

Tony (Wuyue) Sun

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EDUCATION

University of Waterloo, Bachelor of Software Engineering (BSE)

Sep 2020 – Apr 2025

Candidate for Human-Computer Interaction Specialization

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

Relevant Coursework: Data Intensive Distributed Systems, Concurrent Programming, Operating Systems, Networking

EXPERIENCE

WanderFlow, Backend Developer Intern

Aug 2023 – present

- Spearheaded evolution of production backend from **Python** to **Golang** with improved performance and **DynamoDB** integration

Huawei, Web Engineer Intern

May 2023 – Aug 2023

- Architected cross-platform mobile **WebView** benchmarking tool with **WebdriverIO**, **Appium** for use by 20+ developers
- Implemented **intercepting forward proxy** with **Node.js** to enable customized response caching and 30% decreased test duration
- Utilized **core web vitals** such as LCP and FID to extract and analyze webpage performance in loads and simulated interactions
- Produced a 10 page research report on WebView, Wasm and accessibility, based on select papers in ACM Web Conference '23

University of Waterloo, Research Assistant

Jan 2023 – Apr 2023

- Collaborated with Prof. W. Dietl on **Java** data properties **static analysis** and standardization in the Checker-Framework

Trend Micro, Software Developer Intern

Sep 2022 – Dec 2022

- Expanded the coverage of the Deep Security product by 20% in implementing **driver** monitoring and blocking functionalities in **C++** and **Lua** - optimizing for compatibility with **20+ Unix and Windows-based operating systems**
- Implemented **path matching, wildcard and search algorithms** to improve matching module execution time by 30%
- Identified and patched high-priority vulnerability allowing for malicious script execution in locked-down **Bash** shell

Ontario Digital Service, Software Developer Intern

Jan 2022 – Apr 2022

- Led the development of a 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%

WATOLINK, Software Engineering Lead (ConSof Team)

Sep 2021 – Jul 2022

- Architected the desktop interface for a **SSVEP**-based brain controlled communication tool using **PyQt5** with **OpenGL**
- Practiced technical **project management** within team of 8 to enable efficient delivery cycles and exceed deadlines

PROJECTS

JOHTnotes, Hack the North Winner

- 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**, **Google Cloud Platform**, and **CockroachDB**

ITrash, Self-Driving Autonomous Trash Can

- Constructed a robotic trash can that detects thrown objects and repositions to catch them on **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

Languages: C++, Python, Java, JavaScript/TypeScript, Golang, C, Kotlin, SQL, C#

Tools/Technologies: Docker, AWS, Microsoft Azure, Flask, React.js, Node.js, MySQL, Jenkins, Spark, Hadoop, Elasticsearch, Appium, Postman, Raspberry Pi, Jira, Valgrind, MongoDB, Jupyter Notebook, TensorFlow, Selenium, Git, Unix