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Mathematician and data scientist (Stevens MS + BS). Ships production AI systems, founds and operates companies (16+ products), teaches (400+ hours), authors books and essays. Research focus: science of science — how knowledge is produced, ranked, validated, and paid for.

EDUCATION

Stevens Institute of Technology — *Hoboken, NJ · M.S., Data Science* 09/2023 – 05/2024

- **Graduate coursework:** Machine Learning, Deep Learning, Advanced Optimization, Stochastic Programming, Time Series Analysis, Numerical Linear Algebra for Big Data, Statistical Network Analysis, Statistical Methods, Numerical Methods, Discrete Math for Cryptography, Post-Quantum Cryptography.

Stevens Institute of Technology — *Hoboken, NJ · B.S., Pure and Applied Mathematics* 09/2020 – 05/2024

- Proofs, Real/Complex/Functional Analysis, Differential Geometry, Modern Algebra (Group Theory), Calculus I–III, Probability, Statistics, Linear Algebra. BS + MS completed in 4 years total.
- Independent studies in Scientific Writing (John Horgan) and Creative Writing (Billy Middleton); Quantum Optics Research.
- Stevens Launchpad incubator alumnus (first venture: Bucket Foundation).

University of Oxford — *Oxford, UK · Quantum Computing (summer course)* 07/2023 – 08/2023

RESEARCH

Quantum Optics Lab, Stevens Institute of Technology — *Undergraduate Research Assistant* ~2021 – 2023

- Roughly two years in the quantum-optics group during the B.S. — the first sustained research role on the record. Optical-bench work plus the data analysis and modeling around it. *[verify: exact dates · PI / faculty supervisor · specific experimental focus]*

Computational Biophysics — *independent research* 2026

- The pivot from math/CS into computational biophysics, on the bet that the field's bottleneck is computation. Lives at gianyrox.com/research.
- **Seven validated scientific-ML tools**, each self-hosted with a live web UI and open-sourced: ProteinScout (per-residue biophysics), StabilityDesigner ($\Delta\Delta G$ stability), ScreenServer (ADMET), TrajMine (MD / Markov-state), CryoTriage (cryo-EM QC), PatchSeqML (electrophysiology), LabBrain (literature RAG). ~120 automated tests; benchmarked against eFEL, CTFFIND, and FoldX with honest agreement numbers.
- **1,353-institution × 185-feature dataset** of the global biophysics field (OpenAlex, NIH RePORTER, CORDIS) → multi-criteria rankings of programs, advisors, and positions with Monte-Carlo sensitivity analysis. Folded into one PhD decision cockpit: 5,773 positions, 3,870 advisors, 1,353 institutions, 45 fields, every axis re-weightable live.
- **107-opportunity software map** of the field's unsolved computation gaps; LabBrain drafted 38 personalized advisor cold emails. **PhD-as-investment analysis** — ROI, NPV, payback, optionality across 45 fields; honest verdict that biophysics never ranks #1 by the numbers but is the field worth the trade. Best fit: EU direct-hire computational labs, where the math/CS is the qualification (the EU citizenship makes them accessible).

Academic Paper Ranking & Recommendation System — *Stevens graduate project* 2024

- PageRank (power iteration) + TF-IDF + word vectorization over a **1.7M-node citation graph** of STEM papers — numerical linear algebra and network science on a sparse real graph.

VENTURES & COMPANIES

AGFarms — *Co-Founder · venture studio of 16+ products under one AI orchestrator* 01/2024 – Present

- Operate 16+ products on a self-hosted K3s cluster (Hetzner); full stack across Next.js web, React Native mobile, Rust backends, dbt data pipelines, and an AI orchestrator that routes work across seven specialist pillar agents. agfarms.dev

Nucleus Brain (*enterprise-ai*) — *Architect / builder · 7-pillar autonomous AI enterprise* 2024 – Present

- Brain system + MCP servers + specialist sub-agents + evaluation suites + governance. Routes work across seven pillar agents; scores brain quality on freshness, coverage, diversity, reliability, actionability. Python, MCP, Dolt. nucleusbrain.com

DerbyFish — *Founding Product Engineer · competitive sport-fishing platform* 01/2024 – Present

- ~15-repo ecosystem: Rust API, React Native mobile, web, K8s deploys, dbt medallion data pipeline, AI clipper, anti-cheat catch-validation. Thousands of sign-ups per event. derby.fish

