

Matthew Trent

Ivy League Software Engineer | links.matthewtrent.me | me@matthewtrent.me

EDUCATION

Columbia University | *M.S. in Computer Science* | *Track: Machine Learning* Sep. 2025 – Present
University of Victoria | *B.S. in Computer Science* | *Distinction & Honors* | *A/A+ Avg. (Non-4.0 Scale)* Aug. 2024
Thompson Rivers University | *Computer Science Transfer Classes* | *4.33/4.33 GPA* Aug. 2024

EXPERIENCE

Software Engineer Intern (Recruited + Accepted Return Offer) Jun. 2025 – Present
Sorce (YC F25) | *Go, Python, Lua, GCP, Swift, Redis, PostgreSQL, TypeScript* *San Francisco, CA*

- Lots of 0→1s.

Software Engineer Intern (Return Offer) Jan. 2025 – May 2025
Probe | *TypeScript, React, Next.js, Node.js, Firebase, Stripe* *Vancouver, BC (Remote)*

- Built OAuth, Stripe payments, user and event feeds, WebSocket messaging, and parallelized web scraping.
- Engineered AI chatbot that engaged with users through 3rd-party chatrooms, connecting disjoint platforms.

Software Engineer Intern (Recruited + Return Offer) Sep. 2024 – Dec. 2024
Virtual Smart Chain | *Go, Rust, TypeScript, React, Next.js* *Mountain View, CA (Remote)*

- Implemented core cryptographic functionality, including Key/Eth DIDs, BLS signatures, JWEs, and JWSs.
- Built a real-time parallelized HIVE blockchain streaming service vastly increasing block throughput.
- Contributed to a Go-based L2 smart contract DEX, featuring swap, store, deposit, and withdrawal functionality.
- Integrated Rust Merkle Tree zk-SNARKs for zero-knowledge network verification and state proofs.

Software Engineer & Academic Researcher Apr. 2024 – Feb. 2025
Kurlox | *Go, React, Next.js, Flutter, PostgreSQL* *Victoria, BC*

- Designed and built a decentralized search engine with node-partitioned indexing and a secure crawler network.
- Implemented BFT, trustless infra using Go, Kademlia DHTs, and public-key consensus protocols.
- Enabled 384D semantic search with dynamic partitioning, shard replication, and density-aware storage protocols.
- Authored an Honors Thesis which remains private to allow for future commercial funding opportunities.

Founding Software Engineer Mar. 2022 – Aug. 2024
Confesi | *Go, Rust, Next.js, TypeScript, Flutter, AWS, PostgreSQL, Firebase, Docker, Redis* *Victoria, BC*

- Led team of 5 in developing a full-stack, cross-platform social media app with infinite feeds, threaded comments, live chat, notifications, authentication, achievements, role-based permissions, leaderboards, campus curations, etc.
- Wrote nearly 300,000 LOC while managing team PRs and GitHub Issues, guided by an alpha-testing community.

Research Lab Software Developer (Asked to Return) Sep. 2023 – Jun. 2024
Cortex Labs | *Vue.js, TypeScript* *Victoria, BC*

- Optimized a big-data visualization tool for brain-injury research by refactoring filter logic and boosting render performance, aiding in its global presentation, while working under the Associate Dean of Research.

Junior Software Developer Dec. 2021 – Oct. 2022
Stend | *C++, Flutter, Dart, MongoDB, TypeScript* *London, Ontario (Remote)*

- Developed mobile app features, including demographically-tailored reviews, user profiles, and API service layer.

Junior Software Developer Summer 2020
Van Belle Nursery | *Flutter, GCP* *Abbotsford, BC*

- Gave 2 hour boardroom presentation to company engineering leadership, resulting in same-day hire.
- Engineered cross-platform Flutter app for time logging, finances, authentication, and data wrangling.

SKILLS


Programming Languages | *Python, Dart, Go, Rust, TypeScript, JavaScript, C, Java, SQL, Bash, C++, Swift*
Frameworks & Tooling | *React, Docker, Next.js, Flutter, Node.js, Express, Git, PostgreSQL, MongoDB, Redis*
Architecture | *System Design, Distributed Systems, Microservices, AWS, GCP, Firebase, REST/gQL/gRPC, APIs*

PUBLISHED PACKAGES, LIBRARIES, & TOOLS


Stats: 900+ downloads/week; 50,000+ uses; in 2 international studies; commercial sales; newsletter feature.

