

# Eliuth Chavero Jasso

## Forward Deployed AI Engineer | AEC Engineering Systems Architect

Tlaxcala, Mexico | [eliuthchaverojasso@gmail.com](mailto:eliuthchaverojasso@gmail.com) | [linkedin.com/in/eliuthchaverz](https://linkedin.com/in/eliuthchaverz) | [github.com/voidzeit](https://github.com/voidzeit) | [eliuthchaverojasso.com](https://eliuthchaverojasso.com)

### PROFILE

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Forward Deployed AI Engineer and AEC engineering systems architect who builds software for complex design, coordination, construction, and deliverable-readiness workflows. I combine electrical engineering, BIM/VDC, Revit development, mission-critical infrastructure, applied AI, data integration, quality assurance, and technical product ownership. I carry work from customer and domain discovery through architecture, implementation, testing, deployment, and adoption.

My strongest work connects engineering intent to the working environment: Revit models, drawing sets, owner requirements, schedules, specifications, APIs, legacy tools, and multidisciplinary teams. I use AI where it improves search, investigation, explanation, and workflow execution, while keeping evidence, validation, and professional responsibility explicit. I am fluent in Spanish and communicate professionally in English across technical, product, and customer-facing contexts.

### AEC AND FDE STRENGTHS

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- AEC engineering delivery: six years across electrical BIM/VDC, 30+ data centers, 25+ healthcare facilities, industrial facilities, manufacturing, and complex commercial projects.
- Electrical systems: power distribution, low- and medium-voltage systems, UPS, generators, switchgear, busways, grounding, lighting, telecom, security, life safety, equipment layouts, and coordination interfaces.
- BIM/VDC and construction technology: Revit, Revit API, Navisworks, Autodesk Construction Cloud, Revizto, EVOLVE MEP, Bluebeam, Dynamo, model governance, LOD 300-500 delivery, shop drawings, spooling, prefabrication, constructability, and QA/QC.
- Forward-deployed ownership: customer and domain discovery, workflow mapping, technical scoping, architecture, coding, debugging, UAT, rollout, documentation, and feedback into reusable product capabilities.
- Applied AI for engineering: AI-assisted investigation, tool use, structured outputs, evidence-grounded reasoning, retrieval, human review, decision traceability, and clear boundaries between assistance and engineering authority.
- Engineering software delivery: C#/.NET and Revit add-ins, Python services, FastAPI APIs, React/TypeScript interfaces, PostgreSQL, Docker, REST integrations, MCP read-only gateways, installers, CI/CD, and release validation.

### TECHNICAL SKILLS

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**Languages and application engineering:** Python, C#, .NET, TypeScript, JavaScript, SQL, PowerShell, REST/JSON, WPF/MVVM, React, FastAPI.

**Applied AI for engineering:** LLM application design, AI-assisted investigation, tool calling, MCP server design, structured generation, prompt and contract versioning, grounded retrieval, local embeddings, graph-aware context selection, model provenance, human-in-the-loop controls, safety boundaries, and local/on-premise inference.

**Engineering data and infrastructure:** PostgreSQL, relational schemas, JSON Schema, XLSX ingestion, PDF/text/vector drawing extraction, Revit model data, immutable evaluation bundles, SHA-256 identity, Docker Compose, Git/GitHub, CI/CD, package and installer validation.

**AI foundations and evaluation:** transformer inference, activation capture, attention and feed-forward layer analysis, low-rank and quantized representations, prompt evaluation, baseline comparison, OpenAI-compatible serving, experiment manifests, reproducible metrics, and failure analysis.

**Engineering systems:** owner requirements, design intent, model coordination, multidisciplinary interfaces, constructability, commissioning interfaces, technical documentation, evidence management, QA/QC, and multi-version host compatibility.