Bucket Foundation — *Founder · open research IP protocol* 2022 – Present

- Education-reform nonprofit. **Free to read, paid to cite** — primary research is paid-for-once and citeable-forever, and citation fees route to authors, not publishers. Reading is free; money moves when someone cites your work professionally.
- **The canon of foundations** — only axioms, real math, laws, principles, and primary derivations, across mathematics, physics, chemistry, information, biophysics, cosmology, and mind. Outcomes like longevity sit downstream, not in canon.
- Citation fees settle over **x402** (HTTP-native micropayments on Base, EIP-3009); built on Next.js/Vercel + Supabase + Dynamic auth. AI agents auto-discover and query the canon via the published **feed402** spec (`/llms.txt`), receiving citeable envelopes (data + metadata + receipt) across raw / query / insight tiers.
- First venture, started at the Stevens Launchpad incubator (2021). **EthGlobal SF 2024 — \$2,750** (Walrus + Story). The slogan it grew through: build the past → build history → bucket is the new renaissance. bucket.foundation

PromptMaxxers — *Founder / Lead Instructor · AI-teaching brand* 2026 – Present

- Evaluate and upgrade prompting techniques through an 8-session Claude Certified Architect prep cohort, a 50+ item prompt library, and 1:1 coaching for a 50-member learning community. promptmaxxers.com

OWM — *Software Engineer · New York, NY (Hybrid)* 06/2025 – 12/2025

- Built and deployed a production AI matching engine and embedding-based matching pipelines; analyzed user funnels with product analytics.

Happy Swims — *Full-Stack Engineer · Remote* 11/2024 – 04/2025

- Built a scheduling portal for 12+ instructors and 500 families; replaced manual scheduling with a real-time availability engine, cutting coordination time >75%. happyswims.life

Roley — *Front-End Engineer · New York, NY* 04/2023 – 03/2024

- Built and operated a reliable, concurrent automation/scraping system running ~2,500 applications per week for end users.

MamaTeeTees — *Builder · 501(c)(3) nonprofit, West Africa education / housing* 2024 – Present

- Built and operate nonprofit storefront, Shopify integration, and intake/donations flow for a 501(c)(3) funding children's education and housing in West Africa. mamateetees.com

Goldenola — *Founder · local honey marketplace (Stevens-era)* 2022

Also: *Andino* (e-commerce), *FilliTin*, *DataSoar* (HVAC SaaS), *LockIn* (visitor fingerprint analytics), *EthicalFish* (ethical.fish), *Walleye Festival*, *Polyglott* (open-source language learning), *Gauss News* (gauss.news), *TaskLapp* (taskl.app), *OpenScriva* (openscriva.com).

SELECTED ENGINEERING PROJECTS (FROM 50+ REPOS ACROSS [GITHUB.COM/GIANYROX](https://github.com/GIANYROX) + [GITHUB.COM/AGFARMS](https://github.com/AGFARMS))

- **AI platforms & agents:** enterprise-ai (7-pillar autonomous AI brain); [feed402](https://github.com/GIANYROX/feed402) (paid data endpoints for AI agents over x402 — protocol spec + reference implementation, MIT/CC0); [x402-research-gateway](https://github.com/GIANYROX/x402-research-gateway) (paid research API over PubMed, Semantic Scholar, OpenAlex, ClinicalTrials, PubChem); [gauss-news-mcp](https://github.com/GIANYROX/gauss-news-mcp) (MCP-powered newsletter).
- **AI-native products:** [openscriva](https://github.com/GIANYROX/openscriva) (open-source AI book-writing app; fork-per-user model); [tasklapp](https://github.com/GIANYROX/tasklapp) (task mgmt); PromptMaxxers cohort + prompt library.
- **Production apps:** DerbyFish full stack (Rust derbyfish-api, derbyfish-native React Native, web, derbyfish-dbt medallion data pipeline, AI clipper); multiple Rust backends (interpat-api, fillitin-api, cryptord, ethicalfish-pi).

- **Research & data:** [Academic Paper Ranking & Recommendation System](#) (PageRank + TF-IDF over 1.7M STEM papers); [U.S. State Obesity Analysis](#) (two-sample tests, ANOVA, regression); [bucketGovGrants](#) (grants.gov scraper); [paper-helper](#).
- **Web3 / crypto:** Story Protocol IP-NFTs + Walrus storage (Bucket Foundation); zero-knowledge experiments (zk-01-hello-world); cryptord.
- **Design:** Figma (Pro) — Bucket 1.0 prototype (40+ frames), pitch decks, product UI across ventures.

