

# Sebastian Tampu

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## University of Toronto

*MEng in Computer Engineering – Emphasis in Data Analytics and Machine Learning* 2023 – 2024

## University of Toronto

*Honors BSc in Physics - Specialist* 2018 - 2022

## WORK EXPERIENCE

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### Data Analyst

*TELUS International* January 2023 – July 2024

- Oversaw the evaluation of online search results, systematically assessing their relevance and user satisfaction, and provided targeted feedback to refine search algorithm accuracy.
- Managed audio and image content quality evaluation, refining summary accuracy and search relevancy while setting quality metrics to optimize media search algorithms.
- Analyzed webpage article summaries for completeness and accuracy, refining summarization processes to ensure they efficiently meet user information needs.

### Data Analyst Intern

*University of Toronto* September 2021 - April 2022

- Analyzed electric parameters of irradiated semiconductor silicon test chips for the ATLAS detector at CERN.
- Used Excel for data organization and Python for analysis and visualization, comparing results with Birmingham University to identify testing improvements.
- Found a strong correlation between slight temperature increases and higher noise/leakage current, determining -24 °C as the optimal testing temperature.

### Data Scientist Intern

*Toronto Metropolitan University* June 2020 - August 2020

- Applied machine learning to study image processing, focusing on low-dose CT denoising.
- Conducted a literature review on structures for denoising tests, improving network architecture skills.
- Developed Python-based machine learning models to denoise images and compared variations to analyze image quality metrics.

## PROJECTS

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### ETF Clustering and Rotational Momentum Strategy Optimization

- Applied hierarchical and k-means clustering to classify ETFs based on returns and volatility, optimizing a rotational momentum strategy and identifying high-performing ETFs for portfolio enhancement.

### Nano Language Model for LOTR-style Content & Chatbot

- Developed a custom transformer and fine-tuned DialoGPT in PyTorch to create a nano language model mimicking “Lord of the Rings” style for content creation and character interactions.

### Emotion Recognition Model

- Developed a CNN-based model for emotion recognition in images, involving the tuning and comparison of AlexNet, ResNet, VGG16, and a custom architecture to enhance detection accuracy.

### Parallel Implementation on Jetson Nano

- Implemented RRT and RRT\* path planning algorithms in C++ and CUDA on a Jetson Nano, achieving near real-time performance with parallel execution.

## SKILLS & INTERESTS

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**Skills:** Excel | Python (Keras, NumPy, Pandas, Scikit-learn, PyTorch) | R | SQL | C++ | Tableau

**Interests:** Video Game Development, PC Building, Resin Printing, Music Production