

SAM (SHENGKAI) XU

Master Student in Computer Engineering and AI Research

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Charlotte | Raleigh, NC



EXPERIENCE

Embedded Firmware Engineer

Oxit LLC

May 2021 – May 2023

Charlotte, NC

- Responsible for researching and developing tools to assist in various projects. One of my major contributions was designing module libraries that streamlined embedded applications for different chip-sets
- Oxit is an engineering company specializing in low-power, long-range RF communication technology for IoT applications, including LoRa.

AI Research Assistant

Transformative Computer Systems and Architecture Research Lab,

Aug 2022 – Jan 2023

Charlotte, NC

- Developed and researched an AI pipeline for civilian security and public safety systems 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.

PROJECTS

Mask Detector

Undergraduate Project

Implemented YOLOv4/5 models to analyze mask usage in crowds from video footage, enabling statistical insights on mask-wearing in the surrounding area.

Office Cat Detector

Tech Demo

Oxit LLC

Utilized using transfer learning with FOMO, a lightweight version of MobileNetv2, for edge devices such as Nvidia Jetson Nano and ESP32 embedded systems.

Student Formula Race Car

University Club Project

Contributed to the electrical power and wiring department of the Student Formula Racing club, assisting the team in their participation in the Formula Student engineering competition.

3D Printer Server

Personal Project

Developed automated 3D printing server stations that utilize the Telegram messaging API for remote printing.

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

Python

Statistical Analysis

PyTorch

Tensorflow

Embedded System

C++

3D Printing

SOLIDWORKS

PCB Board Design

KiCAD

LaTeX

Linux/Debian Proficiency

Office Suites

LANGUAGES

English



Chinese



ACHIEVEMENTS



Publication

Published a IEEE conference article on Robotic Path Planning algorithm.



IEEE HKN

Active member of IEEE Eta Kappa Nu