NORMAN BUI

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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, Human Computer interactions

EXPERIENCE

Health Canada | *Software Developer Intern - Emerging Approaches Unit* 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 suite of unit tests using unittest for federated search system, **augmenting integrity 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

Department of National Defence | *Software Developer* 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 - SIN Team* 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

Correctional Service Canada | *Software Developer Intern - VAM Team* May 2022 - Apr 2023

- Collaborated on C# software solutions for web applications, **improving victim services delivery**
- Improved front-end through accessibility testing and JavaScript, HTML, and Web Experience Toolkit adjustments
- Resolved document generation errors in Dynamics 365, **reducing software downtime**

PROJECTS

Spotify Matchmaker App | *Swift, Xcode, Firebase, Spotify API*

- Developed an iOS app in Swift, allowing users to **match based on music preferences**
- Incorporated Firebase for user management, ensuring secure authentication and efficient CRUD operations
- Integrated the Spotify API, fetching user data to **improve profile customization**

SummaryBot | *HTML/CSS, JavaScript, Python, Express, OpenAI*

- Developed a chatbot using NLP and OpenAI to achieve **automated summarization**
- Enhanced user experience by creating a responsive web app using HTML/CSS, JavaScript, and Express
- Optimized web scraping by incorporating BeautifulSoup4, **extracting and preprocessing content** from websites
- Streamlined content processing by crafting a Python script to manage summarization logic and API interactions

SKILLS

Languages: Python, Java, C++, C#, PowerShell, SQL, JavaScript
Frameworks: Flask, Node.js, Express, MongoDB, SQLite3, Firebase, Bootstrap, Web Experience Toolkit
Libraries: pandas, NumPy, matplotlib, scikit-learn, FAISS, NLTK, NLP, spaCy, OpenAI, Sentence Transformers, BS4, lxml
Development Tools: Git, IBM Jazz, Ubuntu, Dynamics 365, Agile Methodology, SDLC