

Noah Alcorta

AI AUTOMATION & VOICE SYSTEMS | DIGITAL DELIVERY | FIELD OPERATIONS

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Operator judgment. Technical delivery. Systems that hold context.

Systems builder connecting engineering delivery, home-service operations and AI-assisted development. At Jacobs, I structured project information; at The Handyman Help, I own the work from intake to closeout; at At Petrichor, I turn operating needs into agent workspaces and voice prototypes. My focus: clear architecture, measured behavior and a usable path through failure and recovery.

Selected engineering results

Realtime voice — Twilio + OpenAI

Designed and tested a supervised voice-agent prototype connecting telephone audio through Twilio Media Streams to OpenAI Realtime over WebSockets. Defined agent instructions, interruption behavior, session boundaries and hang-up cleanup.

- Measured **422–504 ms** from speech end to first response audio across four turns in a 61-second test; a second **201-second** test handled **twelve turns** with no recorded bridge errors.
- Investigated truncated speech using provider completion status and exact token counts. Isolated a 220-token ceiling, iterated response headroom and pacing, and defined follow-up acceptance checks.
- Kept the demonstrated scope explicit: live self-call transport is proven; external booking and operator steering require further end-to-end validation.

Habitat / AXIS House — persistent agent workspace

Developed an internal environment connecting mobile and desktop conversation to persistent execution sessions, role-scoped tasks, progress updates and written project-return context. Used Python, JavaScript, JSON, Linux/WSL, tmux and SSH across the workflow.

- Directed repair of a broken reply bridge by tracing a stale transcript path and changed event schema. The fix handled completed user/assistant events while excluding tool output and unfinished messages; **seven isolated reader checks** passed and a real reply was recovered.
- Added a saved project-return brief and a draft action that preserves existing user input. Verified phone/desktop behavior and that drafting does not submit a message automatically.
- Established task contracts and evidence-backed handoffs so the next session can recover what changed, what was verified and what remains open.

Field Capture — software informed by field work

Built a mobile capture workflow for job photos, receipts, mileage, notes and closeout evidence, tested in Handyman Help operations. Connected field needs to simple interfaces and private phone access; verified application health and the phone-facing route during service restoration.

Technical toolkit

Voice & integrations: Twilio Media Streams, OpenAI Realtime, REST/HTTP APIs, WebSockets, JSON, agent instructions and interruption handling.

Implementation & operations: AI-assisted Python and JavaScript development, HTML/CSS, Git, Linux/WSL, shell tooling, tmux, SSH, service diagnostics, test receipts and runbooks.

Engineering delivery: ProjectWise, Autodesk Construction Cloud, Civil 3D, MicroStation, CAD standards, drawing federation and survey/GIS coordination.

Professional experience

Founder / Systems Builder — At Petrichor LLC

2025–Present

- Translate ambiguous operating needs into bounded projects with defined inputs, deliverables, acceptance checks and a visible return path.
- Direct AI coding agents across implementation, review and troubleshooting; own scope decisions, operator feedback and the distinction between tested behavior and product plans.
- Build and operate internal phone/desktop interfaces, voice prototypes and agent-session infrastructure; connect technical changes to practical workflows.
- Turn failures into reusable tests, documented constraints and recovery procedures rather than relying on the original session to remember the fix.

Digital Delivery Lead / CAD Technician — Jacobs

Environmental / Wastewater · April 2023–July 2026

- Co-led digital delivery for a 400+ sheet Milwaukee Estuary remediation package, contributing to 200+ sheets and establishing reference-file and layer-management workflows across 11 remediation areas.
- Developed coordinated plan-and-profile drawing sets for four water-infrastructure sites serving the Navajo Nation, organizing survey data, shared Civil 3D surfaces, pressure networks and drawing standards.
- Supported EPA soil-remediation drawing delivery and a 600+ sheet residential remediation program, maintaining consistent property-level documentation and CAD workflows.
- Migrated a NASA-connected mitigation drawing set into Autodesk Construction Cloud; established structured project files and updated technical drawings through Jacobs.

CADD Technician — Jacobs

Water / Process Mechanical · May 2022–April 2023

- Produced and revised P&IDs, master plans, process-flow diagrams, hydraulic profiles, sections and water-treatment drawing sets.
- Supported remediation and combined-sewer-overflow planning through organized, standards-based drawing production.

Founder / Operator — The Handyman Help LLC

2020–Present

- Own the operating cycle: customer discovery, estimating, scheduling, scope decisions, field delivery, payments, follow-up and closeout.
- Translate incomplete information and changing site conditions into clear work scopes and customer-facing deliverables.
- Use firsthand field-service needs to guide practical capture and administrative tools, grounding automation decisions in the person doing the work.

How I learn & deliver

Observe the work → define a bounded test → build with AI assistance → inspect the evidence → correct the failure → preserve the lesson.

A fast prototype starts the conversation. Repeatable behavior, documented limits and a usable handoff determine whether it is ready for the next person.

Education

Milwaukee Area Technical College

Associate Degree — Civil Engineering Technology

Technical Diploma — Surveying & Mapping