Jayden Piao

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Education

University of British Columbia — BSc Computer Science (GPA: 3.9/4.33) **Graduating May 2026**
Relevant Coursework: Distributed Systems, AI/ML, Databases, Data Structures, Operating Systems, Parallel Computation

Experience

Google (Incoming Summer 2026) **May 2026 – July 2026**
Software Engineer Intern *Sunnyvale, CA*
- Cloud SQL - Replication and Availability

Amazon Web Services (AWS) **May 2025 – Aug 2025**
Software Development Engineer Intern *Seattle, WA*
- Built a Rust physical replication system for DynamoDB's new LSM-tree storage engine, replacing the logical approach
- Reduced replica recovery time by 60% and CPU utilization by 50% by streaming byte-level data directly over custom netcat pipelines using Unix domain sockets and TCP bridges
- Fulfills Paxos protocol, enabling cross-host replica synchronization and quorum recovery with Linux keyring re-encryption

UBC MINT (Multifaceted Innovations in Neurotechnology) **Mar 2024 – Aug 2025**
Software Engineering Lead *Vancouver, BC*
- Led backend development in Rust for a Brain-Computer Interface (BCI), simulating EEG signal processing for real-time neural data pipelines
- Engineered Rust backend for high-frequency time-series EEG data, with simulated signal generation to emulate real-world asynchronous input, aligned with scientific computing workflows

Marr Labs (YC W24) **May 2024 – Dec 2024**
Software Engineer Intern *Remote*
- Designed and implemented evaluation frameworks for AI agents (text and voice), applying principles of observability and automation to enable rapid iteration and data-driven development
- Collaborated cross-functionally to integrate RESTful tools and visualization features that surfaced performance regressions and reduced manual testing by hours per engineer
- Developed scalable systems using Docker, FastAPI, and AWS ECS - contributing to team-wide agent adoption and iterative ML workflows

The Verse **May 2023 – Aug 2023**
Software Engineer Intern *Remote*
- Developed 'U4Ea Labels,' a MERN stack application that performs sentimental music analysis and uses DALL-E to generate custom artwork in the form of nutritional labels, serving 37K+ customers with personalized designs
- Built a MERN stack internal management tool with OAuth authentication, featuring employee accounts to track activity and engagement, integrated with a custom Discord bot built with JavaScript for automated monitoring

UBC Thunderbots **Sept 2021 – Aug 2022**
Software Engineer *Vancouver, BC*
- Developed real-time robotics control systems using C++, emphasizing low-latency data processing and performance tuning on Ubuntu systems
- Engineered Python-based referee leveraging TensorFlow ML models which improved real-time decision-making by 30%

Projects

Quorum | *Source Code* **Python** | **FastAPI** | **Anthropic** | **Fly.io** | **Postgres**
- Built an AI-agent control plane that gates GitHub/Fly.io mutations through typed proposals, policy checks, quorum votes, human approval, health checks, rollback, and tamper-evident event logs with LLM proposer/voter roles.

Quorum Coordination Service | *Source Code* **Go** | **Multi-Paxos** | **TLA+** | **HTTP** | **WAL/Snapshots**
- Built a 3-node Multi-Paxos coordination service with linearizable reads, WAL+snapshot recovery, leases, and watch streams; added fault injection and a batched-write path improving burst throughput by 5.3x under stability testing.

Hey Spotify | *Source Code* **Python** | **FastAPI** | **JavaScript** | **SQL**
- Building full-stack Spotify voice assistant with OAuth PKCE auth and schema-validated intent execution pipeline
- Added exponential backoff for API rate limits, request-ID structured JSON logs, and p95 latency instrumentation (<2s)

Technical Skills

Programming Languages: Python, Rust, Go, SQL, JavaScript/TypeScript, Java, C/C++, HTML, CSS
Technologies: PyTorch, TensorFlow, React, FastAPI, Node.js, PostgreSQL, Firebase, Tailwind CSS, Git, AWS