# Elio Di Nino

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Computer engineering student with multiple years of experience in both hardware and software. Passionate about solving meaningful problems efficiently and effectively. Excel at low and high-level design, systems integration, and testing. Seeking a 4 or 8-month co-op position beginning January 2024.

## Skills

- **Languages:** Java, Python, C/C++, SQL, JavaScript, TypeScript, Terraform, System Verilog, ARM64 Assembly
- **Libraries & Frameworks:** Gradle, JUnit, Pytest, Selenium WebDriver, Flask, Django, OpenTelemetry, REST APIs
- **Tools:** Git, SSH, Linux, Docker, Kubernetes, Jenkins, GitHub Actions, Atlassian Suite, Prometheus, Grafana, Quartus

## Education

**University of British Columbia** Expected May 2026
*Bachelor of Applied Science - Computer Engineering* Dean's Honour List - CGPA: 87.4% | 3.8 / 4.0

**Presidential Scholars Award – UBC** (2021, Recurring)
- Received the BMO Financial Group National Scholarship, a 4-year renewable award at $10,000

## Technical Experience

**D-Wave Quantum** May 2023 – Present
***DevOps Co-op*** *Burnaby, BC*
- Implemented a new Kubernetes-based development platform utilizing Terraform to automate setup and define infrastructure as code, simplifying programming environments for over 80 individuals and boosting efficiency by 20%
- Overhauled the build and publication process of company Docker images by creating a Jenkins function that runs builds in the on-premises Kubernetes cluster, reducing work required by 95% and eliminating previous cloud costs
- Centralized company Docker images in a single repository that automated all build, testing, and publishing steps with only 6 lines of configuration per image, eliminating redundant Jenkins pipelines and improving overall organization
- Developed Grafana dashboards integrated with Prometheus metrics, enabling real-time monitoring of service health and key statistics, resulting in improved visibility and informed decision-making

**UBC Uncrewed Aircraft Systems,** Student Design Team Sep 2021 – Present
***Captain*** *Vancouver, BC*
- Lead a team of 70+ cross-discipline students and manage a budget of $30,000 to compete in 2 competitions annually

***Software Co-Lead***
- Acquired a Canadian Advanced RPAS License after 2 months of studying to fly team drones at competitions
- Improved cross-platform compatibility with Docker containers and made 5 related CI/CD pipelines with GitHub Actions

***Software Developer***
- Implemented a winch command relay that sent serial signals to an Arduino and received controls wirelessly (ACOM)

## Projects

**3FA – Multi-Factor Authentication System** (GitHub, Demo Video)
- Created a backend API in Python using Flask and SQLite with over 20 endpoints
- Designed and implemented the authentication flow which included session and authentication tokens, encrypted communications, hashed passwords, and automatic timeouts to meet OWASP security standards
- Created GitHub workflows to automate testing for all parts of the system, created app releases and executables, packaged the backend as a Docker image, and automated dependency updates to reduce manual work by 500%
- Used Pytest to achieve 98% line and branch coverage as well as set up Postman to improve manual testing

**Multi-Client Server** (Description), CPEN 221
- Constructed a Java server supporting multiple simultaneous clients capable of interacting and fetching Twitter data
- Enabled dual-server routing so that either server can be connected to, and no interruptions occur if one goes offline
- Followed security protocols by hashing and salting all passwords and encrypting incoming and outgoing data via AES

**Simple RISC Machine**, CPEN 211
- Implemented a Turing Complete 16-bit RISC machine using System Verilog on an FPGA board in 3 weeks
- Subdivided the machine into smaller modules to be designed, tested, and debugged more easily
- Utilized pipelining to increase operations per cycle by 300% and go beyond course expectations