NORMAN BUI

+1 613-983-3217 | normanbui@cmail.carleton.ca | linkedin.com/in/normanbui23 | github.com/nbui23

EDUCATION

Carleton University | *Bachelor of Computer Science (Honours), **3.9/4.0 GPA***   Expected May 2025
- Software Engineering Stream; Minor in Psychology
- Awards: Deans' Honours List, President's Scholars Scholarship, Chalmers Jack Mackenzie Scholarship
- Relevant Coursework: Design & Analysis of Algorithms, Discrete Structures II, Web Apps, Operating Systems, Object-Oriented Software Engineering, Statistics, Paradigms, HCI, Databases

EXPERIENCE

Kongsberg Geospatial | *Software Developer Intern - Solutions Engineering*   May 2024 - Aug 2024
- Developing C++ engineering solutions for TerraLens and IRIS platforms, focusing on **geospatial data visualization** and **real-time tracking**.

Health Canada | *Software Developer Intern - Emerging Approaches*   Sep 2023 - Dec 2023
- Built random forest machine learning classifiers with pandas, NumPy, and scikit-learn to **predict chemical toxicity**.
- Used SciPy to build a **data analysis pipeline** that analyzes features linked to estrogen activity.
- Restored web scraping scripts for chemical data aggregation using BeautifulSoup4 and lxml, enhancing 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 NLP techniques via CoreNLP and Stanza, **streamlining qualitative data extraction** into Neo4J knowledge graph.
- Trained HuggingFace LLM using TensorFlow to **increase accuracy and quality** of SRO triple extraction.

Department of National Defence | *Software Developer - Internal Chatbot*   June 2023 - November 2023
- Built a bilingual chatbot with Flask and GPT-3.5 to **simulate conversation with a local document database.**
- Implemented an **NLP pipeline** using NLTK, focusing on tokenization and context analysis.
- Incorporated OpenAI for high-dimensional embeddings, enhancing **contextual response relevance.**
- Used SQLite3 and FAISS for efficient storage and embedding retrieval, enabling **quick response times.**

NAV Canada | *Software Engineer Intern - Surveillance Systems*   May 2023 - Aug 2023
- Implemented optimized data management strategies using C++ and Qt Creator to **clear 60% of unneeded files** and **improve automated analysis solutions by 30%** in DataExtractor software.
- Optimized and resolved bugs in IRIS, resulting in **more stable and efficient software performance.**
- Automated network configurations using PowerShell, reducing manual efforts and increasing overall setup speed.

PROJECTS

SocialSaplings | *HTML/CSS, 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 **various APIs** to recommend optimal tree species based on a user's location data.
- Developed a tree planting visualization with **Google Maps API** to showcase global reforestation impact.
- Added features like profiles, posts, likes, and comments, using **Firebase** for data management and authentication.

Pomodojo | *HTML/CSS, JavaScript, Bootstrap, Node, Express, MongoDB, WebRTC*   Devpost
- Developed a study platform to faciliate productive Pomodoro sessions with gamification elements for motivation.
- Enabled real-time group video calling with **WebRTC and Agora APIs**, ensuring seamless, low-latency interaction.
- Used **MongoDB, Node, and Express** for a scalable backend, managing data persistence and session logistics.

SKILLS

Languages: Python, Java, 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, IBM Jazz, Ubuntu, Dynamics 365, Agile Methodology, SDLC, OOP, Qt Creator, Postman