

# Matthew Trent

Computer Scientist | Portfolio & Links: [links.matthewtrent.me](https://links.matthewtrent.me) | Email: [me@matthewtrent.me](mailto:me@matthewtrent.me)

## SKILLS

---

**Programming Languages** | *Python, Dart, Go, Rust, TypeScript, JavaScript, C, Java, SQL, Bash, C++*

**Frameworks & Tooling** | *React, Next.js, Flutter, Node.js, Express, Git, PostgreSQL, MongoDB, Redis, Linux*

**Architecture** | *System Design, Distributed Systems, Microservices, Docker, AWS, GCP, Firebase, REST/GQL APIs*

## EDUCATION

---

**University of Victoria** | *B.S. in Computer Science* | *4.12 GPA (on A+ scale), Honors, Distinction* Aug. 2024

## EXPERIENCE

---

**Software Engineering Intern** Starting Jun. 2025  
*Sorce (Supported by Founders Inc.)* San Francisco, CA

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

- Engineered core features: OAuth, Stripe integration, feeds, event filtering, and WebSocket messaging.
- Developed an AI chatbot that engaged with users through 3rd-party chatrooms, integrating disjoint platforms.
- Improved web scraping reliability through parallelization and resolved production mobile app crashes.

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

- Implemented decentralized infrastructure protocols aligned with Ethereum and Bitcoin standards.
- Developed core cryptographic functionality, including Key/Eth DIDs, BLS signatures, JWEs, and JWSs.
- Built a real-time parallelized HIVE blockchain streaming service for block and transaction processing.
- 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.
- Supervised by Dr. Estey (Apr.–Aug.); authored private draft paper in attempt to secure commercial funding.

**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** Sep. 2023 – Jun. 2024  
*Cortex Labs (Asked to Return) | 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.
- Oversaw client and server team collaboration, ensuring seamless integration and adherence to best practices.

**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.
- Designed and developed cross-platform Flutter app for time logging, finances, authentication, and data wrangling.

## PUBLISHED PACKAGES, LIBRARIES, & TOOLS


---

**Stats:** 750+ 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 – Present


- 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

---

**CS Master’s Offers** | *Brown, Carnegie Mellon, UC San Diego, Purdue, Georgia Tech, & UC Davis* 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** | *2,300+ members & 230,000+ messages* Nov. 2022 – Present

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

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

**Stack Overflow** | *3,300+ rep; ~100 answers; 500,000+ 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