

# Lefan Hu

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## Education - University of Waterloo

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### University of Waterloo - 3rd Year

Bachelors in Computer Engineering

Waterloo, Canada

Sept. 2022 - Dec. 2026

## Work Experience

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### CIENA Corporation

Automation Tools Development Intern

Ottawa, ON

January 2024 - April 2024

- Developed major releases of the Extract Logs application in **Python**, an internal tool used by **100+ engineers** to aggregate information and locate errors within log archives, eliminating hours of manual labour on every run
- Created **Splunk** search queries for well known signatures of known and recognizable errors on hardware devices, increasing debug efficiency by **>30%** for common errors
- Used **Python** and **JupyterLab** extensively for general automation and parsing of complex log archives, creating a comprehensive suite of scripts for aiding log analyzer engineers

### TELUS Corporation

Software Developer Intern

Toronto, ON

May 2023 - August 2023

- Contributed to major system, auto-callout (ACMP), used by **hundreds** of field technicians. This system fully automates the dispatching of technicians in response to outages, reducing response times from **hours to seconds**
- Built, tested, and deployed **production** Docker images of ACMP service to production **Docker swarms**
- Developed POC **Google Chat** service for internal database lookup without compromising security by adopting the **publisher-subscriber model** for secure communication between networks
- Used **serverless** architecture and **Spring Boot** for chat service, reducing server cost by **20 times** compared to other internal services while maintaining **sub-second** response times

## Projects

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### Keiyoushi Extensions | ↗

Open Source | Android Studio, Kotlin, Gradle, Mobile Development, Git

August 2024 - Now

- Contributed to **open-souce** suite of webscraping extensions as part of the **Tachiyomi/Mihon** manga reader system
- Utilized **Kotlin** to develop and maintain various extensions for **tens of thousands of users**, ensuring focusing on enhancing user experience and quality features
- Worked in a collaborative environment, addressing issues and feature requests from the community, and following an **open-source development model**

### Stable Diffusion | ↗

XL LORA Adapter | PyTorch, LORA, Nextjs, Cloudflare, HuggingFace, Transformers

January 2024 - May 2024

- Generates high quality images of Taylor Swift based on text prompt
- Tuned custom **LORA adapter** for SDXL model on **AWS G4DN GPU** instance by leveraging **HuggingFace Accelerate**
- Hosted on HuggingFace Serverless Inference, eliminating waste on idling resources

### Interqu Interview Platform | ↗

AWS Powered AI Interview Platform | Nginx, Docker, Lambda, Statemachine, SAM

June 2023 - April 2024

- Utilizes AI to analyze speech, expression, and general flow of a mock interview to provide valuable feedback for students
- Adopted AWS **Serverless Application Framework** (SAM) to leverage cloud computing at low costs in conjunction with **AWS Statemachine** to manage various processing states
- Created **Angular** front-end and AWS back-end processing and api management handled by: AWS **SAM** (Statemachine, Lambda, API Gateway, GraphQL), PyTorch, ChatGPT

### Hive-HQ - Hackathon Winner | ↗

Hack The North 2021 | Google Cloud, Transformations, React.js, OpenCV, Pytorch

Sept. 2021 - Sept. 2021

- Identifies high traffic areas in public spaces to ensure safe distancing during pandemic by leveraging **AI**
- Loaded **YOLOv5** model onto **PyTorch** for recognition and annotation of individuals on ffmpeg stream in real-time

## Skills

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**Languages** Python, C/C++, Java, Kotlin, HTML/CSS, JavaScript, VHDL, Matlab, LaTeX

**Technologies** PyTorch, MongoDB, Postgre, Docker Swarm, AWS (Lambda, API Gateway, EC2), React, Nextjs, Nginx, Spring Boot, GCP, GKE, Pub/Sub, Cloud Functions, Linux, Shell (Bash/Zsh), Scrapy