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summary

R&D-focused creative technologist building AI systems, autonomous trading engines, interactive narratives, and financial dashboards with LLMs. Creator of S.A.F.E. (Secure Autonomous Financial Engine), an autonomous AI portfolio manager prototype with patent-pending dual-brain architecture tested across 100,000+ decisions on blind historical data. I use no-code/low-code tools plus emerging coding skills to prototype working products quickly: designing behavior specs, wiring APIs, and iterating on UX until the system feels explainable and trustworthy to real users.

core skills & focus

- design thinking & rapid prototyping for llm-driven tools
- ai agent behavior, personality mapping, and long-term memory design
- multi-agent orchestration & autonomous decision-making systems
- temporal isolation protocols & integrity verification for ai systems
- concept-to-prototype strategy for no-code/low-code stacks

- system architecture for single-user and small-team ai assistants
- algorithmic trading systems, portfolio management, and risk analysis
- narrative design for interactive, ai-powered story experiences
- client-style communication & explanation of complex systems

tools & platforms

chatgpt / openai api (gpt-4o, gpt-5, o3-deep-research) · ollama · claude sonnet · python · visual studio code · rest apis · json · yahoo finance · coinbase api · alpaca markets · google drive · no-code/low-code builders

selected projects

a. s.a.f.e. — secure autonomous financial engine

2024 – present

autonomous ai portfolio manager prototype with patent-pending dual-brain architecture. designed to manage multi-asset portfolios (crypto, equities, forex, commodities) while maintaining complete audit integrity and temporal isolation.

- designed dual-brain architecture: council brain (o3-deep-research) provides strategic regime analysis every 15 minutes; 5 specialized trader brains (gpt-5-mini) execute tactical decisions every 5 minutes, one per asset (btc-usd, eth-usd, spy, eur-usd=x, gc=f).
- developed temporal isolation protocol ensuring zero future data leakage during backtesting. tested across 100,000+ trading decisions on blind 2020-2024 historical data with verified zero contamination events and 100% audit integrity.
- implemented real-time learning system with persistent memory: safe adapts its strategy based on market performance while maintaining complete decision audit trails in append-only csv logs.

- built comprehensive security architecture including circuit breakers (auto-stop on 20% drawdown), hallucination detection, bias monitoring, and three-layer defense system (integrity verification, temporal isolation, access control).
- integrated live market data via coinbase api (crypto), alpaca markets (equities), and yahoo finance (forex/commodities) with automatic fallback handling and connection resilience.
- currently running 24-hour live paper trading tests to validate full-power performance against lobotomized baseline (-5% over 16 hours).

b. zelle — adaptive personal ai companion

2025 – present

personal desktop ai built on top of openai's apis, focused on long-term memory, adaptive tone, and daily creative + technical work. part of the owl's five-finger intelligence architecture specializing in security and risk assessment.

- designed a seasonal, calming ui (floating cloud / falling leaves aesthetic) with a single input surface for text and voice.
- implemented a date-indexed conversation system: every day is broken into 24 "hour blocks" with autosave logic so any conversation can be retrieved by date and hour.
- wrote a behavioral spec blending multiple personality frameworks (mbti, big five, etc.) to control tone, empathy, and response depth without exposing internals to the user.
- currently extending zelle from desktop to mobile as a private, non-public assistant, using the desktop version as the "source of truth" for memory and behavior.

c. introverse — arc 0 interactive narrative demo

2025 – present

original game & show concept where players bond with ai-driven "selves" based on their zodiac. arc 0 is a narrative, text-driven demo that stress-tests worldbuilding, llm behavior, and progression systems before full gameplay exists.

- built an ai-narrated adventure that personalizes dialogue based on player name and birthdate; npcs and the narrator adapt to these inputs for a bespoke "session 0" feel.
- implemented zodiac + cusp logic to determine the player's selve (starter creature). troll / invalid dates route to a typeless selve with neutral interactions and a unique ruleset.
- designed the evolution chain: egg → star child (base form) → void → reflect → echo, plus separate legendary / typeless paths.
- established the combat triangle for late-game systems: void beats echo, echo beats reflect, reflect beats void.
- prototyped seasonal move-set logic and world buffs (zodiac cycles, ophiuchus curse, party rules) via simulations using the arc 0 narrative as the front-end.

d. dual-mind framework — multi-persona chatgpt orchestration 2025 – present

orchestration pattern for running multiple distinct "minds" inside a single chatgpt conversation (e.g., creative collaborator + security-focused critic).

- defined two core personas (e.g., ally and zelle) with complementary roles: one pushes exploration, the other enforces constraints, safety, and precision.
- built a structured prompt protocol so each "mind" can announce itself, cross-check the other's reasoning, and escalate conflicts instead of silently merging answers.
- applied the framework across domains: game design (introverse), financial ux (step), language-learning plans, and security-minded workflows.
- resulted in a reusable pattern for multi-agent reasoning inside a single chat window, without external tools or agent frameworks.

education

mfa, music composition — 2022

university of north carolina school of the arts

ba, music composition — 2019

queens university of charlotte

undergraduate studies — 2014–2016

gardner–webb university (transferred)