NORMAN BUI

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EDUCATION

Carleton University | *Bachelor of Computer Science (Honours), **3.9/4.0 GPA***   Expected April 2026
- Awards: Deans' Honours List, President's Scholars Scholarship, Chalmers Jack Mackenzie Scholarship
- Relevant Coursework: Data Structures & Algorithms, Discrete Structures II, Web Applications, OS, Object-Oriented Software Engineering, Statistics, Paradigms, Human-Computer Interaction, Databases

EXPERIENCE

Kongsberg Geospatial | *Software Developer Intern - Solutions Engineering*   May 2024 - Aug 2024
- Building GIS demos with C++, Qt, Git, and TerraLens SDK for ATC and defense applications.
- Calculated and visualized performance metrics and implemented map rendering for LiDAR, WMTS, and S-57.
- Developed Python scripts for log processing and terrain/VFR data aggregation, **cutting processing time by 40%**.
- Added clicking functionality to moving objects using MouseEvents and coordinates to TerraLens demo, improving user interaction and experience.

Health Canada | *Software Developer Intern - Emerging Approaches*   Sep 2023 - Dec 2023
- Developed Python solutions for chemical assessment, leading to improved risk data aggregation and analysis.
- Built random forest classifiers with pandas, NumPy, SciPy, and scikit-learn to accurately predict chemical toxicity.
- Restored web scraping scripts for chemical data aggregation using BeautifulSoup4 and lxml, **increasing risk data search functionality by 53.33%**.
- Refactored federated search system and added session management, automatic retries, and dynamic rate limiting, significantly enhancing system maintainability and reliability.
- Developed automated workflow for extracting SRO triples from scientific articles using CoreNLP and Stanza, streamlining qualitative data extraction into Neo4J knowledge graph.

Department of National Defence | *Software Developer - Internal Chatbot*   June 2023 - November 2023
- Built a LLM RAG app with Flask and GPT-3.5 to simulate conversation with a local document database.
- Implemented a NLP pipeline with tokenization, context analysis, and named entity recognition using NLTK.
- Used SQLite3 and FAISS for efficient storage and embedding retrieval, enabling fast response times.

NAV Canada | *Software Developer Intern - Surveillance Systems*   May 2023 - Aug 2023
- Developed C++ solutions for various air traffic control (ATC) applications, resulting in improved performance.
- Implemented optimized data management strategies using C++ and Qt Creator to achieve a **60% reduction in directory clutter** and **improve automated analysis solutions by 30%** in DataExtractor software.
- Optimized code and resolved multiple bugs in ATC software, **improving overall graphical performance by 6%**.
- Automated network configurations using PowerShell, **reducing setup time from 30 minutes to seconds**.

Correctional Service Canada | *Software Developer Intern - Victim Application*   May 2022 - Apr 2023
- Developed C#, JavaScript, and HTML solutions for victim info web application, improving victim services delivery.
- Improved front-end through accessibility testing and fixing bugs for **over 100 users daily**.

PROJECTS

SocialSaplings | *HTML/SCSS, JavaScript, Bootstrap, Node, Express, Firebase (Firestore, Auth)*   Devpost
- Led the development of a social media platform for reforestation initiatives, securing **1st place overall** and winning the "Earth Challenge" prize at KuriusHacks: March Edition.
- Implemented a tool using GBIF, SoilGrids, Open-Elevation, and OpenWeatherMap to recommend optimal tree species based on a user's geodata.
- Developed a tree planting visualization tool with Google Maps API to showcase global reforestation impact.
- Added profiles, posts, likes, and comments, using Firebase for data management and authentication.

SKILLS

Languages: Python, Java, C/C++, SQL, JavaScript
Frameworks & Databases: Flask, Express, Bootstrap, WET, Neo4J, MySQL, SQLite3, Firebase, MongoDB, PostgreSQL
Libraries: pandas, NumPy, matplotlib, scikit-learn, unittests, spaCy, OpenAI, Sentence Transformers, BS4, lxml
Development Tools: Git, Node, Ubuntu, Agile Methodology, SDLC, OOP, Qt Creator, Postman