

# SAM (SHENGKAI) XU

Master Student in Computer Engineering and AI Research

@ shengkai.x.sam@gmail.com  
in shengkai-xu-sam

@ sxu7@uncc.edu  
samxu29

734-731-6398

Charlotte | Raleigh, NC



## EXPERIENCE

### AI Research Assistant

Transformative Computer Systems and Architecture Research Lab,

Aug 2022 – Jan 2023 Charlotte, NC

- Researched and developed an AI pipeline for civilian security and public safety systems, with a specific focus on video processing and anomaly action detection.
- TeCSAR is a UNC Charlotte research lab led by Dr. Hamed Tabkhi. The lab uses machine learning, deep learning, and data analytics to improve community safety, health, and well-being.

### Embedded Firmware Engineer

Oxit LLC

May 2021 – May 2023 Charlotte, NC

- Responsible for research and development initiatives aimed at crafting innovative tools to enhance project efficiency. Proficiently designed and implemented IoT automation pipelines within both AWS and Google Cloud environments.
- One of my major contributions was designing module libraries that streamlined embedded applications for different chipsets.
- Oxit is an engineering company specializing in low-power, long-range RF communication technology for IoT applications, including LoRa.

## PROJECTS

### AI-Powered Discord ChatBot

Personal Project

2023

LLM-Discord-Bot

- Developed an advanced Discord assistant bot integrating LangChain and Hugging Face's large language models, enabling complex user interactions.
- This bot runs locally, ensuring privacy and data security for Discord communities. Showcased expertise in AI and chatbot technology, significantly enhancing user engagement and experience in private Discord servers.

### Fungus Classifier on Edge device

Tech Demo

2023

Applied-AI-Fungus-Detector

- Designed and developed a mobile-based fungus image classification application to aid in foraging and wilderness survival.
- The solution features an AI model that runs locally on mobile devices, ensuring functionality in remote areas without internet or cellular service, thus enhancing the reliability and accessibility for users in outdoor environments.

## ABOUT ME

As an international student with a strong engineering background and a passion for innovative technologies, I strive to make a positive impact by driving change through my work.

## EDUCATION

### M.Sc. Computer Engineering

University of North Carolina at Charlotte

Aug 2022 – Aug 2024

### B.Sc. Computer Engineering

University of North Carolina at Charlotte

Jan 2018 – Dec 2022

## SKILLS

Linux/Debian	● ● ● ● ●
PyTorch/TensorFlow	● ● ● ● ●
AWS/GoogleCloud	● ● ● ● ●
Embedded C	● ● ● ● ●
CAD/3D-Printing	● ● ● ● ●
C++	● ● ● ● ●
PCB/Circuit Design	● ● ● ● ●
VHDL	● ● ● ● ●

## PUBLICATION

- Path Planning for Robotic Delivery Systems  
IEEE Southeastcon 2022
- Charlotte Area Traffic Light Dataset  
IEEE HONET 2023