

Jake Botticello

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SUMMARY

Technical consultant who turns ambiguous customer needs and hard operating constraints into architecture, delivery, and live systems. Combines custom SaaS client ownership, municipal and institutional regulatory work, and production AI applications built by directing coding agents. Stays with the customer from discovery through deployment and operation.

SKILLS & EXPERTISE

Consulting: client discovery · requirements analysis · regulatory interpretation · account expansion

AI & Architecture: agentic tool-use · MCP server authoring · context engineering · evaluation harnesses

Build & Integration: Python · TypeScript · Node.js · React · Supabase · Postgres · REST · webhooks

Funding & Governance: 2 CFR 200 · grant development · fiscal and acquisition policy

EXPERIENCE

Founder & Principal, Pyris Consulting | 2026 – present

- Own technical customer delivery from discovery through architecture, deployment, and live operation; translate an ambiguous first conversation into a system and explain the tradeoffs to the founder.
- Build and operate production LLM agents in Python and TypeScript, with context engineering, tool-layer design, and evaluation harnesses connected to the client's actual workflow.
- Deliver client systems for conversational scheduling and recruiting/payment workflows, including Cyris and CCF; own architecture and delivery while directing Claude Code and Codex through specification, review, and live verification.
- Write down the reasoning behind client systems and transfer the work through walkthroughs, technical exchanges, and live working sessions; engagements extend to fractional-COO responsibilities.

Founder & President, Lucid Software Solutions | Sep 2009 – May 2019

- Owned architecture, product, customer relationships, contracts, rollout, and the books for a two-person custom SaaS company; the partner wrote the code.
- Shipped and operated custom CRM software for independent wireless retailers and insurance businesses whose carrier systems did not let them retain their own customers.
- Worked directly with a wireless retailer's COO and CTO, an insurance business's CEO, and dealership franchise owners, translating business requirements into product and customer delivery.

Senior Associate, Triad Associates | Jul 2019 – Oct 2023

- Roles: Senior Project Manager, Economic & Community Development Consultant, and Grant Writer.
- Served as client manager for 8 of the firm's 10 biggest clients; tripled business from managed existing accounts and converted passive clients into active, committed ones.
- Developed long-term funding strategy and managed grant lifecycles for municipal and nonprofit clients; interpreted regulations and reviewed proposals for compliance.
- Integrated technical, demographic, and economic evidence into infrastructure and development proposals; reviewed financial statements, budget narratives, and cost allocations.
- Served as project director on a ~\$36M multi-county federal fiber-loop infrastructure award and interpreted changing federal COVID-relief legislation for staff and public-entity clients.

Director, Grants Research & Development, Ultimate Medical Academy (now Vocate) | Nov 2023 – Jan 2026

- Built the centralized grants function and its workflows at a national nonprofit healthcare institution, leading a team of about 6 and connecting institution-wide grant work with policy and review procedures.
- Rewrote fiscal and acquisition policy to federal Uniform Guidance (2 CFR 200), Department of Education, Department of Labor, and state-funder requirements.
- Assessed eligibility, regulatory requirements, financial risk, and institutional readiness, then translated funder directives into actionable guidance for program and finance teams.

Operations Manager & Trainer, Cellular Sales (Verizon partner) | Aug 2009 – Mar 2019

- Trained 200+ staff, wrote the market SOPs, and effectively ran operations through long absentee-ownership stretches.

Committee Member, Pittsgrove Township Committee | 2018 – 2020

- Authored and managed a brownfield-to-solar redevelopment into an operating installation, returning ~10% of the township budget in revenue and cutting electric bills up to 40% for the lowest-income residents.

SELECTED ENGINEERING WORK

More on these and the independent projects follows in the portfolio

Cyris: Consulting-firm intake, scheduling, and diagnostics. Designed and shipped a conversational front door for live calendar booking, payment, cancellation, and rescheduling, with authorization enforced outside the model. Runs an AI-readiness audit and a business-operations diagnostic in a senior-consultant posture, then hands findings to a human consultant for the build.