THE THROUGH-LINE

The recurring question across Bucket Foundation, the 1.7M-paper recommender, paper-helper, bucketGovGrants, and feed402: **how knowledge is produced, ranked, validated, and paid for** — and how to make primary research paid-for-once and citeable-forever. Science of science, network science, mechanism design. The 2026 biophysics work is the same instinct pointed at a wet-lab field: read the literature, map the institutions, then build the computational tool the field is missing.

TEACHING

PromptMaxxers (AGFarms AI Ventures) — *Founder & Lead Instructor* 2026 – Present

- Designed and teach an 8-session Claude Certified Architect exam-prep cohort (lecture + lab + assessment); author original curriculum, labs, a 50+ prompt library, and mock exams.
- Lead 1:1 technical coaching in prompt engineering, AI-native workflows, and AI-engineer interview prep for a 50-member learning community.

Alphaminds Academy — *Hoboken, NJ · Chess Instructor* 09/2021 – 06/2024

- Taught 400+ hours of beginner and intermediate chess to K–8 students; class sizes 3–25 (avg 10–15).
- Wrote lesson plans, learning modules, and weekly recaps; differentiated instruction across ages and skill levels.

AGFarms — *Co-Founder (technical mentor)* 01/2024 – Present

- Mentor and technically lead a small engineering team through code review, pair-programming, and architecture instruction.
- **Qualified to teach** (adjunct): developmental math through Calculus I–III, Linear Algebra, Discrete Math, Probability & Statistics; Intro Data Science, Applied ML / Deep Learning, Python / R, Tableau / Power BI; Intro Programming (Python, Java), Data Structures & Algorithms, Databases / SQL, Applied AI.
- **Adjunct pursuit (Morris County):** applications in at County College of Morris (Data Analytics, AI Instructor, Math pool); Saint Elizabeth, Drew, FDU Florham, Centenary, and NJCU in the pipeline.

PUBLICATIONS & WRITING

- **Author**, [Your Money Is Broken](#) (2026, nonfiction) — stablecoins, the digital dollar, cross-border payments. Amazon paperback + Kindle, ISBN 9798196679834.
- **Author**, [The Lost Knowledge of Chiro](#) (2025, fiction manuscript) — an inventor builds the "Central Knowledge System" that stores all human knowledge; the city's senate fights over whether all citizens may access it. A fictional allegory of the open-knowledge thesis behind Bucket Foundation.
- **Essays — Medium @gianyrox:** "How ChatGPT Will Ruin the World" (1,576 claps); "Why the Research Industry Needs a Major Reform"; "Math, the Path to Polymath"; "The Biblical Flood That 'Began' History! — Meltwater Pulse 1A"; "Why the Three-Pass Method for Reading Research Papers Does Not Work"; "The Magical One-Shot App Builder's Guide"; "Can AI Girlfriends Fool Humans?"; "What Is A Solar Eclipse?"; "The Daily Gauss" (MCP newsletter).
- **Training:** Stevens independent studies in Scientific Writing (with John Horgan) and Creative Writing (with Billy Middleton).
- **Recurring themes:** open knowledge / education reform, AI's societal impact, math as the root of polymathy, deep-history & earth science.

HONORS & AWARDS

- **EthDenver 2025** — \$10,000 (Finalists + Flow prize) for an ethical catch-verification mobile app. **Founders Forge Accelerator** — \$10,000 grant + Dubai Demo Week (DerbyFish).

- **EthGlobal San Francisco 2024** — \$2,750 (Walrus, Story prizes) for a free-to-read / paid-to-cite research platform.
- **EthGlobal Paris 2023** — \$1,000 (Chainlink). **Total ≈ \$23,750.**

TECHNICAL SKILLS

- **Languages:** Python, R, TypeScript, Rust, SQL/PostgreSQL, LaTeX.
- **ML / AI:** Machine Learning, Deep Learning, Embeddings & Recommenders, Optimization, Statistics, MCP / multi-agent orchestration / evals.
- **Web / mobile:** Next.js, React Native, Supabase, Stripe.
- **Infra:** Docker / Kubernetes (K3s), Hetzner, Linux, Git.
- **Web3:** Story Protocol, Walrus.
- **Data & design:** NumPy / Pandas / scikit-learn, Tableau, Power BI, Figma (Pro).

ORIGIN, LANGUAGES & ELIGIBILITY

- Born Rome, Italy (27 Dec 2001); grew up in Denville, NJ; family across Italy; schooled a year in Italy (Turin) in middle school.
- **Spoken languages:** English (native), Italian (fluent), Spanish (functional).
- **Eligibility:** U.S. Citizen & Italian (EU) Citizen — full live / work / property rights across the EU/EEA + Switzerland.