




# Tony Sun

✉ tony.sun@uwaterloo.ca    tonyxsun    tonywsun    tonysun.tech

## EDUCATION

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**University of Waterloo**, Bachelor of Software Engineering (BSE)

Sep 2020 – Apr 2025

Candidate for Computational Mathematics Minor

3.98 GPA | 2x Dean's Honours List | Mathematics Society of UWaterloo Representative (1A)

## EXPERIENCE

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**Software Developer Intern**, Trend Micro

Sep 2022 – Dec 2022

- Performed test-driven development for security product with **C++**, **C** and **Lua**, maintaining 80%+ unit test coverage
- Enhanced wildcard functionality and optimized for compatibility in 40+ operating systems based on **Unix** and **Windows**
- Identified and patched high-priority vulnerability allowing for malicious script execution in locked-down **Bash** shell

**Software Developer Intern**, Ontario Digital Service

Jan 2022 – Apr 2022

- Lead development of microservices-based localizable web app on Ontario.ca with **Eleventy**, projected to reach **1.2 million** unique annual visitors [Public Sector Salary Disclosure [🔗](#)]
- Constructed an ETL data pipeline through **Azure Databricks** to process Ontario's largest production dataset using **PySpark** and deliver to **Elasticsearch** clusters, cutting manual processes by 90% and data ingestion time by 80%

**Software Engineering Lead (ConSof Team)**, WATOLINK [🔗](#)

Sep 2021 – Jul 2022

- Architected the desktop interface for a **SSVEP**-based brain controlled communication tool using **PyQt5** with **OpenGL**
- Integrated live word completions using **GPT-3** ML model to enhance input speed by 40% on average
- Practiced technical **project management** within team of 8 to enable efficient delivery cycles and exceed deadlines

**Tech Analyst Intern**, Huawei

Aug 2020 – Aug 2021

- Developed scraping application [🔗](#) for 31 independent sources using **Python** to decrease analyst research time tenfold

## PROJECTS

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**tldr**, Cal Hacks 9 Winner [🔗](#)

Oct 2022

- Developed an article summarization tool implementing a browser extension and website duo in **Preact** and **Flask**
- Tuned **natural language processing** models using co:here for sentiment analysis and text summary
- Devised caching method using **CoachroachDB** database to eliminate repeated query costs

**McAsks**, McHacks 9 Winner [🔗](#)

Jan 2022

- Created multi-functional SMS chatbot with Flask backend to consume **REST APIs** and serve information through **Twilio**
- Constructed product website supporting user sign-up using **Next.js** and **Figma**

**JOHTnotes**, Hack the North 2021 Finalist [🔗](#)

Oct 2021

- Built and deployed a full-stack web application allowing users to view imported videos with searchable transcripts and make notes at clickable timestamps using **React.js**, **Flask**, and **CockroachDB**
- Implemented **GCP Speech-to-Text** to generate transcripts and timestamps from audio data

**ITrash**, Self-Driving Autonomous Trash Can [🔗](#)

Oct 2020 – Apr 2021

- Built a robotic trash can that detects thrown objects and repositions to catch them using **Raspberry Pi** and **Arduino**
- Implemented data transfer with **serial port communication** and **Python socket library**, reducing latency by 50%
- Utilized **OpenCV** to track projectile motion and successfully predict target landing position with 75% accuracy

## SKILLS

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**Languages:** C++, Python, SQL, JavaScript, TypeScript, C, Golang

**Tools/Technologies:** Docker, AWS, Flask, React.js, PySpark, Elasticsearch, Node.js, MySQL, Postman, Raspberry Pi, Valgrind, TensorFlow, Selenium, Git, Jenkins, Unix