CCF/Skip: Recruiting payments and intake. Built a live platform with conversational intake and Stripe payment workflows; traced a customer double-charge through the event log, made the customer whole, and closed the bug class.

LRNHQ: Recruiting-firm operations alongside an immovable Wix public CMS. Delivered the end-to-end platform and kept public profiles and operational records consistent through a bidirectional mirror; \$100K+ processed in ~6 weeks.

Bluewire Media: Municipal document access inside a constrained low-code platform. Delivered a role-scoped repository for a ~65K-resident township, with public browse, gated staff access, and an admin audit trail.

INDEPENDENT PROJECTS · ETHOSTELEOS.DEV

The Situation Room: Multi-vendor AI agent coding room. Designed and built it by directing a cross-vendor agent team, with shared permissions, authenticated handoffs, and an append-only event log. Orchestrates development with 10+ agents from 5+ labs; any agent that can use a local MCP server can take a seat. A bounded native-mail pilot cut median message-to-order time from 34 s to 3 s.

Alexandria: Home-grown Python MCP server for agentic context management. Boots and re-anchors agent sessions (559 across 11 projects) from 4,872 hash-verified files out of a 336K-file tree, so sessions spend context on the work instead of re-reading source.

EDUCATION

University at Buffalo (2003–2007): Bachelor's degree in English & Communications, with a Comparative Literature minor.

Client Work: Agents That Own the Workflow

Discovery, architecture, and production delivery. I own the customer and the design, directing coding agents through specification, review, and live verification.

Cyris

Pyris Client Work | Production AI Intake and Consulting

The Customer Problem. A consulting firm needs a front door that can understand a business problem, assess readiness, and turn a conversation into an actionable next step. I designed and shipped Cyris around that workflow, owning the architecture and directing the agent-assisted build.

One Agent, Distinct Jobs. One Claude agent loop uses four versioned playbooks over a shared tool layer. It handles scheduling, an AI-readiness audit, and a business-operations diagnostic in the posture of a senior consultant. The consulting work produces findings for a human consultant to carry into the build.

A Real Operating Workflow. Calendar tools query live availability, compute valid windows with Eastern-time and daylight-saving handling, and check slot containment on the server before insertion. Visitors can book, cancel, and reschedule. Rescheduling books the replacement before releasing the old appointment, protecting the existing booking if the new one fails.

Boundaries That Matter. Appointment identity comes from a server-verified HMAC possession token. Cancel and reschedule tools take no model-supplied target arguments. Paid intake depends on a webhook-verified payment record; card redaction runs at persistence sinks, and email recipients bind to verified session addresses. Security decisions are enforced in the server and tools.

Technical Surface. Production LLM agent architecture, context engineering, tool-layer design, and evaluation harnesses are connected to the consulting workflow. The implementation uses the Anthropic API, Node, Supabase/Postgres, calendar tools, and Stripe payment infrastructure.

CCF and Skip

Pyris Client Work | Recruiting, Intake, and Live Payments

The Delivery. Built a recruiting and NIL platform with conversational intake and four live Stripe payment paths under out-of-order webhooks. Skip translates intake into a conversation while keeping database tables and columns outside the model-facing interface. The server maps semantic fields into the actual storage schema.

A Production Incident Closed Structurally. A customer double-charge was traced through the Stripe event log to an orphaned draft invoice and an auto-advance timer. I made the customer whole through an apply-forward credit and implemented layered idempotency for checkout links that could outlast Stripe's idempotency window. The correction addressed the failure class.

The Intake Contract. Numeric type and range validation happens before writes. Rejected values preserve the existing field and retain the raw response for review. Skip captures off-script family circumstances and concerns in staff highlights. An early departure leaves an open intake row and a warm close rather than falsely marking the intake complete.

Operational Visibility. A CRITICAL-marker registry rejects unknown alert names and separates paged money-risk alerts from log-only events. Registry and emitter coverage is checked. The alerting contract sits alongside payment correctness and typed intake as part of operating the live system.

An Incident Became a General Gate. A broad-jump conversion from 9.8 to 117.6 exposed the need for upstream numeric validation. The resulting type and coarse-range checks apply before intake writes, preserving prior values and retaining rejected answers for review.

