

# Daniel Tan

☎ 416-732-5553 ✉ [hello@danielrltan.com](mailto:hello@danielrltan.com) [in linkedin.com/in/danielrltan](https://www.linkedin.com/in/danielrltan) [github.com/danielrltan](https://github.com/danielrltan)

## Technical Skills

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**Languages:** Python, C++, Bash, SQL

**Developer Tools:** Machine Learning, Semantic Search, Multimodal Models (Video/Text), Representation Learning, Active Learning (conceptual), Data Annotation Pipelines, Model Evaluation

**Technologies/Frameworks:** FastAPI, NumPy, Pandas, PyTorch (learning / applied in projects), TensorFlow (familiarity)

## Experience

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### Windscribe

May 2025 - Nov 2025

*Software Developer Intern*

*Toronto, ON*

- Engineered a ticket automation extension that resolved **30% of support load** autonomously, cutting response times by **50%** and improving **Service Level Agreement compliance** at scale for **89 million users**.
- **Developed and deployed an internal Slackbot "Demerzel"** with thread-based context management using TOML-configured endpoints, Prometheus metrics, and Notion-integrated memory prompts, building from **over 650 articles of Windscribe documentation**.
- **Integrated OpenAI API for ticket automation answering**, to help generate tailored and accurate responses and summaries of tickets, enabling context-aware summaries and responses that reduced manual triage time from **90 to 20 seconds per average elapsed ticket answer time**.

### Nodes

January 2025 - May 2025

*Software Developer Intern*

*London, ON*

- **Implemented Gmail OAuth for streamlined user authentication**, replacing MFA entry with a secure OAuth flow to automate email sending, which significantly enhanced user experience and contributed to a successful launch that drove **600+ users in the first week**.
- **Automated hiring email verification**, developing a Firebase script that cross-referenced **250+ applicant emails** against the user database, eliminating 100% of manual effort and reducing processing time from **an average of 33 minutes to 5 seconds**.

## Projects

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### Cognitech | *Python, FastAPI, Semantic Search, Multimodal Models, Model Inference APIs*

January 2026

- **Built** an AI-powered video indexing + semantic search tool that auto-generates timestamped behavioural annotations from clinical footage, cutting psychologists' manual review from hours/days to seconds.
- **Implemented** a production-minded **Python/FastAPI** backend integrating TwelveLabs video understanding models to serve real-time analysis **without storing sensitive patient data**, enabling safe ML deployment.
- **Shipped** an end-to-end product (React + Three.js frontend, deployed on Vercel/Railway), translating model outputs into clinician-friendly "behavioural fingerprints," supporting human-in-the-loop assessment workflows.

### Revamp - Hack The Six Finalist | *C++, Python, React.js, QNX, Raspberry Pi*

July 2025

- **Architected a plug-and-play, universal BMS** for second-life EV modules on a **QNX (RTOS) Raspberry Pi** edge node, normalizing mixed-OEM telemetry and exposing a centralized fleet dashboard for real-time monitoring and alerts.
- **Delivered a cloud analytics pipeline (FastAPI + MongoDB Atlas)** and integrated **Gemini-powered insights** for SoH estimation, anomaly explanation, and predictive dashboards, turning raw pack data into operator-ready decisions starting from binary TCP decoding.
- **Built a physics-based battery simulator with PyBaMM**, generating 10 Hz telemetry for 3 EV packs (approximately 20,736 cells) with varied degradation; streamed packed binary over TCP to the QNX edge for hardware-in-the-loop testing without physical packs.

## Education

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### University of Western Ontario

Expected 2027

*Bachelor of Science in Computer Science*

*London, ON*

- **GPA:** 3.9/4.0 ; Western Scholarship of Distinction (\$3,500), National Merit Scholarship (\$2,000), Chris Binns-Smith Memorial Scholarship (\$5,000)
- **Awards:** IBM watsonx Orchestrate Challenge Top 50 of 2000+ global participants, Hack The Six Finalist of 400+ participants, WFN Odyssey Cup Competition First Place (\$500), TD Innovation Sprint Finalist, 2nd Place winner of 2024 Toronto Regional Real Estate Board Contest (\$2,500), Ontario 2023 Summer Company Grant (\$3,000)
- **Leadership:** Director of Flagship - Western Artificial Intelligence Club, Vice President of Design - Western Founders Network Club, Director of Outreach - Tech for Social Impact Club, Developer - Western Developer's Society