

AARYAN DHAND

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Experience

Vivordo

Oct 2025 – Present

AI & Machine Learning Engineer

Calgary, AB (Remote)

- Cut **LLM inference latency 57%** by re-architecting the **Anthropic**-powered insight layer into a **retrieval-augmented (RAG)** pipeline that pulls the prior week of **time-series biometric** context into the model's window to ground real-time interpretations.
- Built and deployed a **semi-supervised multimodal stress model** fusing **HRV**, **Apple Health** biometrics, **chat**, and **mood** check-ins into a calibrated **0–1 stress score**, served in real time in a live **Flutter + Firebase** iOS app.
- Moved research prototypes into a production analytics product by deploying **TensorFlow/PyTorch** models behind **RESTful APIs** and building the **data-preprocessing** and **model-serving** infrastructure they run on.

Hydro One Networks

May 2025 – May 2026

Data Analyst Co-op

Toronto, ON

- Built the data foundation for downstream **ML and predictive analytics**, standing up a centralized **Microsoft SQL Server** warehouse ingesting **SAP** and **OPC** data via optimized **SQL/Python** pipelines with **data-quality (QA)** validation.
- Accelerated material quantification **6x** by leading a **6-person team** to design scalable **Python/VBA ETL workflows** over 300+ historical project records, laying groundwork for forecasting and machine learning.
- Cut manual reporting workload **95%** by engineering end-to-end automation across **SharePoint**, **SAP**, **Excel VBA**, and **Python** for baseline and month-end cost reporting, with **documentation** of pipelines and workflows for handoff.
- Deployed interactive **Power BI** dashboards wired to live **SAP** data via custom **Python** and **Power Query** pipelines, giving engineering and project leaders real-time cost and inventory visibility.

Projects

SCENR | *Python, PyTorch, CLIP, Embeddings, pgvector, FFmpeg, librosa, PostgreSQL, Supabase*

- Built a **CLIP**-based theme-matching engine that turns group-trip media into edited reels, scoring photos against per-theme fingerprints via **cosine similarity** over a **pgvector vector database** to keep shots on-aesthetic.
- Architected a reel pipeline ranking clips with on-frame **quality/motion models**, beat-syncing cuts via **librosa** onset/tempo detection, and rendering themed edits with **FFmpeg** on an async **GPU** queue in under 2 min.

FITPIC | *React, Supabase, PostgreSQL, Groq API, Llama 4 Vision, Node.js, Vercel*

- Built a **computer-vision pipeline** on **Groq's Llama 4 Scout vision-language model** that extracts structured outfit attributes from user images with **98% schema-valid output** and **83% tag agreement**, backed by **PostgreSQL** via **Supabase Realtime**.
- Surfaced behavioral and color trends through a personal **analytics dashboard**, secured behind a **serverless** Node.js/Vercel endpoint with **JWT** validation and server-side API-key management.

NBA Betting Odds Analyzer | *Python, Scikit-Learn, XGBoost, MLflow, Feature Engineering, Machine Learning*

- Built a **dual-mode** over/under predictor: a **train-on-demand** path that benchmarks **five classifiers (XGBoost, Random Forest)** per query and selects the best by validation **ROC-AUC**, plus a fast path serving the best model logged in **MLflow**.
- Backed model selection with **MLflow** experiment tracking and a versioned **model registry**, logging params and **ROC-AUC/PR-AUC** per run for reproducible comparison across retrains.

Technical Skills

Machine Learning & Deep Learning: PyTorch, TensorFlow, Scikit-Learn, XGBoost, Random Forest, LSTM, CNNs, CLIP, Computer Vision, Model Deployment

GenAI & LLMs: LLM Integration (Anthropic API), Retrieval-Augmented Generation (RAG), Vision-Language Models (Llama 4), Embeddings, Vector Databases (pgvector), Prompt Engineering

MLOps, Data & Cloud: REST APIs, Model Serving, MLflow, Experiment Tracking, ETL Pipelines, SQL Server, PostgreSQL, Supabase, Power BI, AWS, Google Cloud, Azure DevOps, Git, Linux

Languages & Frameworks: Python, SQL, C, C++, C#, JavaScript, HTML/CSS, Flask, Django, React, Node.js

Education

University of Calgary

Expected Graduation: May 2027

Bachelor of Science in Software Engineering

Calgary, AB

- **Awards:** Best Design – TechStart 2025, Suncor Energy Dependant Scholarship, Jason Lang Scholarship (2022–2026)
- **Competitions:** CUSEC 2024, CCPC 2024, NatHacks 2023, Hack the Change 2024