ALEXEY ILENKO

AI Systems & Workflow Engineer

Agentic Systems · Applied AI · Industrial Automation

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PROFILE

20+ years of engineering practice in oil & gas and industrial construction. I know technical documentation from the inside: where it diverges from the actual site and why it gets sent back for rework. I build agentic AI systems for this documentation and use them in my own work.

AGENTIC ARCHITECTURE

I design multi-agent workflows: task decomposition, specialized executors and sub-agents, context hand-off, independent maker/checker roles and a final quality gate. Work loop: task definition → implementation → verification → acceptance.

Working environment: Claude Code, Hermes Agent, CLI and MCP integrations. I run deployment, data handling and service maintenance on VPS, with separate development and production environments. Data is hosted and processed in line with data-localization and cross-border transfer requirements (Russia’s 152-FZ, KVKK, GDPR).

APPLIED SYSTEMS

- AI assistant for site documentation
- AutoCAD/DWG automation
- incoming-inspection document generator
- vision-LLM and document search
- technical reporting
- AI video for training and presentations

Use cases, interfaces and demos are on the portfolio pages.

TECHNOLOGIES

AGENTS & LLMS

`Claude (Fable, Opus, Sonnet), GPT, Claude Code, Hermes Agent, MCP, context engineering, agent skills, RAG, vision-LLM, structured outputs, prompt versioning.`

DEVELOPMENT & DATA

`Python, FastAPI, REST API, PostgreSQL, Supabase, pgvector, AutoCAD/DWG.`

INFRASTRUCTURE

`Linux VPS, Docker, nginx, TLS, WireGuard, dev/prod isolation, backups.`

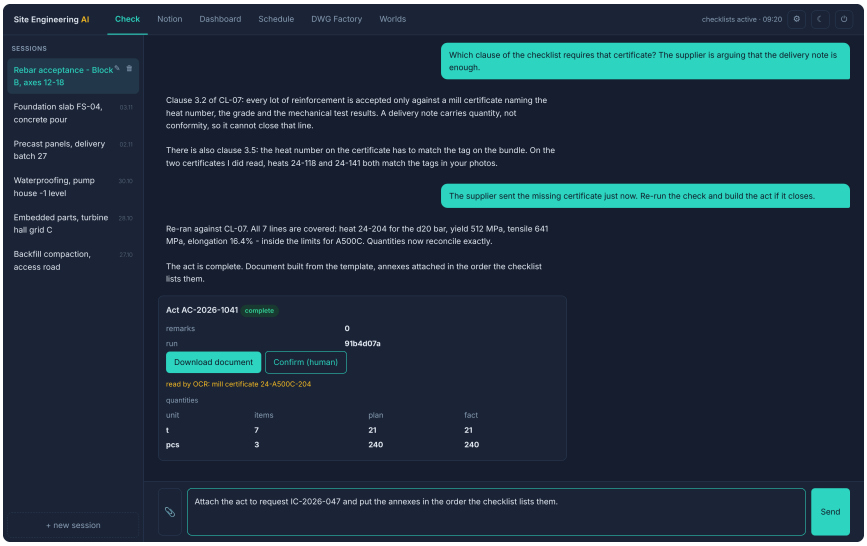
ENGINEERING BACKGROUND

Baker Hughes · Halliburton. Drilling and production, industrial construction including a gas-chemical complex and a nuclear power project; construction supervision and QA/QC. Coordination of contractors, schedules, budgets, contracts, technical and as-built documentation.

PORTFOLIO · 01

Site Engineering AI — a digital assistant for site documentation

Talk to the site instead of digging through folders: the agent runs a construction project's as-built documentation and works with AutoCAD drawings.



Is the act ready for handover?

The agent checks a delivery batch against the checklist and cites the exact requirement clause. It reads certificates via OCR, reconciles planned vs. actual quantities and assembles the acceptance act with annexes in checklist order. Final sign-off stays with the engineer.

`vision-LLM · OCR · checklists · human confirm`

Where is the handover stuck?

Site overview: how many acts are at each stage, where the bottleneck is, which documents failed to parse, which remarks are still open. Any slice can be requested in chat, and the agent breaks it down by contractor and cause.

`act pipeline · analytics · natural-language queries`





The drawing as a data source

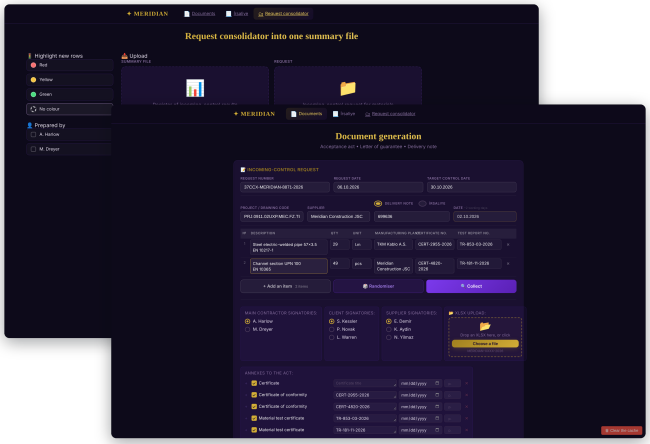
Works with AutoCAD drawings (DWG): checking and refining existing drawings, extracting schedules from block attributes and reconciling them with bills of materials.

`DWG / DXF · AutoCAD`

PORTFOLIO · 02

Incoming-inspection document generator

One form — the whole package



One entry, full package

The incoming-inspection act, letter of guarantee and delivery note are filled from a single form, including Turkish İrsaliye waybills. No mismatches between documents, no re-typing.

Signatories and annexes

Certificates, declarations and test reports are attached to the act as a list of annexes. Signatories of all three parties are picked with one click.

Consolidated register

Inspection requests are merged into a single register, with new rows highlighted in color.

PORTFOLIO · 03

AI video

Generative videos for training and client communication

Training for junior site engineers

A series in Russian, one video per topic. Shown: a lecture on the pipeline welding log for external water supply and sewer networks.

Watch: youtu.be/ENm7RfjJRGs

Company presentation for a client

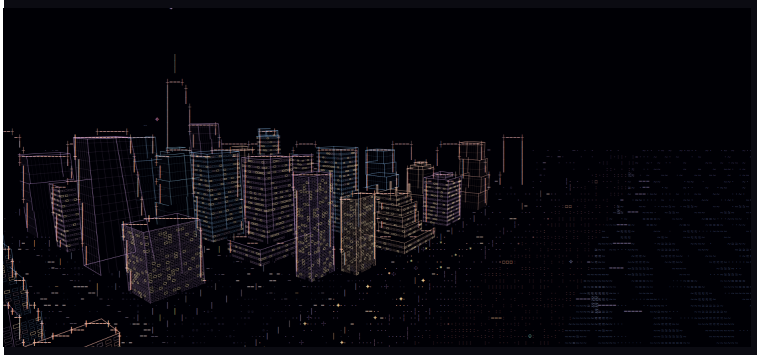
A video in Turkish, made for a Turkish client.

Watch: youtu.be/yku2Um8AY_w



PORTFOLIO · 04

Side project



MIRAMAR

`Procedural ASCII City`

A small experimental project, made for the soul. An endless, procedurally generated coastal city built from ASCII characters. Free roaming, a living urban environment, ocean surf and three internet radio stations. A place to simply wander around and listen to music.

miramar.okneli.com

All data on the screens is anonymized.