Vincent Dandenault

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EXPERIENCE

QUIZLET, New York City, NY

Staff Machine Learning Engineer January 2026 – Present

- Architected a CATE-based Dynamic Paywall by reframing paywall optimization as a treatment effect problem using off-policy optimization, and isolating retention levers from conversion risk, lifting 7D retention +2.2% with neutral conversion.
- Led ML strategy for the Lifecycle Marketing org, shipping new recommendation and propensity models powering Braze email and push campaigns that drove a 15% lift in email CTR and a 3% increase in reactivated users.
- Identified legal exposure across recommendation surfaces and designed a filtering and compliance framework adopted across engineering and legal, unblocking operations in restricted markets.
- Redesigned Home Feed recommendation architecture by decoupling content generation from shelf ranking and introducing dynamic personalization, cutting latency by ~40%, ranker error rates by 50%+, and infra costs by $50K/year.
- Diagnosed a systemic observability gap across ML recommendation services and led the org-wide response: standardizing endpoints, centralizing logging, and building eval pipelines that cut error rates 60%+, setting the baseline for all ML modeling.
- Built Quizlet's first structured inter-MLE mentorship program covering design review frameworks, debugging practices, and architecture templates, directly enabling junior engineers to independently own foundational infra projects.

Senior Machine Learning Engineer August 2024 – December 2025

- Architected multiple real-time personalization algorithms across Home Feed, Course Discovery, and Set Pages surfaces, driving +66% CTR, +75% learning engagement, and +27% click-to-study rate.
- Implemented the development of a centralized ML recommendation API gateway to enable rapid model iteration across all product surfaces, reducing ideation to experimentation time by more than 50%.
- Led the development of a lightweight distilled transformer model for the Learn mode surface, reducing infrastructure costs by 80% (~$500K/year) while boosting subscription conversions by 2%.
- Owned multi-vendor LLM strategy and implementation to support all LLM-based surfaces (e.g., Practice Test mode), reducing dependency on single providers and cutting vendor costs by 20%.

OPLUS AI, San Mateo, CA – **Founding Machine Learning Engineer** October 2022 – August 2024

- Built inference guardrails, data drift tracking, and model eval tools for LLMs in production, reducing hallucinations by 15%.
- Designed deployment and rollback strategies using Argo + Kubernetes, reducing production downtime by 50%+.
- Created ICD-10 code detection models that improved code specificity and increased billing revenue by 20%+.
- Implemented RAG system for the medical Q&A feature, increasing physician engagement by 25%+.
- Engineered large-scale ETL pipelines with PySpark, processing 12 M+ patient records (53TB).
- Led a team of 6 engineers in delivering the company's first clinical trial, in collaboration with Barrow Neurological Institute.

SAMSUNG Ads, Montréal, Quebec – **Machine Learning Engineer** August 2021 – March 2022

- Owned an automated bidding engine, increasing exchange platform revenue by 41% for targeted campaigns.
- Standardized model evaluation pipelines, reducing time-to-production by 25%+ for new ML-driven POCs.

VIAVI SOLUTIONS, San Jose, CA – **Data Acquisition Engineer and Lab Manager** October 2020 – July 2021

- Developed and maintained PCIe 5 testing and debugging infrastructure for high-throughput hardware systems.
- Built benchmarking and GPU utilization tools for large-scale data environments.

OUTMIND, Station F, Paris, France – **Junior NLP Scientist** April 2020 - October 2020

- Built and deployed a semantic search with Elasticsearch, improving search relevance by 27%.
- Designed QA ML models for multilingual open-domain queries and implemented NER tagging.

SKILLS

- Core ML: Recommendation Systems, LLMs, SFT, RL, RAG systems, Model Distillation, Evaluation & Monitoring.
- Programming: Python, C++, CUDA, SQL.
- ML Frameworks & Libraries: PyTorch, JAX, TensorFlow, Scikit-learn, Hugging Face.
- Data & Infra: PySpark, Airflow, Kafka, MLflow, Kubeflow, Ray.
- Cloud & DevOps: AWS, GCP, Terraform, Docker, Kubernetes, Argo.
- Human Languages: English (native), French (native), both spoken and written.

EDUCATION

- Engineering bachelor's degree in software engineering, at the University Polytechnique of Montréal, Montréal, Québec, Canada