Client Work: Systems Inside Business Constraints

Operating a recruiting firm, making outreach usable, and shipping municipal access inside a constrained platform.

LRNHQ

Pyris Client Work | Recruiting Operations and Data Integration

The Constraint. The recruiting firm needed an end-to-end operating platform while retaining an immovable Wix public CMS. I delivered the operational system around that constraint. The platform processed \$100K+ over approximately six weeks.

The Operating Surface. LRNHQ covers lead intake, calls, notes, follow-ups, scheduling, enrollment, invoice and commitment emails, payments, service planning, and public player profiles. Role-scoped access separates the operating surfaces, and FluxEngine reporting feeds the platform for clients, staff, and public profiles.

Consistency Across Systems. A bidirectional Wix and Supabase/Postgres mirror translates the schemas between the public CMS and operational records. Nightly reconciliation backstops the live mirror. The design keeps records consistent while the business continues to work in both systems.

Making Results Visible. Designed and shipped an SVG engagement map using a six-level intensity model and click-to-cross-filter interaction, calculated from per-state sent and engaged counts. The map was built without a charting library through the same agent-directed development method.

FluxEngine

Pyris Client Work | Outreach and Deliverability

Discovery Changed the Decision. The LRN stakeholder initially disputed the need for an email system. I showed industry benchmarks and a path from three to four hours of campaign creation to approximately fifteen minutes. That demonstration changed the decision to build; the resulting workflow takes ten to fifteen minutes per campaign.

Production Evidence. The earlier deployment recorded 100K+ personalized sends at a 12.5% verified engagement rate. The system evolved into FluxEngine. In the October 7, 2026 snapshot, FluxEngine was running on CCF and had sent approximately 50K emails in the preceding week.

Operating Beyond a Happy-Path Send. Self-healing delivery infrastructure leaves only two failure states requiring a human. The system combines outreach and deliverability work with a campaign workflow the customer can operate. Its reporting also feeds recruiting operations, connecting activity to the client and staff surfaces.

Bluewire Media

Pyris Client Work | Municipal Document Access

Delivery Inside the Walls. As technical build partner to Bluewire Media, shipped a role-scoped document repository for a roughly 65K-resident township inside Wix Studio/Velo. The public browsing surface, gated staff portal, and administrative audit trail had to work within a locked-down low-code platform with no real database.

Architecture Forced by the Platform. A three-layer postMessage architecture, read-time department inheritance, and a direct-upload path around the platform's size ceiling delivered the required access structure. The implementation turns operating constraints into a workable access model while retaining the client's platform.

Independent Work: Agent Infrastructure and Retrieval

Self-directed systems built through a cross-vendor agent team. Independent projects are distinct from Pyris client engagements.

The Situation Room

Completed Independent Project | Multi-Vendor Coding Room

The Problem and Build. Designed and built a Windows-based room so coding agents could work in defined seats rather than requiring a person to carry messages and decisions between windows. Orchestrated development with 10+ agents from 5+ labs. Any agent capable of using a local MCP server can take a seat.

Authority and Handoffs. A local Python daemon, append-only SQLite event log, and live cockpit support orchestration, engineering, landing, validation, and review. A shared permission engine enforces work boundaries. Authenticated generation handoffs and Windows process custody carry work between sessions while maintaining each role's responsibilities.

Delivery at Scale. The build record covered nearly 900 commits and over 480 tracked build items across 20 phases, gated by over 250 acceptance criteria. The room recorded over 300,000 events in its first few weeks.

Measured Pilots. In the native-mail pilot, median message-to-order time fell from 34 seconds to 3 seconds, and typed wakes fell from five to zero. In a separate receipt pilot, 30 of 30 request receipts matched transcript usage.

Alexandria

Independent Project | Context and Canon Governance

Pay for Comprehension Once. Built a home-grown Python MCP server that describes changed files at write time and serves concise descriptions at read time. A local watching process launches a background Claude agent; model inference runs in the cloud. Content hashes determine whether source material changed.

