# Valerian Gadua

**AI Automation for Construction · Construction Estimator**

Tbilisi, Georgia (remote, async-friendly) us.val.89@gmail.com +995 599 076 124 (WhatsApp) linkedin.com/in/valerian-gadua-89b233439

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**Case studies: valerian.trylistlift.com — production AI systems and 69+ real estimates**

## SUMMARY

I build AI systems for construction companies, and I know the work behind them: 10 years of site supervision and QC on high-rise projects, then 4 years running the whole technical side of a renovation contractor (estimates, tenders, estimate audits). My systems run in daily production, not demos: an operations app where Claude reads foremen's notes, fills completion certificates and reads estimates from PDF, and unattended monitors that report their own failures. The rule I build by: the model reads and suggests, the code checks it and does every calculation. I write the specs and rules, test on live projects and ship; the code is written with Claude Code as my coding agent.

## SELECTED AI WORK

**Operations platform for a renovation contractor — production** **Aug 2026 — Present**

Construction Georgia, Tbilisi · web app + Telegram · built and run solo

- The company runs its live projects on it instead of WhatsApp and Excel: tracked estimates with on-screen signature, a client portal (stages, photo log, invoiced vs. paid), acts and payments; 290 project documents are read straight from the company's Google Drive, which stays the source of truth.
- **Foremen's notes → estimate lines.** Claude splits a free-text site note into work lines and matches each to an estimate item; a unit that differs from the estimate is flagged, and work written in new words is matched to work already recorded, so one job never becomes two lines in an act.
- **Completion certificates.** Claude maps a foreman's quantities onto the act draft. Old acts are read from PDF by rules first; when the totals don't reconcile, Claude extracts the table and the result closest to the signed total wins. Estimate totals are read from the PDF actually sent to the client and cross-checked with the Excel file.
- **Voice and language.** Site voice reports in Russian or Georgian (Whisper, then Claude: Haiku for Russian, Sonnet for Georgian) with an offline queue; RU / KA / EN translation between clients and crews; a daily digest where Claude only retells the day's notes and every number comes from the code.
- **Guardrails.** Model output is treated as untrusted: the server keeps only known items and valid quantities, per-user daily limits, a manual path whenever the model fails. 3,900+ automated tests; a database restore point before every schema change.

**Unattended monitors that report their own failures** **2026**

- **Tender watch:** scans Georgia's public procurement portal daily, keeps construction, supervision and design tenders (CPV 45 and 71 plus Georgian keywords), drops expired and paper-only bids, and queues the rest for an AI brief.
- **Job watch:** 10+ sources (public APIs and company career pages), decides whether each remote role is open to my country, Telegram digest; 47 tests.

- **New-build market watch:** 1,080 projects from two listing sites, weekly change report (prices, construction status, handover dates) to Google Drive. A built-in watchman notices a blocked source or a sudden drop in results, refuses to save bad data and alerts via Telegram; silent on a normal week; 130+ tests.

**Estimating automation** **2026**

- Vector takeoff from CAD-exported PDFs: quantities read from the drawing geometry, each finish by its own color, scale cross-checked on two independent zones within 0.1%; a 23-sheet design set became a 64-line estimate.
- Rate book from 87 past estimates; estimates in Russian and Georgian side by side.
- Bid audit against structural drawings: a foundation bid priced 627 m³ of concrete where the drawings give 503 m³ with waste, and 38.5 t of rebar where they give 31.8 t.

## EXPERIENCE

**Technical Lead & Construction Estimator (independent contractor)** **2022 — Present**

Construction Georgia, Tbilisi — outsourced technical department · constructiongeorgia.ge/en

- Whole technical side of the company: construction methods, site control, estimates and BOQs ($100K–$1M+ projects), estimate audits and tenders, including a 12-story residential tower bid (~$1M).
- Led its digital transformation, built its systems from scratch: the platform above, a 3-language website, a materials e-shop with a Telegram ordering bot.

**Deputy Project Manager, QC — LLC "AMN"** **2018 — 2022**

High-rise residential construction — Moscow

- Led QC for finishing scopes on multi-building projects; checked contractors' completed-work statements against actual quantities before every payment; method statements and punch lists across all trades.

**Site Engineer — LLC "SSK"; Atomik; DialogFormStroy LLC** **2012 — 2018**

High-rise, commercial and residential construction — Moscow

- Technical supervision from excavation to commissioning; local cost estimates and the estimate register; stage acceptance of completed work.

## SKILLS & TOOLS

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| **AI engineering** | Claude API (structured JSON output, PDF document input, model choice per task), Whisper speech-to-text, validating model output in code, rules-first with AI fallback, usage limits, agentic coding with Claude Code |
| **Backend & data** | TypeScript, Python, Cloudflare Workers / D1 / R2, Google Drive API, Telegram Bot API, PyMuPDF, OpenCV, openpyxl, automated tests, scheduled jobs |
| **Construction** | Quantity takeoff, BOQ, tender pricing, estimate audit, completion certificates and progress billing, site supervision and QC (10 years), CSI MasterFormat, imperial & metric units, Bluebeam Revu |
| **Languages** | English (written, working proficiency), Russian (native), Georgian (basic) |

## EDUCATION

**Civil Engineer, Industrial and Civil Engineering — Military Technical University** **2011**