Samuel Fayn

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Education

Georgia Institute of Technology | Atlanta, GA *Expected Graduation, December 2027*
B.S. in Computer Engineering, GPA 3.82 / 4.0 — Threads: Distributed Systems & Software Design; Cybersecurity
Honors: Dean's List (2x), Faculty Honors (2x)

Skills

Programming: Java, Python, TypeScript, C, VHDL, SystemVerilog
Frameworks & Libraries: Next.js, React, Node.js, Electron, Express, FastAPI, Prisma, Serwist, MapLibre GL, WebGL, Playwright
Databases & Queues: PostgreSQL (Supabase, Neon; row-level security, Realtime, PostGIS), MongoDB, Firebase, Redis
Platforms: Linux, Vercel, Supabase, GitHub (Actions CI)
APIs & Integrations: REST APIs, GraphQL, Claude API (tool use, prompt caching), MCP, Gemini, Retell, Twilio, QuickBooks Online, Google Sheets and Calendar, HubSpot, Salesforce, Square, Pipedrive, Calendly, NWS/NOAA weather, OSRM
Hardware & EDA: KiCad (schematic capture, PCB layout), ESP32, Intel DE10-Standard FPGA; scanning electron microscope (SEM), Gamry and Arbin electrochemical test systems
Communication: Software solution proposals to small businesses, client assessment reports, workflow process diagrams, training program for new reps, research briefings/presentations
Languages: English (native), Russian (native)

Work Experience

nAblement LLC | Remote *December 2025 – Present*
Co-Founder, COO, and Engineer
AI and software consultancy for small businesses, run by 3 partners, with six figures in revenue and a team of 12 contractors and interns.

Snow Ops: storm-operations platform for a snow-removal contractor *August – September 2026*
- Wrote a proposal for a snow-plowing contractor's custom operations software to plan routes, reroute its 10-vehicle fleet, and automate invoicing, resulting in a signed $3.3K + $300/month deal for nAblement.
- Engineered the storm-operations platform end to end (dispatch board, offline-first crew app, and server-verified GPS check-ins), now serving a team of 10.
- Delivered 32 user-facing features, including a real-time storm board, a 3D route map on MapLibre GL and OpenStreetMap, a route builder that minimizes added driving, an offline sync queue, and automated invoicing.
- Integrated 4 outside services: QuickBooks, Google Sheets, National Weather Service data, and push notifications.

Billing Tracker: time-and-billing platform *September – October 2026*
- Developed an AI time-entry assistant on TypeSafe AI's Jev decision model that turns spoken or typed work notes into billable entries, saving the team an estimated 15–20 hours a month of manual logging and cleanup.
- Synced it two ways with Sprint Tracker, the task platform I also built, so Jev picks only from real projects and tasks — bringing its classification accuracy to 100%.
- Engineered a rate engine driven by a rate card (seniority × engagement type), with rank-based permissions, weekly confirmation and locking, and an edit audit log, so fees compute automatically for every founder and employee despite their differing rates and benefits.

AgentHub: AI phone, text, and email agent for small businesses *March 2026 – Present*
- Designed 20 deterministic conversation-flow pipelines for the AI voice agent (booking, availability, escalation, complaints, emergency, goodbye, etc.), raising the end-to-end scenario pass rate from 52% to 93%.
- Architected an agentic system where an orchestration agent coordinates five specialized agents (catalog, customer, general-knowledge, scheduling, session) to sharpen the AI's decision-making, cut latency, and ease debugging.
- Wrote a 59-scenario text-mode harness that tests whole conversations end-to-end without the need to make any calls.

Sprint Tracker: used by the nAblement team to track project workflows *July 2026 – Present*
- Implemented 20 features, including a transit map of projects and sprints, weekly sprint pages, a kanban board, a schedule calendar with availability polls, chat, feedback notes, push notifications, file uploads, global search, and Google sign-in.
- Shipped an MCP server exposing 17 role-gated tools that let Claude read and update a team's Sprint Tracker based on each person's position in the company, secured by OAuth 2.1.

AI opportunity assessment: on-site assessment of a boutique law firm, $2K subcontract *September 2026*
- Designed the workflow-record structure used to interview 5 staff members, then used the records to map each segment of the business and each person's role in it, resulting in 12 system diagrams of how the firm operates.
- Used those 12 system diagrams to direct the research behind 6 software solutions (plans to implement market software, plus custom builds), resulting in a $36.5K roadmap and nAblement's first AI audit proposal.

Burkes Works and Burke's Lighting: websites for two Pittsburgh-area home-service businesses *June 2026 – Present*

- Wrote a two-site website proposal for a Pittsburgh owner of two home-services businesses that ran on word of mouth with no online presence, resulting in a signed $600 + $200/month deal.
- Designed and launched separate websites for a demolition and hauling business and a permanent exterior lighting business, including domains and hosting; the sites drove four figures in sales in the first month after launch.
- Developed a quote flow on both sites that records every request and notifies the owner right away, with the lighting site sending requests into Jobber, Burke's scheduling and invoicing software.
- Made both businesses readable to AI search with llms.txt and llms-full.txt files carrying the full site text, robots.txt files that explicitly allow 18+ AI crawlers (GPTBot, ClaudeBot, PerplexityBot, Google-Extended), sitemaps, and JSON-LD business data so answer engines can cite them.
- Designed a $750 Meta Ads proposal for the same Pittsburgh owner, which he paid for after the work for the two-site proposal was completed.

Custom software proposals to small businesses *April – September 2026*

- Led 3 interns in building a $50K proposal for a custom Uber-for-contractors app, with market research, product-market-fit validation, and a revenue model report, resulting in nAblement's largest proposal to date.
- Developed a proposal with a fellow co-founder for a maritime ballast-water compliance consultancy, covering a website rebuild and a custom AI-search visibility service, resulting in a signed $2.25K build + $400/month retainer.