A Verifiable Derived Index. Readers hash-check source files. Event-driven pruning and startup reconciliation maintain the index, while failure logs distinguish causes. Routing uses learned hints, batched classification, and human rulings for uncertain placements; corrections update both hint keys while preserving the boundary between inferred routing and configuration.

The Recorded Operating Footprint. The recorded deployment covered approximately 16.7K lines of Python, 15 tools, 24 project groups, and 4,872 hash-verified files from a 336K-file tree. It boots and re-anchors the sessions using it; the recorded period included 559 sessions across 11 projects.

Wallaby

Independent Research | Retrieval and Comprehension

Preserving Multiple Interpretations. Research into divergent probe-swarm recall over an immutable floor of 46,819 distinct messages, with adversarial multi-judge synthesis that does not force agreement. Independent entry routes preserve different ways to reach relevant evidence.

What the Experiments Showed. A historical twenty-probe run found 85 of 109 walked nodes were distinct, approximately 78%, and 25 of 26 overlapping pairs crossed conversations. In a separate comprehension experiment, a reader holding 455 nodes missed a find that a sixteen-way fan-out caught. The interpretation was attention budget per node.

Instrumentation Changed the Understanding. Instrumentation caught a salience walk collapsing into a single-tag monoculture. The experiments separate the volume of context presented from the material a reader actually attends to. These are bounded research results, rather than a production coverage guarantee.

Experience: Client Trust, Strategy, and Delivery

Understand the client, interpret the constraints, develop a defensible plan, and carry the work through.

Triad Associates

Senior Associate | July 2019 – October 2023

Technical Consulting Across the Practice. Served as Senior Project Manager, Economic and Community Development Consultant, and Grant Writer under the official Senior Associate title. Municipal and county obligations, state and federal funding rules, and complex evidence requirements shaped the work across engagements. I developed long-term funding strategies and translated technical, demographic, and economic information into persuasive, well-referenced proposals.

Client Ownership and Expansion. Managed eight of the firm's ten largest client relationships, tripled business from the existing clients I managed, and developed passive accounts into active, committed engagements. Contributed to approximately fourfold firm-wide revenue growth by the end of the first full year and approximately fivefold growth by departure.

Constraints Into Executable Plans. Reviewed funding regulations, financial statements, budget narratives, and cost allocations; coordinated stakeholders and overlapping deadlines. Served as project director on an approximately \$36M multi-county federal fiber infrastructure award. Translating changing federal COVID-relief guidance was one instance of the broader regulatory consulting practice.

Lucid Software Solutions

Founder and President | September 2009 – May 2019

Product and Customer Ownership. Co-founded a two-person custom SaaS company and owned architecture, product, requirements, UI decisions, contracts, rollout, support, and the business. My partner wrote the code. Customers included a wireless retailer with 4,000 employees, insurance leadership, and dealership franchise owners; I worked directly with executives who depended on the resulting systems.

A Business That Operated. Delivered custom CRM for independent wireless retailers and insurance businesses whose carrier systems would not let them retain their own customer relationships. The company averaged over \$1M in annual revenue, with a peak of approximately \$1.1M.

Ultimate Medical Academy

Director, Grants Research and Development | November 2023 – January 2026

Building the Function. Built the centralized grants function and workflows at a national nonprofit healthcare institution, leading a team of about six. Assessed eligibility, institutional readiness, regulatory requirements, and financial risk, then translated funder directives into actionable guidance for program and finance teams.

Policy and Operating Discipline. Rewrote fiscal and acquisition policy to Uniform Guidance, 2 CFR Part 200, and Department of Education, Department of Labor, and state-funder requirements. Developed aligned review procedures and used win-rate, reviewer-feedback, and funding-trend reviews to refine strategy. The team I ran raised \$4M in foundation and corporate funding.

Pyris Consulting

Founder and Principal | 2026 – Present

The Same Ownership, Now With AI. Own client discovery, architecture, delivery, and live operation for founder-led businesses. Direct Claude Code and Codex through specification, adversarial review, and live verification. Client systems ship with the reasoning written down and transfer through walkthroughs and working sessions, with engagements extending to fractional-COO responsibilities.