Colin De Vlieghere

📍 Flexible USA
In-Person / Remote; US Citizen

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AI Software Engineer | Cutting-Edge Machine Learning | NLP & Computer Vision

WORK EXPERIENCE

QUALCOMM   Markham, Canada
Machine Learning Engineer Co-op   *May 2022 – May 2023*

- Enhanced high-performance **ML model compiler** for custom **deep learning hardware** accelerator, improving inference time and unlocking new customer use cases for mobile/auto/AR.
- Implemented **model translation** software to convert between custom representations, leading to improved interoperability across different model formats.
- Designed and prototyped an audio-based ML environmental condition monitoring system using Arduino, contributing to cost savings and coverage in weather monitoring applications.
- Conducted **collaborative problem-solving** sessions and orchestrated software projects across teams, facilitating knowledge sharing to enhance team productivity.

SMARTECHS (AR company)   Conshohocken, PA
Software Engineer Intern   *Part-time* (2019, 2020, 2021)

- Created document-to-JSON parser to increase data processing efficiency.
- Coordinated developers across teams, drafted user stories & Figma designs to improve UX.
- Spearheaded ISO27001 policy draft and defined robust privacy and security policies.

EDUCATION

BSc - Computer Science w/ Focus in **AI**; **Mathematics** Minor   Toronto, Canada
University of Toronto   *Sept 2019 - June 2024*
Awards: U of T Scholar, Dean's List Scholar, Innis College Exceptional Achievement   3.9 GPA

PROJECTS

NLP-based web app to recommend healthy alternatives to food cravings. Uses embeddings from **spaCy**, with custom vector database using **FAISS** for speed. Presents user with detailed results, backed by nutrition facts. [Feeling Hungry]

Reinforcement learning AI trained using the NEAT genetic algorithm to play Super Mario. Emulates the game using Gym in Python. [SuperMarAI]

Open-source contributions to various projects such as [pkg2appimage], a tool for generating Linux versions of apps, or GNOME (Linux desktop) extension [audio-output-switcher]

Algorithmic solver for Mathler, a Wordle-like game. Improves brute-force by constraining search space using domain knowledge. [Mathler solver]

KEY SKILLS

- ✓ **Python, C++**, **PyTorch** / TensorFlow / TFLite / ONNX, **quantization**, ML model training, inference & theory
- ✓ LLMs, Gen AI, Transformers, NumPy, Pandas, C, Java, Docker, Bash, Linux, AWS/GCP, APIs, SQL, Agile, Scrum, Git, Jira, Confluence
- ✓ **English** & **French** (native/C2), **Mandarin** (spoken/B2), **Spanish** (intermediate/B1)
- ✓ Team player, excellent interpersonal and multicultural communication skills