

# Noa Chang

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## EDUCATION

### University of Waterloo

Waterloo, ON

*Bachelor of Mathematics, Applied Math (Scientific Computing & Scientific ML)*

*Sep. 2022 – Apr. 2027 (Expected)*

## EXPERIENCE

### Machine Learning Engineer Intern, AI Team

May 2025 – Aug. 2025

*SK AX (Enterprise AI Division of SK Group)*

*Icheon, South Korea*

*Context: SK Group (Fortune 500), supporting data operations for the world's 2nd largest memory chip-maker.*

- Engineered enterprise-scale Python/SQL pipelines on Linux to process TB-scale manufacturing logs, transforming raw unstructured data into decision-ready tables for yield analysis.
- Developed lightweight resource profiling scripts (tracking latency, CPU, Memory) for mission-critical inference services, successfully identifying bottlenecks and reducing system overhead.
- Implemented robust data integrity checks and automated retry mechanisms, significantly improving the reliability of data pathways for downstream ML models.
- Evaluated LLM tools against strict quality-latency-cost-safety rubrics, authoring technical briefs that guided the adoption of internal AI pilots.

### Research Intern

Sep. 2024 – Dec. 2024

*Ontario Nutri Lab*

*Fergus, ON*

- Standardized disparate trial logs into a unified SQL database and engineered features (dose, schedule), directly supporting product go and no-go decisions.
- Built and cross-validated predictive models (scikit-learn) to identify response drivers, optimizing for class imbalance with high F1-scores.

### Data Analyst

Jan. 2022 – Jul. 2022

*Yes Pharm*

*Seoul, South Korea*

- Restructured analytics DB into a Star Schema, optimizing query performance by 91% (12s to 1s) and indexing key columns for faster dashboards.
- Automated reporting workflows with Python, SQL, shifting cadence from weekly to daily while enforcing strict data constraints (FK, NOT NULL).

## PROJECTS

### GuideU | Python, PyTorch, Whisper, YOLOv8, Pandas

Apr. 2023 – Mar. 2024

- Instrumented real-time STT demos, logging latency patterns and failure modes to build a KPI triage dashboard.
- Tuned inference configurations (beam size, VAD, batching), reducing median latency and improving session pass rates in live trials.

### WakAI | Python, SQL, Prompt Engineering

Jan. 2024 – Dec. 2024

- Led prompt engineering for 40+ persona chatbots, implementing PII redaction and turn normalization to maintain voice consistency across 600K+ views.
- Built an evaluation loop to A/B test prompts against factuality and safety rubrics, establishing clear release gates.

### DataFest 2024 (UW & Scotiabank) | R (Tidyverse), SQL

Apr. 2024

- Cleaned clickstream data (dwell time, quiz scores, paths) and engineered engagement features to explain score lift, presenting findings to judges.

## TECHNICAL SKILLS

**Languages:** Python, C/C++, SQL (Postgres), C#, JavaScript, R, HTML/CSS

**Machine Learning:** scikit-learn, PyTorch, NumPy, Pandas, Matplotlib, ggplot2

**Developer Tools:** Linux, Git, Docker, Bash, VS Code, CMake, gdb/valgrind

**Frameworks:** Flask, React, Power BI