

# NORMAN BUI

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## EDUCATION

**Carleton University** | *Bachelor of Computer Science (Honours), 4.0/4.0 (A+) GPA*

Expected April 2026

- Coursework: DSA II, Discrete Math & Structures, OS, OOP, Paradigms, WebDev, QA, HCI (UI/UX), DBMS, Statistical Modeling

## EXPERIENCE

**Electronic Arts (EA)** | *Software Engineer Intern* | *Kotlin, AI Agents, Automated Testing*

May 2025 - Aug 2025

- Analyzed Servo (LLM-powered automated game testing system) by evaluating model performance, reviewing codebase architecture, and providing technical recommendations for system optimization and soak testing workflows
- Debugged authentication failures in CI/CD load testing pipeline and improved test coverage, increasing infrastructure reliability from **35% to 100%** success rate
- Integrated **10+** new game features into load testing frameworks, implementing automated test coverage and tracking performance metrics to ensure accurate testing under high-traffic conditions

**Autodesk** | *Software Engineer Intern* | *TypeScript, Java, GraphQL*

Jan 2025 - Apr 2025

- Built data validation and repair infrastructure for Fusion platform, establishing foundational framework to prevent missing manufacturing data across cloud workflows
- Developed an **O(n)** algorithm with intelligent concurrency controls to repair missing primary relationships, achieving **8x** throughput through optimized parallel processing
- Designed and deployed API endpoints to automate data validation and repair operations in manufacturing workflows, reducing production failures through proactive issue detection
- Implemented permission validation and error handling protocols, eliminating existing security vulnerabilities for sensitive data
- Refactored part number assignment system to handle edge cases and configuration-specific assignments, improving data persistence and reducing errors
- Maintained **100% test coverage** across all code changes using Mocha, Chai, and Sinon, ensuring high code quality standards

**Public Health Agency of Canada** | *Data Scientist Intern* | *Python, LLM, RAG, MDM*

Sep 2024 - Dec 2024

- Developed LLM-powered literature review workflow for epidemiological research in collaboration with Imperial College London and WHO, building MDM infrastructure to enable standardized global health data access
- Conducted embedding model evaluation using Ollama to validate RAG system performance, confirming optimal model configuration and establishing baseline metrics for future system improvements
- Designed automated academic paper collection pipeline using GPT-4o, developing proof-of-concept for scalable PDF retrieval and metadata extraction

**Kongsberg Geospatial** | *Software Engineer Intern* | *C++, Qt, Python, GIS*

May 2024 - Aug 2024

- Developed demo apps using TerraLens SDK as the sole engineer on the Solutions Engineering team, successfully delivering custom solutions to major clients in aviation, defense, and government sectors
- Integrated LiDAR, WMTS, and S-57 data and optimized render pipeline to achieve **consistent 60+ FPS** with real-time object tracking, while implementing system monitoring (GPU, CPU, RAM) and modernizing Qt UI/UX
- Developed automated airspace classification framework, removing manual processing and standardizing data categorization
- Automated VFR and terrain data processing workflows, reducing aggregating time by more than **40%**

**Health Canada** | *Data Scientist Intern* | *Python, ML, NLP, ETL*

Sep 2023 - Dec 2023

- Rebuilt organization-wide federated chemical search system using BS4 and lxml, implementing automated fault tolerance and rate limiting that increased query success rate by **20%**
- Architected scalable web scraping framework using TDD practices and unittest, expanding accessible chemical data sources by **113%** and achieving **100% test coverage**
- Built random forest classifiers with pandas, NumPy, SciPy, and scikit-learn to accurately predict chemical toxicity
- Engineered automated knowledge graph pipeline using Neo4j, CoreNLP, and Stanza to extract semantic triples from medical literature, streamlining chemical assessment workflows

**NAV CANADA** | *Software Engineer Intern* | *C++, Qt, PowerShell, GIS*

May 2023 - Aug 2023

- Optimized data management algorithm for internal data tool, resulting in a **60% decrease** in storage utilization and **30% boost** in automated data analysis performance
- Resolved multiple bugs in ATC software, achieving an overall **improvement of 16%** in frame rate
- Automated network configurations with PowerShell, reducing manual work and setup time by **more than 95%**

## PROJECTS

**SocialSaplings** | *HTML/SCSS, JavaScript, Bootstrap, Node.js, Express.js, Firebase (Firestore, Auth)*



- Led cross-functional team to build a reforestation platform, resulting in **1st place @ KuriusHacks**
- Built tree species recommendation algorithm integrating various APIs to analyze user geodata for optimal planting
- Developed an interactive visualization dashboard using the Google Maps API to display real-time reforestation metrics and global environmental impact data

## SKILLS

**Languages:** Python, Java, TypeScript, Kotlin, C++, JavaScript, SQL, C#, HTML/CSS, PHP | English, French, Vietnamese

**Frameworks & Databases:** Flask, Spring Boot, Express.js, MySQL, SQLite3, PostgreSQL, Firebase, MongoDB, Neo4j, JUnit, Selenium

**Libraries:** pandas, NumPy, matplotlib, scikit-learn, unittest, spaCy, Sentence Transformers, BS4, lxml, HuggingFace, Ollama

**Development Tools:** Git, Node.js, Ubuntu, Qt Creator, Postman, Agile Methodology, SDLC, OOP, TDD, Cucumber