

NATHAN DANIEL

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Education

Queen's University | *Candidate for B.A.Sc. Computer Engineering*

Sep 2021 – exp. Apr 2026

- Recipient of Dean's Scholar 2024-2025: Combined Fall and Winter GPA of 3.5 or higher
- Recipient of Betty Harrison Award for Black Canadian Students (2021-2025)
- Relevant coursework: Algorithms, Computer Architecture, Data Structures, Database Management Systems, Digital Systems, Microprocessor Interfacing & Embedded Systems, Object Oriented Programming, Operating Systems.

Experience

Educational Technology Intern


May 2024 – Aug 2024

Queen's University Department of Health Sciences - OPDES

Kingston, ON


- Worked with Articulate 360 to create interactive educational modules for 370+ health sciences students.
- Integrated coding elements to improve learning experience, using HTML, CSS, and JavaScript.
- Contributed to process improvements that reduced development time by automating repetitive tasks.
- Maintained and updated error logs and tracked ongoing issues with Microsoft Excel.
- Wrote detailed reports for managers using Microsoft Word, effectively communicating project outcomes.
- Partnered with faculty and instructional designers to ensure educational materials met academic standards and addressed students' learning needs effectively.

Projects

PathPulse (Wearable GPS Tracker)  | *C++, HTML/CSS, JavaScript, React, MongoDB*

May 2025 – Present

- Designed a GPS-based tracker using an ESP32 microcontroller, NEO-6M GPS module, and LiPo-based power system to record real-time distance, pace, and route data.
- Wrote embedded code in C++ using interrupt-driven design and UART communication for accurate location polling.
- Built a React dashboard to visualize user routes using the LeafletJS API and analyzing run data via summary cards.
- Created a Node.js + Express backend with MongoDB to store user run logs, performance metrics, and historical data for persistent access across sessions.

FantasyHoopz  | *Java, Spring Boot, PostgreSQL, HTML/CSS, JavaScript*

Aug - Oct 2024

- Built a full-stack fantasy basketball platform with data for 650+ players and 160+ teams.
- Developed a front end using HTML, CSS, and JavaScript to see statistics and see responsive filtering.
- Designed and implemented an object-oriented Java backend using Spring Boot to serve RESTful endpoints and manage database interactions.
- Optimized PostgreSQL queries by designing efficient database schema, reducing query response time by 25%.
- Deployed the web client using Google Firebase.

Reddit to Redshift Data Pipeline  | *Python, Airflow, Celery, AWS, PostgreSQL, Redshift*

March 2025 - Present

- Built a data pipeline to collect Reddit data using the Reddit API, automating ingestion with Airflow and Celery to support daily data analysis.
- Streamlined task scheduling and failure recovery using PostgreSQL-backed workflow management, improving reliability across ETL processes.
- Stored and organized raw and processed data in Amazon S3, then cataloged it with AWS Glue for scalable querying.
- Used Amazon Athena to analyze trends in the data, and loaded results into Amazon Redshift to power downstream analytics dashboards.

Technical Skills

Languages: C, C++, Java, Python, JavaScript, PHP, SQL, HTML/CSS

Frameworks & Libraries: Apache Airflow, CUDA, Express, React, Next.js, Node.js, Spring Boot, Google Cloud Platform

Databases & Cloud: PostgreSQL, MongoDB, MySQL, SQLite, AWS (S3, Redshift, Glue, Athena), Docker

Extracurricular

Software Engineering Lead

Sep 2024 – Present

Queen's University Cybersecurity and Cryptography Club (Q3C)

Kingston, ON

- Led team to develop a Chrome-based RSA-encrypted password manager.
- Focused on secure backend systems and multi-factor authentication integration.