

# Yongkang Cheng

[chengyongkang.me](http://chengyongkang.me) | 437-663-2855 | [github.com/Ken-2511](https://github.com/Ken-2511) | [iwmain@outlook.com](mailto:iwmain@outlook.com) | [linkedin.com/in/chengyongkang](https://linkedin.com/in/chengyongkang)

---

## EDUCATION

University of Toronto (St. George), Toronto, ON

Sep 2023 – May 2028 (expected)

BASc in Computer Engineering + PEY Co-op (cGPA: 3.87/4.0, Score: 88.6/100)

Relevant: Applied Deep Learning Fundamentals, Software Design & Communication

---

## TECHNICAL SKILLS

- **Languages:** Python, C/C++, JavaScript, Node.js, Java
  - **Backend/Web:** FastAPI, Flask, React, REST, Docker, Nginx, SQL/NoSQL
  - **ML/Data:** PyTorch, NumPy, Pandas; basic LangChain
  - **Tools:** Linux, Git, SSH, Firebase, Raspberry Pi
- 

## EXPERIENCES

**Frontend Manager, Voluntrack.org**

May 2024 – Present

*Volunteer, Non-profit | React, Firebase*

*Toronto, ON*

- Led a 4-person team to redesign the React frontend; improved task completion and engagement by 20%.
- Built fuzzy search and filtering over Firebase data; streamlined workflows and simplified onboarding.

**Research Software Intern, X-Lab**

Jun 2025 – Jul 2025

*Research Intern, X-Lab @ UofT | Python, Simulink*

*Toronto, ON*

- Verified a pre-tape-out hybrid PPM+PSK chip; built Python & Simulink pipelines for 2ns symbol sync and carrier recovery under discontinuous 4GHz signals.
  - Implemented K-means clustering calibration to mitigate 100ps timing shifts from cross-modulation.
  - Presented an interactive demo site at the Undergraduate Engineering Research Day (UnERD).
- 

## PROJECTS

**Handwritten Text Recognition (CRNN)**

Jun 2024 – Aug 2024

*Course Project | PyTorch, Python*

- Trained a CRNN achieving **87%** word- and **95%** char-level accuracy on **10k+** samples.
- Implemented connected-component word segmentation; **1024 x 1024** inference in **<4s** on CPU.

**City Mapify – Interactive Mapping Engine**

Jan 2025 – Apr 2025

*Course Project | C++, OpenStreetMap*

- Built C++ mapping engine parsing **2GB** OpenStreetMap data with QuadTree indexing at 60 FPS.
- Implemented A\*/Dijkstra pathfinding and delivery optimization (Simulated Annealing, ACO) for **250+** packages.

**Wildfire Disaster Communication Platform**

Jan 2025

*Hackathon | Python, Streamlit, Flask*

- Built real-time incident map (Folium) and two-way messaging with photo uploads and roles.
- **Top-8 finalist** at UTEK; automated severity scoring for resource allocation.

**Self-Hosted Chatbot with Diary DB**

Oct 2024

*Personal Project | React, FastAPI, Nginx, NoSQL*

- Deployed full-stack chatbot replicating personal style; TLS, DDNS, and reverse proxy for secure access.
  - Integrated OpenAI API and vector search for context-aware Q&A over personal diaries.
- 

## AWARDS

• **University of Toronto Excellence Award (UTEA)**

Apr 2025

\$7,500 scholarship for 6 students among 2nd to 4th ECE for research potential.

• **ECE Awards**

Sep 2024

Awarded to top 30 students in the first-year ECE program out of 300+ students.