Curriculum vitae | EN

Łukasz Kretowicz

AI Systems and Quantitative Research

Phone / email to be added

eais.pl | fruh.pl | e37.pl | Remote work or relocation

PROFILE

I design, build and deploy AI systems and quantitative trading research tools. I created fruh for market data and strategy research, connecting published methods with implementation and validation. I created EAIS and authored 40 learning materials, and develop applications for my e37 business. My work covers product design, UI, backend, databases and the server environment.

SELECTED DEPLOYMENTS AND PROJECTS

fruh quantitative trading and strategy research

Built a quantitative research platform: dashboards, scanners, APIs, RTI, Strategy Lab and KOTWICA/KOMPAS/NOVA engines. Integrate Hyperliquid, Binance and other market-data sources; develop persistent state, simulation and paper/shadow observation. Stack: Python, Node.js, FastAPI, pandas, NumPy and SQL.

Define hypotheses, variant grids and acceptance criteria before experiments. Implemented replay using causally available data, closed candles and consistent entry/exit rules. Model fees, slippage, gaps and event ordering; test sensitivity to costs and changes to strategy components.

Build chronological validation and walk-forward workflows, daily block bootstrap, multiple-testing diagnostics and Deflated Sharpe Ratio. Applied combinatorial splits with purge/embargo in a later experiment. Develop synthetic tests, data-quality and provenance checks, and separate Python reconstructions of indicators and execution.

Built a library of 78 research entries and quant notes at fruh.pl/literatura, covering price action, order flow, microstructure, perpetuals, liquidation cascades, econometrics, execution and risk. Selected validation methods draw on Marcos López de Prado's Advances in Financial Machine Learning and the Bailey–López de Prado DSR paper.

EAIS platform and AI education

Designed, built and deployed a learning-content platform with accounts, activation, Mollie payments, webhooks, a personal library and downloads. Combined Next.js, React, TypeScript and MariaDB with access controls, expiring tokens and idempotent payment processing.

Authored the curriculum and content for 40 learning materials on AI agents, Codex, MCP, LLM evaluation, security and integrations. Created exercises, labs, quizzes and quality criteria. I connect AI product development with organizing technical knowledge and creating practical learning content.

BUSINESS APPLICATIONS AND INTEGRATIONS

e37 and MMApp

Own and operate a used automotive parts business. Built applications for product intake, listing publication, orders and operator workflows. Implemented Allegro OAuth and Ads API integrations, marketplace adapters, user roles, action history and approval for selected operations. I turn the daily needs of the business into software and automation.

APIs and data workflows

Build integrations with Google Ads API, Google Sheets, Mollie, market-data APIs and Telegram. Integrated Fakturownia in a legacy EAIS module and connected Telegram to a Codex task queue. Design OAuth flows, data mapping, SQL persistence, error handling and operational controls. Use Google Cloud to configure API access.

LexAgent voice and multimedia

Created LexAgent with OCR, vector search, multi-model analysis and document export. Built a Phone Agent prototype combining STT, TTS, an LLM and Asterisk. Develop web interfaces, Canvas applications and Virtual Creator Studio, an MVP with text, image and video provider adapters.

Server infrastructure and application operations

Built and administer my own Debian environment. Deploy applications with Docker Compose and Nginx, configure reverse proxies, domains, TLS, systemd and cron. Configure SSH access, firewall rules and Fail2ban. Operate project and database backups with retention on a separate NVMe disk and troubleshoot service failures and dependencies.

TOOLKIT AND WORKING APPROACH

Use Codex, Hermes and OpenCode through CLI and desktop applications. Delegate work across UI and design, backend, SQL, multimedia and research. Define task scope and context, coordinate agents, review results, integrate their work and make deployment decisions.

Project technologies: Python, JavaScript, TypeScript, PHP, Next.js, React, FastAPI, SQLAlchemy, MySQL/MariaDB, SQLite, Redis, Docker Compose and Nginx. Work with SQL databases, data flows, repositories, logs and service configuration.

I prefer building and demonstrating results. I use published research to develop applications, experiments and validation workflows.

LANGUAGES AND AVAILABILITY

Polish; English B2/C1. Available for remote work with international teams and open to relocation.