- **9 Flutter Packages** | Ranging from React.js hook adaptations to a fully-fledged state management framework.
- **2 Rust CLI Tools** | Including a Homebrew-installable Git enhancement TUI and a Markdown badge API.
- **2 Go Packages** | Covering database model encryption and a vector-math-driven simulation TUI.
- **6 Web Tools** | Spanning animation libraries to an automated tool solving over 1,000 Leetcode problems per hour.
- **1 Python Tool** | A Discord bot actively moderating thousands of users.


NOTABLE PROJECTS (50+ ON MY WEBSITE)

Dormside  | *Stripe, Go, Mapbox, Kafka, Docker, Redis, PostgreSQL, GCP, Flutter* Oct. 2024 – Paused


- Architected a robust, performant system that streams user status and location updates to a map in real time.
- Constructed a reliable, secure in-app payment solution, with streamlined server-side consolidation processes.

Transcendental Function Hyper Optimization  | *C, Assembly, Python, Bash* May 2024 – Aug. 2024

- Efficient $\log_2(x)$ implementation on a Raspberry Pi 4B 8GB, supported by 40 pg. software optimization report.
- Achieved a 43% improvement across page faults, branch misses, ASM length, cycles, and instructions.

Quantum Computing Circuit Designer & Simulator  | *Go, Homebrew* Jun. 2024

- TUI implementing 20 quantum gates, allowing simulation of algorithms such as: Bernstein–Vazirani, Quantum Teleportation, Grover’s Search, Quantum Phase Estimation, Quantum Fourier Transform, and more.

Real-Time Hockey Match Predictor  | *Python, Pandas, Numpy, Tensorflow, Sklearn* Jan. 2024 – Apr. 2024

- Utilized logistic regression and LSTM neural networks in a time-dimensioned format for mid-game projections.
- Leveraged 1.75 million shot entries across 42 engineered features, implementing robust data pre-processing.
- Includes 45 pg. report on fine-tuning of system to achieve optimal accuracy, precision, recall, and F1-score.

iMessage Clone | *Rust, Flutter, MongoDB, WebSockets* May 2023

- Engineered a real-time WebSocket-based chat app with message backup, reactions, deletions, and caching.
- Implemented activity indicators and state persistence using the Rust Actor framework.

HACKATHONS

WECS Engineering | *3rd; P2P distributed node securing roommate IOUs with asymmetric cryptography* Oct. 2024

Covehack | *Founded, judged, and ran with 50+ RSVPs* Aug. 2024

UVic Engineering | *2nd; cloud-first CRDT-based collaborative multi-language code editor* Jul. 2024

UVic Artificial Intelligence | *Developed competitive heuristic-based Monte Carlo tree search algorithm* Feb. 2024



UVic Engineering | *1st; cross-platform mobile app connecting students to tutors* Jul. 2023

Island Health Hospital | *Found serious infrastructure vulnerability pre-event; awarded for disclosure* Mar. 2023

MISCELLANEOUS

Master’s Offers | *Multiple Ivy Leagues, Carnegie Mellon, Georgia Tech, etc.* Fall 2025

Engineering Blog | *11 articles & 10,000+ reads* Jan. 2024 – Present

- **Highlight:** “Someone Copied My GitHub Project, Then Licensed It” 
- **Highlight:** “Building an Opinionated, Reactive, State Management Framework For Flutter Apps” 

Discord Learn-to-Code Community | *2,700+ members & 340,000+ messages* Nov. 2022 – Present

Leetcode | *~1,800 solved (view my blog post for details)* Sep. 2021 – Present

2 Coding Instagrams | *12,000,000+ views & at peak: ~70,000 followers* Jul. 2020 – Present

Stack Overflow | *3,300+ rep; ~100 answers; 450,000+ people reached* Mar. 2020 – Present

Volunteering | *Abbotsford Youth Council, soup kitchen, Barnabas Camp* Intermittent

Certifications | *IBM Containers & Kubernetes; Microsoft Generative AI* Intermittent

Personal Interests | *Tanks/battleships/warplanes, cross-country running, cooking, & snowboarding* Continual