priorities.

REIP - Automated B2B Data Intelligence

Data Engineering | Automation | Lead Scoring

REIP is an automated pipeline that turns fragmented public and business data into a prioritised call list. It gathers records from several sources, enriches and cleans them, scores them, pushes the best ones into an outreach workflow, and then uses the outcome of those calls to improve later scoring.

Pipeline

Acquire	Enrich	Resolve / Clean	Score	CRM + Outreach	Feedback
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What the system does

- Acquisition. Pulls from several sources including maps and directories and selected state and business registries.
- Enrichment. Owner-name, email and phone lookups run as a waterfall, with validation and deduplication at each step.
- Scoring. A rule-based composite score alongside trained ranking models.
- Command Center. An API and dashboard for running jobs, browsing leads, logging call outcomes and triggering retraining.
- Feedback. Call outcomes are fed back so lead-quality scoring improves against real results rather than assumptions.
- Data handling. Lead records and call logs are held separately from application code and are not shared outside the business.

My role

I designed the pipeline end to end: source selection, the enrichment and entity-resolution logic, the scoring approach, the Command Center API and dashboard, and the feedback loop that connects call outcomes back to scoring.

TRIVMIRI - Quantitative Trading & ML Infrastructure

Quantitative ML | Research to Production | Automated Execution

TRIVMIRI is the most technically demanding system in this portfolio. It runs the full path from market data through research and modelling to live execution. Systematic trading is a demanding place to build because time-series data, leakage control, out-of-sample testing, transaction costs, risk limits and live execution all have to work at the same time.

Architecture

Market data	Feature / alpha research	ML models	Walk-forward validation	Portfolio + risk	Broker execution	Monitoring
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What is in the system

- A multi-asset market-data warehouse and a large feature and alpha research environment.
- Modelling work using XGBoost, feature selection, calibration, meta-labeling, ensembles and regime-aware components.
- Walk-forward and out-of-sample evaluation, backtesting, Monte Carlo runs, and stress and friction testing.
- Portfolio construction and risk controls, including volatility-aware sizing, stop and risk logic and exposure limits.
- Live signal generation, OANDA connectivity, execution controls and automated reporting.
- Operational checks covering signal auditing, data freshness and safe deployment.

Testing approach

The testing setup matters more here than any single result. Models are evaluated walk-forward rather than on a single split, costs and slippage are applied before a strategy is judged, and signals are audited against fresh data before anything reaches execution. Performance figures are available and I am happy to walk through the methodology behind them.

My role

Sole designer and builder across the whole stack, from the data warehouse and feature research through model development, validation, portfolio and risk logic, broker integration and monitoring.

Plateful - AI Menu Intelligence Platform

B2B2C AI Product | Founder / Product Builder | IEEE YESIST12 Finalist

Plateful is a restaurant analytics and menu-engineering product: an Express API with a React Native and Expo application on top. Restaurants connect their menu and sales data and get back pricing and menu recommendations. It is the one system here that went all the way to a commercial product with users outside the business that built it.

Architecture

Restaurant data	Node / Express API	MongoDB / Mongoose	Analytics + AI	React Native / Expo
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What the product does

- Authentication with persistent user, menu and sales data models.
- Menu management, sales analysis and restaurant-level analytics.
- An AI layer generating pricing and menu-strategy recommendations.
- A customer-facing mobile app built with React Native and Expo.
- A deployment path covering the hosted backend and the mobile and web builds.

Recognition

Selected as a finalist in the IEEE YESIST12 2026 Special Track, from a field of over 2,000 international submissions. The Grand Finale is scheduled for 2-3 October 2026 in Jakarta, Indonesia.

My role

Founder and product builder. I made the product decisions about what to surface, what to automate and what to leave to the restaurant operator, and I built the backend, the analytics layer and the mobile application.

Wi-Fi Human Activity Recognition

IoT | Signal Processing | Applied Machine Learning

A small end-to-end system using two ESP32 boards. One transmits, one receives, and the disturbance a person causes in the Wi-Fi signal between them is used to classify what that person is doing. No cameras and no wearables. It is limited in scope but complete, running from the firmware on the boards through to a trained classifier.

22,580 real-world RSSI samples collected	3 classes Standing Walking Jumping	96.27% test accuracy
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End-to-end path

ESP32 transmitter	Wi-Fi disturbance	ESP32 receiver	Python preprocessing	Feature extraction	Random Forest
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Method

- RSSI sampled at 50 Hz across real activity sessions.
- Windows of 100 samples with 50% overlap.
- Statistical and frequency-domain features: mean, standard deviation, peak-to-peak, MAD and PSD features.
- A Random Forest classifier evaluated on a stratified 70/30 train and test split.

My role

Built the whole thing: the firmware on both boards, the collection sessions, the preprocessing and feature extraction, and the classifier and its evaluation.

Community X

Founder & Operations Lead | Consumer / Founder Platform

Community X is a founder-focused operating environment. I lead operational direction, product coordination and execution. The work is deciding what gets built and in what order, keeping it moving, and calling when something is done.

It is the smallest entry here and I have included it for the operating side rather than the engineering. Running an AI function involves a fair amount of prioritisation and sequencing, and this is where I have done that.

The six systems at a glance

System	What it is	Business model
AVA	Full-stack CRM and operations platform	B2B internal
REIP	Automated data acquisition, enrichment and scoring pipeline	B2B
TRIVMIRI	Quantitative research and automated execution stack	Quantitative / research
Plateful	Commercial restaurant analytics and menu product	B2B2C
ESP32 HAR	IoT signal-based activity classifier	Research / applied
Community X	Founder operations and product execution	Consumer / founder

What I bring

Hands-on engineering together with operating responsibility. I can work through the data, build the system, test it properly, get it into a workflow people use, and explain clearly what it can and cannot be relied on for.

Build Complete systems rather than prototypes	Validate Testing, out-of-sample evaluation and sensible safeguards	Operate APIs, workflows, monitoring and business integration
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On experience

Measured in years I am early in my career. Measured in systems taken from an idea through to something running in a business, the record is longer, and most of it has been built while holding technical responsibility in a company that depends on the result.

Selected credentials

- B.Sc. Electronics & Communications Engineering, Arab Academy for Science, Technology & Maritime Transport, 2026.
- M.Sc. Financial Economics, Manipal Academy of Higher Education (MAHE), current.
- CTO & Head of Data Management, Ace Virtual Assistance, 2024 to present.
- Finalist, IEEE YESIST12 2026 Special Track (Plateful). Grand Finale, Jakarta, October 2026.