Chip Scale and Power Lab, Georgia Tech | Atlanta, GA *January 2026 – Present*

Undergraduate Researcher, Characterization Sub-Team | Advisor: Dr. Jud Ready

A Vertically Integrated Projects (VIP) team building supercapacitors for spaceflight, with a payload competitively selected for NASA's 2026 HASP mission.

- Trained on a scanning electron microscope (SEM) and the Gamry and Arbin electrochemical test systems.
- Tested dozens of carbon-nanotube supercapacitors for the HASP payload to measure capacitance, efficiency, and cycle retention, and analyzed power and energy density in Python and Matplotlib; the results drove the team's choice of a PVA-14 electrolyte over KOH.
- Co-presented the lab's energy-storage findings to 50 U.S. Space Force personnel at GTRI.

Nutrition Education Project (NEP) Website | Remote *October 2026 – Present*

Independent Contractor

A 15-member student-led foundation at Cornell University, sponsored by the American Heart Association and Cornell Cooperative Extension of Tompkins County, among others.

- Developed NEP's website on Next.js and MongoDB with a Google Sheets sync, deployed it on Vercel, and set up the foundation's LinkedIn and GitHub, giving it one online presence across its site and social channels.
- Structured the site so its digital assets are easy to change, letting the 15-member team keep its content current.
- Maintain the site and keep helping the team create digital assets as the foundation runs 6 workshops this semester.

Projects

MALT: Personal Voice Assistant for macOS *October 2026 – Present*

Independent Project

A hands-free voice assistant that takes real actions across email, documents, deployments, and the browser.

- Wired MCP and AppleScript links to Gmail, Drive, Claude Docs, Vercel, Sprint Tracker, and Chrome, which led to completing multi-step tasks like checking email, updating sprints, and deploying sites by voice.
- Designed a four-tier model router on TypeSafe's Jev that raised the accuracy of model picks from 88% to 98%.
- Cut token costs 58% versus using Opus as the default model, and ran simple requests 4x to 6x faster.

Wi-Fi Security Analyzer *January – May 2025*

Independent Project

- Assembled a pocket penetration-testing tool on an ESP32 Marauder, wiring it to a TFT display and flashing its firmware.
- Stood up my own evil-twin captive portal that mimicked Georgia Tech Wi-Fi to serve a look-alike login page.
- At 208,000 characters, the Georgia Tech login page was ~10x the chip's 20 KB flash, so trimmed it ~90% to fit.

Mesh Landing Page *July – August 2026*

Stealth Startup

Mesh is a pre-revenue context-delivery product taken through a Y Combinator application: a memory layer that serves a team's data to AI agents over MCP (trymesh.dev).

- Programmed the site's three interactive product scenes in Next.js.
- Constructed the pilot-application pipeline: a schema-validated MongoDB waitlist with rate limiting and a honeypot, mirroring every signup to a Google Sheet so the whole team can check status at a glance; 50 people have joined the waitlist, and Baker Grey reached out interested in the idea and the pilot's status.

SCOMP Arithmetic Peripheral *Fall 2025*

Team Project, Hardware Engineer

A VHDL math coprocessor on an Intel DE10-Standard FPGA that offloads arithmetic from SCOMP CPU software to dedicated hardware.

- Implemented four memory-mapped arithmetic units (8-bit packed multiply, absolute value, a 16-bit multiplier, and integer division), each at its own peripheral address on the SCOMP bus.
- Designed the multiplier and divider as stateful, multi-step units that hold operands across instructions and reset on a zero input, feeding 16-bit values through an 8-bit interface.
- Replaced a custom-written multiplier with standard VHDL arithmetic libraries, which cut debugging time and let the team focus on CPU-to-hardware communication and control logic.

Communication and Leadership

Internship Program — led nAblement's 7-intern team *January – October 2026*

- Brought on 4 business and sales interns who worked with me to drive several of the firm's larger proposals.
- Recruited 3 software engineering interns, developing the nAblement landing page with 2 of them and building a section of the firm's product, Beacon, with the third.

Company documents *January 2026 – Present*

- Crafted nAblement's Executive Brief laying out the firm's value proposition, resulting in the core document the sales team uses to win new clients.
- Produced the ideal-customer-profile documents the sales team used to target specific buyers and pick who to connect with on LinkedIn, which led to the firm focusing on 4 industries (engineering, accounting, law, insurance).
- Authored the assessment brief defining the fixed-price AI & automation opportunity assessment (2 on-site days, workflow maps, a ranked plan, no vendor commissions), resulting in the service delivered to the firm's first law-firm client.
- Developed the Beacon Field Book for selling nAblement's upcoming product (call structure, qualifying questions, objection handling, demo runbook, and a call scorecard), cutting sales-rep training time by 80%.
- Compiled the company record, the single source of truth for nAblement's clients, deals, and builds, which serves as the firm's résumé for prospects and has turned 2 leads into four-figure clients.

ProjectCAD | Co-Founder & Lead Engineer — education L3C teaching CAD to kids *August 2023 – May 2026*

- Founded an organization that teaches students CAD modeling in AutoCAD and Onshape through 4 curriculums.
- Recruited the successor president; the team has since run a 15-participant CAD contest and coached FLL and FTC teams.

Relevant Coursework

Data Structures and Algorithms, Computer Architecture and Concurrency, Intro to Computer Security, Computer Communications, Programming Hardware/Software Systems, Discrete Math, Digital System Design, Digital Design Laboratory, Circuit Analysis, Multivariable Calculus, Differential Equations