### AEC ENGINEERING SYSTEMS AND APPLIED AI EXPERIENCE

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#### EMA AI - Engineering Intelligence and Deliverable Readiness Platform

Shokworks, Inc. | Forward Deployed AI Engineer | Mar 2026 - Present

- Lead the 0-to-1 technical delivery of an engineering intelligence platform, owning customer workflow discovery, product scope, system architecture, user stories, technical specifications, acceptance criteria, UAT design, release gates, evidence packaging, and implementation priorities.
- Architect an engineering workflow that connects owner requirements from XLSX, structured Revit model data, drawing PDFs and text, schedules, reports, and review records. The system evaluates individual requirements, persists an immutable evaluation run, and projects results into a Central Tracker, HTML/PDF reports, evaluation bundles, and feedback workflows.
- Build the connective tissue across a Revit add-in, shared C# contracts and evaluation services, Python/FastAPI services, PostgreSQL, React/TypeScript, Docker, PDF analysis workers, local workspaces, and installer/release tooling.

- Design and implement an AI-assisted investigation layer that breaks complex questions into bounded steps, plans evidence acquisition, calls approved tools, reasons over grounded evidence, records assumptions and confidence, and produces a traceable engineering result. The system preserves the distinction between AI assistance, evidence acquisition, automated checks, and professional or customer approval.
- Implement MCP read-only gateway capabilities over immutable evaluation bundles, including project identity, evaluation runs, requirement lists, requirement traces, evidence search, and report-context access. Enforce tool registry and risk boundaries so the agent can inspect governed evidence without silently mutating official records.
- Integrate structured and unstructured evidence from requirements workbooks, Revit elements and relationships, drawings, schedules, notes, reports, and extracted visual candidates. Record source authority, provenance, evidence sufficiency, model coverage, confidence, and decision records so AI behavior is auditable.
- Engineer evaluation and observability contracts that persist provider/model identity, prompt and contract versions, input hashes, raw-response artifacts and hashes, step-level provenance, input/output token accounting, cancellation state, replayable run artifacts, and parity across Tracker, HTML, PDF, and bundle projections.
- Built and maintained the validation system to 8,857 green automated tests across C#, headless CLI, contracts, live host, web, and drawing-analysis suites, plus a 6/6 Release host-build matrix for Revit 2022-2027 as measured on Sep 9, 2026. Runtime and customer-UAT evidence remain explicitly separated from compile and automated-test evidence.
- Structured 227 owner requirements across Divisions 21, 22, 23, 26, 27, and 28, and built discipline-scoped extraction and checks for missing levels, unconnected fixtures, missing circuits, panels without upstream sources, and other deliverable-readiness conditions.

## AI Memory Orchestrator - Git-Native Memory and Context Platform

### Independent engineering project | Python | 2026

- Built a repository-native memory compiler for AI coding agents that turns project state, decisions, tests, risks, artifacts, and workflows into canonical memory, machine indexes, task-focused context packs, and agent adapter profiles.
- Implemented hierarchical graph extraction across repositories, directories, files, modules, symbols, tests, decisions, risks, workflows, artifacts, adapters, and context packs, with JSON Schema validation and exports to JSON-LD, GraphML, GEXF, Neo4j/Cypher, and Obsidian.
- Implemented local deterministic embeddings and semantic search as derived intelligence, graph-aware context ranking, benchmark fixtures with optional truth annotations, precision/recall gates, evidence-ledger integration, optimizer proposals, and explicit no-fabrication rules for canonical memory writes.
- Built a dependency-free MCP studio server with resources and tools, explicit confirmation for canonical-memory writes, a local FastAPI organism dashboard, graph inspection/search/filter surfaces, and adapters for AGENTS.md, Codex, Claude, Cursor, Cline, and OpenCode.
- Completed a reproducible alpha release path with 131 tests, strict validation, graph exports, embeddings, benchmark, optimizer, and security/release checks all passing in the recorded release evidence.

## AI Model Evaluation and Reproducible Engineering Research

### Independent research software | Python | 2025 - 2026

- Built reproducible Python experiments for transformer inference, activation capture, attention and feed-forward layer analysis, low-rank and quantized representations, prompt evaluation, and comparison against baseline model behavior.
- Developed model-serving and developer-tool integrations, including chat-template-aware inference, checkpoint and manifest handling, minimal-memory execution, logit comparison, and an OpenAI-compatible interface.
- Applied standard formal-methods practices to research software: state assumptions explicitly, define testable properties, preserve counterexamples and failed runs, record metrics and hashes, and separate observations from verified conclusions.
- Used reproducible run directories, configuration files, validation reports, artifact hashes, and clean-room checks to make computational results reviewable and repeatable.

