Caius Chevalier

617-312-4670 | resume@caius.org | linkedin.com/in/caius-chevalier | caius.org

Education

Binghamton University — Vestal, NY
B.S. in Computer Science — *Expected May 2029*

- **Honors & Standing:** Presidential Scholar, Dean's List | **Major GPA:** 3.90/4.00
- **Relevant Coursework:** Data Structures & Algorithms, Computer Architecture, Linear Algebra, Calculus I–II
- **Involvement:** Build @ Bing (Founder), ColorStack (E-Board Intern '25–26), HackBU, Poker Club, Chess Club

Experience

Founder — Sep. 2026 – Present
Trax — *Vestal, NY*

- Launched Trax, an iMessage AI assistant, to 75+ Binghamton students exchanging 4,300+ messages in two weeks with 71% retention, maintained by a custom observability pipeline that escalates and fixes issues agentically
- Vertically integrated with Binghamton campus life by reverse-engineering school-specific services and iterating on campus-specific onboarding flows, syncing 61 calendars across 68% of users for 570+ reminders

Software Engineering Intern — May 2026 – Aug. 2026
Knot — *New York, NY*

- Delivered 5 production CardSwitcher merchant integrations now live to cardholders across leading fintechs and banks, plus merchant fixes that helped ready the platform's first Canadian launch with the country's largest bank
- Owned a TransactionLink integration from a top US P2P payments platform's request to production, building the item-level purchase-data parser and hardening it in beta against 20+ data-quality edge cases
- Built SubscriptionManager tooling powered by web agents that gathered richer merchant data and pre-implementation insight, unblocking 50+ downstream integrations and significantly cutting build time and QA rework

Undergraduate Researcher — Nov. 2025 – Present
Binghamton University – Advisor: Prof. Aravind Prakash — *Vestal, NY*

- Trained a self-supervised transformer encoder-decoder on 50k unlabeled x86-64 blocks to learn assembly semantics from instruction reordering alone, exactly reconstructing 11+ instruction blocks 25% of the time
- Extending the model into an error-tolerant disassembler that recovers corrupted binaries, benchmarking its tolerance to instruction insertion, deletion, and substitution

Projects

VirtualGuard | *C#, .NET, MSIL, AsmResolver, Echo, Code Virtualization* — Nov. 2023 – May 2024

- Built a .NET code virtualization obfuscator that lifts 200+ MSIL opcodes into a custom 49-instruction bytecode ISA, executed by an embedded virtual machine regenerated uniquely on every compile
- Eliminated static dispatcher signatures through a dispatcher-less handler chain, randomized fixup-byte deltas, and arithmetic-only branching, resisting the automated devirtualization that cracked earlier public versions

Shomi, 3rd @ HackPrinceton (KnotAPI Track) | *Python, RAG, Photon, KnotAPI* — Apr. 2026

- Engineered an autonomous iMessage shopping agent that turns a natural-language text into a completed purchase, orchestrating search, selection, and checkout across live merchants with Gemini
- Designed a retrieval layer using vector databases and web scraping that learns from a user's shopping history to match intent to real-time product data, grounding the agent's choices in live merchant catalogs

Neurova, 1st Overall @ Binghamton's Codefest | *React, ReactFlow, TypeScript, Emotiv Cortex* — Oct. 2025

- Created a brain-computer interface platform mapping real-time EEG emotional states to external integrations through a custom ReactFlow node editor, letting users wire brain signals to actions with drag-and-drop logic

Technical Skills

Languages: C#, C++, Python, TypeScript, JavaScript, Java, SQL, x86-64 Assembly, MSIL
Frameworks: Node.js, Next.js, React, Supabase, shadcn/ui, Tailwind CSS, PyTorch, Flask
Tools & Cloud: Google Cloud, BigQuery, SQLite, Docker, GitHub Actions, Sentry, Proxyman, IDA Pro, Linear, Git