Norman Bui

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EDUCATION

Carleton University | *Bachelor of Computer Science (Honours), 3.9/4.0 GPA (A)*   **Expected May 2026**
- Focus in Software Engineering and Minor in Psychology
- Awards: Dean's Honours List, President's Scholars Scholarship, and Henry Marshall Tory Scholarship
- Relevant Coursework: Design & Analysis of Algorithms, Discrete Structures, Web Apps, Operating Systems, Object-Oriented Software Engineering

EXPERIENCE

Health Canada | *Software Developer Intern*   **Sep 2023 - Present**
- Building a QSAR **machine learning** model with **pandas**, **NumPy**, and **scikit-learn**, to predict chemical toxicity.
- Using **data science** and **SciPy** to build a data analysis pipeline that analyzes features linked to estrogen activity.

Department of National Defence | *Software Developer*   **June 2023 - Present**
- Built a bilingual **Flask** chatbot using **GPT-3.5** for conveniently conversing with local document database.
- Implemented an **NLP** pipeline using **PyPDF2** and **NLTK** for semantic transformation of PDFs.
- Incorporated **OpenAI** for high-dimensional embeddings, enhancing **contextual response relevance**.
- Used **SQLite3** and **FAISS** for efficient storage and embedding retrieval, enabling **quick semantic text retrieval**.

NAV Canada | *Software Engineer Intern*   **May 2023 - Aug 2023**
- Implemented optimized data mangement strategies using **C++** and **Qt Creator**, clearing **60%** of unneeded files and enhancing automated analysis solutions by **30%** in **DataExtractor** software.
- Optimized and resolved critical bugs in **IRIS** software, resulting in more stable and efficient software performance.
- Automated network configurations using **PowerShell**, reducing manual efforts and increasing overall setup speed.
- Consolidated data from multiple spreadsheets using **Power Query**, creating comprehensive spreadsheets.

Correctional Service Canada | *Software Developer Intern*   **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 Dating App | *Swift, Xcode, Firebase, Spotify API*
- Developed an **iOS** app in **Swift**, allowing users to match based on music preferences, enhancing social connections.
- Integrated the **Spotify API**, fetching user data to tailor music recommendations and improve user experience.
- Incorporated **Firebase** for user management, ensuring secure authentication and efficient **CRUD** operations.

SummaryBot | *HTML/CSS, JavaScript, Python, Express, OpenAI*
- Developed a chatbot using **NLP** and **OpenAI**, achieving automated summarization.
- Enhanced user experience by creating a responsive web app using **HTML/CSS**, **JavaScript**, and **Express**.
- Optimized content sourcing by incorporating **BeautifulSoup4**, repurposing tools from a prior project.
- Streamlined content processing by crafting a **Python** script, managing summarization logic and API interactions.

OttFoodHelp | *Java, Firebase, Google Maps API, Android Studio*
- Developed an **Android** app in **Java**, showcasing food banks and enabling users to introduce new community fridges.
- Utilized the **Google Maps API** for marker placement and fetching directions to food banks.
- Integrated a **Firebase** database for seamless **CRUD** operations for community fridges within the embedded map.

SKILLS

Languages: Python, Java, C, C++, C#, PowerShell, SQL, JavaScript, PHP, MS Power Query
Frameworks: Flask, React, Node.js, Express, LangChain, MongoDB, SQLite3, MySQL, Firebase, Bootstrap, WET
Libraries: pandas, NumPy, matplotlib, scikit-learn, FAISS, NLTK, NLP, spaCy, OpenAI, Sentence Transformers
Development Tools: Git, Jazz, Agile Methodology, SDLC