## PROFESSIONAL EXPERIENCE

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### Virtual Design Engineer

#### Crusoe Energy Systems | Mar 2025 - Mar 2026 | Remote

- Ran BIM/VDC delivery operations for U.S. healthcare, commercial, and mission-critical projects, including staffing, resource planning, QA/QC, production tracking, proposals, and direct client communication.
- Led distributed LATAM-U.S. teams and supported managed-service and lump-sum proposals above USD 50,000 with multi-resource staffing and schedule-recovery models.
- Reviewed data-center and critical-infrastructure delivery for constructability, maintainability, equipment access, scalability, and multidisciplinary system integration.

### Electrical BIM Engineer

#### Salas O'Brien and Ehvert Mission Critical | Mar 2024 - Mar 2025 | Remote

- Designed and coordinated hyperscale and AI data-center electrical systems including distribution, UPS, standby generation, switchgear, lighting, grounding, security, and life safety.

- Prepared and reviewed single-line diagrams, load and voltage-drop calculations, panel schedules, equipment layouts, specifications, and cross-discipline coordination packages.

## Progressive Electrical BIM/VDC Roles

### Bergelectric, B&I Contractors, and Comfort Systems USA via Excelsus | Feb 2020 - Mar 2024

- Progressed from BIM Drafter and Specialist to BIM Coordinator and Lead across hyperscale data centers, hospitals, industrial facilities, and complex commercial projects.
- Managed LATAM-U.S. production teams, BIM execution plans, standards, model governance, QA/QC, document control, coordination logs, submittals, schedule alignment, and technical mentoring.
- Developed Dynamo and Python workflows for parameter enforcement, sheet generation, naming validation, model-health auditing, QA/QC, and structured Excel/CSV extraction.

## Earlier Engineering Experience

### PV Electrical Engineer, BE Excellent Energy | Feb 2019 - Feb 2020

Designed commercial photovoltaic systems and electrical installations, including layouts, calculations, voltage-drop analysis, diagrams, technical and financial proposals, and Excel macro-based estimating tools.

### Electrical Systems Lead, Bulls Racing Team - Formula SAE | Jun 2018 - Feb 2019

Designed a high-voltage accumulator and battery-management system for an electric Formula SAE vehicle; supported electrical audits, component integration, procurement, APQP, and FMEA.

## EDUCATION

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**B.Sc. in Electromechanical Engineering** - Tecnológico Nacional de México | 2016 - 2021

**B.Sc. in Artificial Intelligence Engineering, paused** - Instituto Politécnico Nacional, UPIIT | 2020 - 2023

**Technical Diploma in Programming** - General Directorate of Industrial Technological Education | 2013 - 2016

## CERTIFICATIONS AND LANGUAGES

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**Certifications:** Python and Revit API (2025); BIM Project Management Professional (2024); Metaverse BIM Integration Specialist (2025); Dynamo BIM: From Zero to Hero (2025); Revit Families: Beginner to Pro (2024).

**Languages:** Spanish - Native; English - Professional working proficiency; German - Basic conversational proficiency.

## SELECTED EVIDENCE AND LINKS

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GitHub: [github.com/voidzeit](https://github.com/voidzeit) | Portfolio: [eliuthchaverojasso.com](https://eliuthchaverojasso.com) | EMA AI: private engineering platform and repository evidence available for technical review | AI Memory Orchestrator: [github.com/voidzeit/ai-memory-orchestrator](https://github.com/voidzeit/ai-memory-orchestrator) | AI model evaluation and engineering research: repository evidence available for technical review.

*Project descriptions distinguish implemented source, automated-tested behavior, package/build validation, runtime validation, UAT, and research claims. Confidential customer and project identifiers may be generalized where required.*