

Daniel Thero

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EDUCATION

University of Waterloo

Computer Engineering, Honours, Co-op, GPA 3.7 (with Distinction)

Sep. 2019 – Aug. 2024

Waterloo, ON, Canada

TECHNICAL SKILLS

Languages: Python, C++, C, Java, R, SQL, CUDA, Typescript, JavaScript

Tools/Frameworks: Keras, TensorFlow, PyTorch, JAX, Hadoop, Django, Flask, React, Pytest, GTest

Other: Git, Linux, CI/CD, Conda, AWS, Docker, Bash, Jira, Jenkins, Firebase, Agile

EXPERIENCE

Machine Learning Test Engineer, Intern

Groq

Jan. 2024 – Apr. 2024

Mountain View, CA, United States

- Designed **inference accuracy tests** for **ML models**, including **Facebook OPT**, **BERT Large**, **GoogleNet**, and **FFN**, as well as **top-5 error classification** for **image models**.
- Independently wrote **Python** and **shell scripts** to automate **35% of all SQA tests**, targeting **regression/performance testing** and **stability checks**.
- Identified and patched an exposed **OAuth token** and **API key** in a **Google Sheets API** call by using **BigQuery SQL** instead, with **Sheets** as a **frontend interface**.

Cyber Operations Specialist, Intern

Department of National Defense

Jan. 2023 – Apr. 2023

Gatineau, QC, Canada

- Employed an **ELK stack** on **Docker** with custom **Grok** patterns to aggregate aircraft error logs.
- Configured a **Logstash** pipeline to store data with **Elasticsearch** and present with **Kibana**.

Software Engineer (RTOS), Intern

Huawei Technologies

May 2022 – Aug. 2022

Kanata, ON, Canada

- Optimized **HarmonyOS 4.0 microkernel** in **C++** on **Yocto Linux**, emulated with **QEMU**.
- Implemented an **RB-tree** for **thread-queueing** to drastically reduce **futex** wait times.
- Stress-tested scheduling on **Raspberry Pi** to isolate **RPC calls** with **nanosecond-accuracy**.

Embedded Software Developer, Intern

Ford Motor Company

Sep. 2021 – Dec. 2021

Kanata, ON, Canada

- Developed **C++ production code** for 2022 Ford vehicles, including **GoogleTest unit tests** on **QNX Momentics**, deployed onto hardware using **automotive ethernet**.
- Implemented improvements on the reception of **NFC** (near-field communication) protocol pings.

Open-Source Developer, Intern

University of Waterloo

Jan. 2021 – Apr. 2021

Waterloo, ON, Canada

- Java** contributor for **distributed Apache Drill SQL query engine** with **Bash** and **Maven**.
- Used **PostgreSQL** and **Jinja** to automate reporting/analysis of **Open Government datasets**.

PROJECTS

Fine-Tuned LLM Code Translator using GPT-2 (Python, PyTorch, Transformers)

- A causal language model that converts code from Python to JavaScript, focusing on idiomatic structure. Uses the Hugging Face Transformers library, tracked with TensorBoard.

Deep-Learning Classifier for Insulator Defects (Python, Keras, Scikit-learn)

- A supervised Convolutional Neural Network using a pretrained Keras model and a TensorFlow backend to grade the hydrophobicity of preprocessed images of insulators with 99.6% accuracy.

Data Miner for Recommendation Engine (Python, SQL, SQLAlchemy, Pandas, Kaggle)

- Finds similar movies using features extracted from a SQL database and vectorized text similarities.

Neural Network from scratch (Python, NumPy, Matplotlib, Pandas)

- Uses a Self-Organizing Map and 90,000 neurons to solve the traveling salesman problem.